

Inspire Innovate Grow



24 - 26 SEPTEMBER 2019
ICC WALES

DELEGATE INFORMATION

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CORNWALL SPACE

#UKSPACE2019

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Welcome to the UK Space Conference 2019

Welcome to the brand-new ICC Wales and the UK Space Conference - now well established as the most important and influential event for space in the UK. For the fifth time, this biennial event will bring together the UK and international space community from across government, industry and academia to exchange ideas, share plans, develop relationships and seek inspiration to thrive in the new space age.

The theme for 2019 is Inspire. Innovate. Grow. These three ideas together provide the force that drives the UK space sector and we have used them together with open calls for input from the space community to influence the choice of topics for this conference.

We all recognise that the space industry is changing rapidly, with the creation of UK launch capacity in Scotland, Cornwall and elsewhere, alongside the development of 'New Space' approaches. The conference and programme will address these changes in the organisation of the industry and the development of new business models around the creation of satellite constellations and the related supply chains.

As a result of feedback from the 2017 conference, we have an increased focus on international partnerships and we are delighted to extend a special welcome to our speakers, delegations and exhibitors from overseas.

Alongside the main conference plenaries and breakout sessions a number of aligned events will broaden the reach of the conference to a wide range of people both inside and outside the sector. These include the Discover Space outreach programme for local schools, the return of the popular 'Space 101' programme, a two-day ESERO teacher conference, a SPIN (Space Placements in Industry) showcase, technical posters, spotlight stage talks, soapbox sessions, pitch to the primes and the Women in Aerospace networking breakfast. On the Tuesday evening networking drinks will take place in the exhibition hall itself, when we will be celebrating ESERO's 10-year anniversary and providing short soapbox session talks on the spotlight stage. Wednesday sees the return of the popular Gala Dinner, with unrivalled networking and the first UK Space Conference Awards for the best presenters at the conference.

The conference aims to create an exciting and diverse three days of content, networking and ideas. We are grateful to the many sponsors and exhibitors who enable us to deliver this great event and we wish you a productive and enjoyable time in Wales.



Jeremy Curtis
UK Space Agency
Chair, Organising Committee

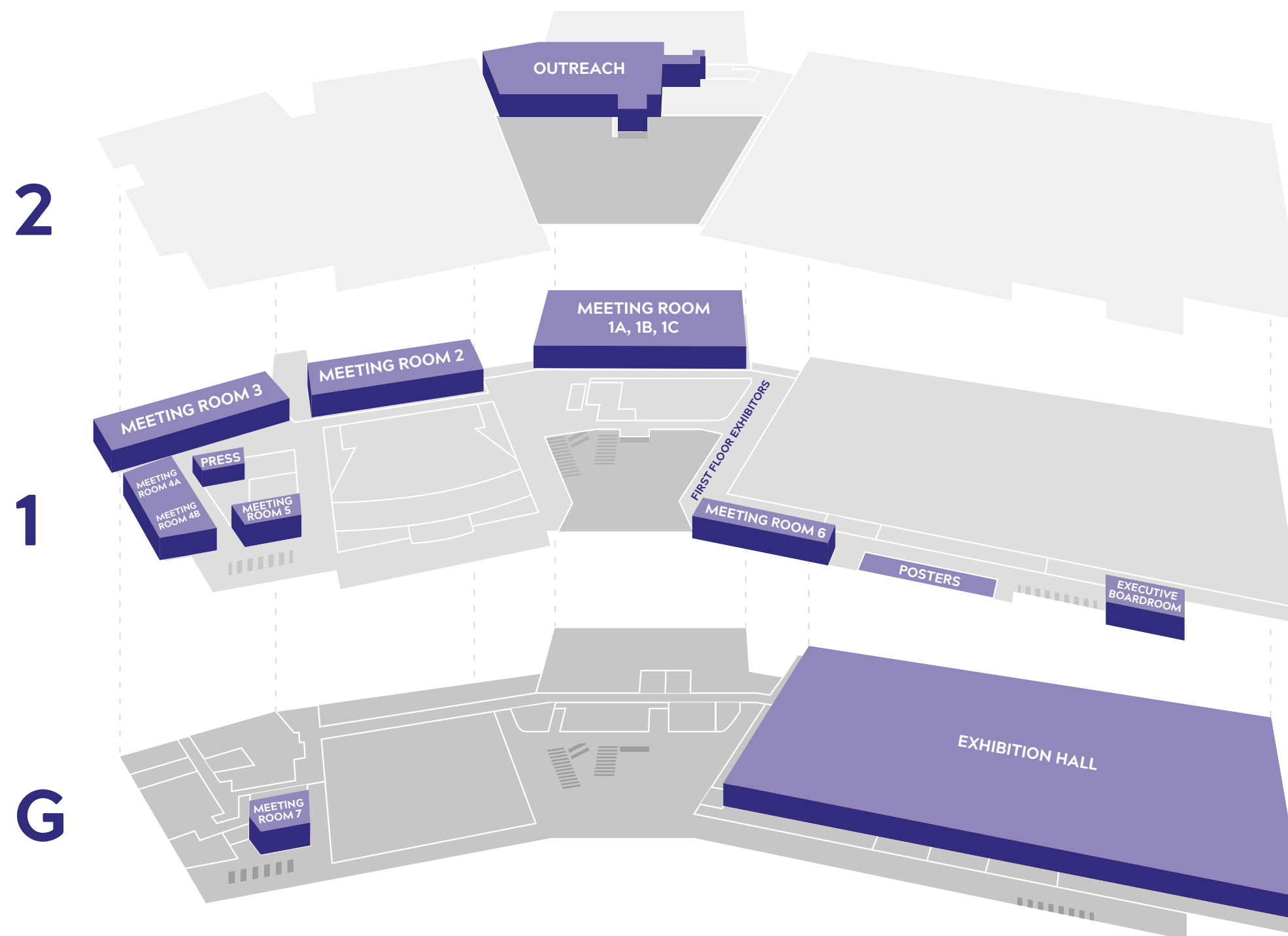


Martin Barstow
University of Leicester
Chair, Programme Committee



Helen Roberts
UK Space Agency
Deputy Chair,
Organising and
Programme Committees

Venue Map



2 OUTREACH

1 MEETING ROOM 1A -
PARALLEL SESSION 1 & SPACE 101

MEETING ROOM 1B - SPACE 101

MEETING ROOM 1C -
PARALLEL SESSION 2 & SPACE 101

MEETING ROOM 2 -
PARALLEL SESSION 3 & SPACE 101

MEETING ROOM 3 -
PARALLEL SESSION 4 & SPACE 101

MEETING ROOM 4A - ESERO-UK

MEETING ROOM 5 - SPEAKER PREVIEW

MEETING ROOM 6 - UK SPACE AGENCY

EXECUTIVE BOARDROOM -
UK SPACE AGENCY

G EXHIBITION HALL MEETING ROOM 7

Programme Overview Day One

TUESDAY 24 SEPTEMBER 2019



Please find a more detailed breakdown of the talks and sessions on the following pages.

TIME	ACTIVITY			
08:00	REGISTRATION AND EXHIBITION OPENS			
08:30 - 09:55	SPACE 101 AND REFRESHMENTS			
10:00 - 11:20	PLENARY SESSION 1: THE FUTURE OF SPACE IN THE UK			
11:20 - 12:00	REFRESHMENTS AND EXHIBITION			
11:20 - 14:00	SPIN POSTERS: MEET THE AUTHORS. FIRST FLOOR			
12:00 - 12:40	PARALLEL 1 - Meeting Room 1a Diversify, inspire, innovate, grow: how diversity can be used as a tool for innovation and growth	PARALLEL 2 - Meeting Room 1c Life Sciences in Space: Scientific & technological developments and future opportunities	PARALLEL 3 - Meeting Room 2 Navigating Space Business Support in the UK. Start-up to Scale-up	PARALLEL 4 - Meeting Room 3 Back down to Earth. Out of this world innovation improving life on Earth
12:40 - 14:00	NETWORKING LUNCH, EXHIBITION, POSTERS AND SOAPBOX SESSION 1			
14:00 - 14:40	PARALLEL 1 - Meeting Room 1a The future role of space based Positioning, Navigation and Timing (PNT) as a component in PNT systems	PARALLEL 2 - Meeting Room 1c Space Medicine In the UK: opportunities for growth and cross-sector benefit	PARALLEL 3 - Meeting Room 2 The Changing Landscape of Funding and Finance: policies, players and partners	PARALLEL 4 - Meeting Room 3 From research to revenue at innovative companies
14:50 - 15:30	PARALLEL 1 - Meeting Room 1a Future commercialisation of space based PNT systems	PARALLEL 2 - Meeting Room 1c The growing value of satellite applications: Pioneering commercial solutions	PARALLEL 3 - Meeting Room 2 The Changing Landscape of Funding and Finance: Practicalities of investing in space	PARALLEL 4 - Meeting Room 3 Space Near You. Spreading the benefits of sector growth
15:30 - 16:10	REFRESHMENTS AND EXHIBITION			
16:10 - 16:50	PARALLEL 1 - Meeting room 1a Benefits to business through international exports	PARALLEL 2 - Meeting Room 1c The growing value of satellite applications: the customers	PARALLEL 3 - Meeting Room 2 Geospatial challenge workshop	PARALLEL 4 - Meeting Room 3 Space Near Us. Realising the benefits of sector growth
17:00 - 18:00	PLENARY SESSION 2: THE GLOBAL FUTURE OF SPACE			
18:00 - 21:00	NETWORKING RECEPTION, EXHIBITION AND SOAPBOX SESSION 2			
21:00	CLOSE OF DAY 1			

Programme Day One

TUESDAY 24 SEPTEMBER 2019

A detailed look at the day one programme.

TIME	ACTIVITY				
08:00	REGISTRATION AND EXHIBITION OPENS				
08:30 - 10:00	SPACE 101 AND REFRESHMENTS Informative interactive sessions covering a range of space topics. Open to all delegates, however aimed mainly at start-ups, SMEs and those who are new to, or considering entering the sector. Come along for an overview on each topic from a variety of perspectives.				
08:30 - 08:55	SESSION 1 STARTUP STREAM Meeting Room 1a	SESSION 2 STRATEGY STREAM Meeting Room 1b	SESSION 3 BUSINESS STREAM Meeting Room 1c	SESSION 4 OPERATIONS STREAM Meeting Room 2	SESSION 5 SKILLS STREAM Meeting Room 3
	NEW TO SPACE? - START HERE New to the UK space sector or want a refresher? Join this signposting session for an overview of the UK Space sector, the support available and how to make the most of UKSC2019.	WORKING WITH DEFENCE Have you got an idea or technology that could support UK defence and security? Learn how to engage with the key players and what support is available.	ADVICE ON EXPORTS AND EXPORT FINANCE Advice from government regarding export and export finance support available to businesses across the sector - for both upstream and downstream businesses.	SATELLITE DATA IN ACTION Learn about innovative services that utilise Earth Observation data	ACCESSING ACADEMICS Where is the academic expertise that you need for your business or project? Find out more in this session.
09:00 - 09:25	ALL YOU NEED TO KNOW ABOUT ESA PROGRAMMES An overview from the experts on GSTP and ARTES programmes.	INTERNATIONAL PARTNERSHIP PROGRAMME Hear about the UK Space Agency's International Partnership Programme (IPP) from a UK and international perspective.	INTELLECTUAL PROPERTY Don't let your hard-earned knowledge end up as money in someone else's pocket. Learn how to protect your ideas.	WHERE TO ACCESS EARTH OBSERVATION SATELLITE DATA Discover where you can access EO data - both free and commercial.	HOW TO COLLABORATE WITH SPACE Hear how SMEs have collaborated with the space sector to develop business ideas.
09:30 - 09:55	BUSINESS INCUBATION - HOW TO GROW YOUR BUSINESS Thinking about setting up a space business in the UK? Different views on the support available.	UK SPACE STRATEGY Learn about the UK's ambitions in space and how these are being supported by the UK's Industrial Strategy and wider funding eco-system.	STAYING ON THE RIGHT SIDE OF THE LAW Understanding the legal side of operating in space. Do you know what what the UK regulatory requirements are for operating in a space environment? Learn what regulation could impact upon your business aims.	SPACE MISSIONS FOR BEGINNERS Do you want to know where your data comes from? This Space Missions 101 will explore the realities of designing, building, launching and operating a satellite.	GROW YOUR OWN SPACE SECTOR For officials and communities who want to growth their local space economy. Learn about UK space policy, priorities and support and how it can enable growth in your local economy.
10:00 - 11:20	PLENARY SESSION 1: THE FUTURE OF SPACE IN THE UK The UK is uniquely placed to deliver the next generation of space innovation to help determine the way that future generations will live on Earth. Hear how the UK is creating its own roadmap to enable and secure the most innovative space solutions to the global stage. CHAIR AND OPENING: Prof. Martin Barstow, Programme Committee Chair, University of Leicester WELCOME TO WALES: Ken Skates, Welsh Government SPEAKERS: Andy Green, UKSpace Graham Stuart MP, Department for International Trade PANEL CHAIR: Sarah Cruddas, Space Journalist PANELLISTS: Prof. Martin Barstow, University of Leicester Dickie Davies OBE, Welsh Government Graham Peters, UKSpace Graham Turnock, UK Space Agency				
11:20 - 12:00	REFRESHMENTS AND EXHIBITION				
11:20 - 14:00	SPIN POSTERS: MEET THE AUTHORS. FIRST FLOOR				

12:00 - 12:40	PARALLEL 1 Meeting Room 1a	PARALLEL 2 Meeting Room 1c	PARALLEL 3 Meeting Room 2	PARALLEL 4 Meeting Room 3
	DIVERSIFY, INSPIRE, INNOVATE, GROW: HOW DIVERSITY CAN BE USED AS A TOOL FOR INNOVATION AND GROWTH An interactive session featuring exercises and panel discussions on why diversity matters followed by an interactive exercise to demonstrate how diversity can lead to innovation. The session will then introduce a panel of guests showcasing real world examples of space industry innovation and inspiration.	LIFE SCIENCES IN SPACE: SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENTS AND FUTURE OPPORTUNITIES In this session you will hear from three speakers from industry and academia, who will be discussing current activities related to the space life science domain. This will include information on the latest results from R&D projects, platforms available for facilitating research in space and applications, opportunities for engagement and the value of cross-sector collaboration.	NAVIGATING SPACE BUSINESS SUPPORT IN THE UK, START-UP TO SCALE-UP Funders pitch to you! Short, rapid-fire overviews by representatives and intermediaries for prominent space business support mechanisms and networks in the UK. Discussion on navigating and coordinating these pipelines through all stages of space business development.	BACK DOWN TO EARTH: OUT OF THIS WORLD INNOVATION IMPROVING LIFE ON EARTH Three inspirational speakers will explore how technology designed for space has revolutionised life on Earth and the opportunity for terrestrial pioneers to exploit growing ambition in space. As the global space industry innovates the machines and habitats needed for complex missions to far-off planets, how can forward-thinking organisations exploit the innovations future space missions will demand to benefit life on Earth.
12:40 - 14:00	NETWORKING LUNCH, EXHIBITION AND SOAPBOX SESSION 1			
14:00 - 14:40	PARALLEL 1 Meeting Room 1a	PARALLEL 2 Meeting Room 1c	PARALLEL 3 Meeting Room 2	PARALLEL 4 Meeting Room 3
	THE FUTURE ROLE OF SPACE-BASED POSITIONING, NAVIGATION AND TIMING (PNT) AS A COMPONENT IN PNT SYSTEMS Global Navigation Satellite Systems (GNSS) such as GPS, Galileo, GLONASS and BEIDOU are integral components of Positioning, Navigation and Timing worldwide underpinning critical services from telecommunications to transport. This session will concentrate on the future role of space based PNT and possible future developments for space-based PNT technology.	SPACE MEDICINE IN THE UK: OPPORTUNITES FOR GROWTH AND CROSS-SECTOR BENEFIT This panel session will explore what UK space medicine can offer the space sector, cross sector opportunities and highlight the downstream applications to terrestrial markets.	THE CHANGING LANDSCAPE OF FUNDING AND FINANCE: POLICIES, PLAYERS AND PARTNERS Addressing the practicalities of raising funding and finance in the space sector. Themes covered include extending the coverage of government and public support, end to end financial planning and overcoming barriers to accessing investment.	FROM RESEARCH TO REVENUE AT INNOVATIVE COMPANIES Highlighting how innovative companies of all sizes can benefit from academic research and facilities to drive more rapid commercialisation and how researchers can build links with these companies to leverage their capabilities. The session will consist of three case studies including companies that have delivered commercial revenue as a result of leveraging academic research and a researcher that has successfully used one of the many programmes to facilitate commercialisation of R&D, such as KTPs, SPRINT and thematic clusters.

Programme Day One

TUESDAY 24 SEPTEMBER 2019

A detailed look at the day one programme.

14:50 - 15:30	PARALLEL 1 Meeting Room 1a FUTURE COMMERCIALISATION OF SPACE BASED PNT SYSTEMS This session will concentrate on the future of space based Position, Navigation and Timing (PNT) systems considering applications such as autonomous vehicles and remote monitoring of critical infrastructure.	PARALLEL 2 Meeting Room 1c THE GROWING VALUE OF SATELLITE APPLICATIONS: PIONEERING COMMERCIAL SOLUTIONS Problem solving applications that leverage advances in satellite technology, data integration and enabling technologies such as AI are pointing to explosive growth in the future. This session examines the growing value of satellite application products and services in a range of sectors and the opportunity for customers and investors. The panelists will be commercial providers of satellite application products and services (representing applications of various satellite capabilities).	PARALLEL 3 Meeting Room 2 THE CHANGING LANDSCAPE OF FUNDING AND FINANCE: PRACTICALITIES OF INVESTING IN SPACE Addressing the practicalities of raising funding and finance in the space sector. Themes covered include extending the coverage of government and public support, end to end financial planning and overcoming barriers to accessing investment.	PARALLEL 4 Meeting Room 3 SPACE NEAR YOU: SPREADING THE BENEFITS OF SECTOR GROWTH An interactive session to raise awareness of the support that is available locally to industry and academia across the country to help them to engage with the space sector, make the right connections and set them on the trajectory for growth, making sure that economies across the country can benefit from growth of the space sector. The session will include short presentations from the UK Space Agency, Satellite Applications Catapult, a representative from a UK Space Business Incubator, a representative from a Catapult Centre of Excellence and a stakeholder from a developing space cluster.
15:30 - 16:10	REFRESHMENTS AND EXHIBITION			
16:10 - 16:50	PARALLEL 1 Meeting Room 1a BENEFITS TO BUSINESS THROUGH INTERNATIONAL EXPORTS The decision for businesses to export can be a difficult one. This session aims to provide insight into how exporting has benefited UK companies, along with what support is available to you to achieve your export ambitions.	PARALLEL 2 Meeting Room 1c THE GROWING VALUE OF SATELLITE APPLICATIONS: THE CUSTOMERS Problem solving applications that leverage advances in satellite technology, data integration and enabling technologies such as AI are pointing to explosive growth in the future. This session examines the value to major customers (current and prospective) in a range of sectors. The panelists will be customers of satellite application services from within different sectors.	PARALLEL 3 Meeting Room 2 GEOSPATIAL CHALLENGE WORKSHOP Can you help solve a geospatial challenge? This session will involve two high profile companies from outside the space sector describing key challenges they face. We will then run a mini workshop to identify potential solutions using space data.	PARALLEL 4 Meeting Room 3 SPACE NEAR US. REALISING THE BENEFITS OF SECTOR GROWTH This session will provide genuine perspectives from a range of SME companies from across the UK who are growing their space businesses. They will provide insights into what worked well for them – and what they may do differently if they had the chance.
17:00 - 18:00	PLENARY SESSION 2: THE GLOBAL FUTURE OF SPACE In the dawn of the New Space age, international collaboration and trade are more vital than ever. Markets are changing with exciting commercial opportunities emerging, offering huge potential to companies and organisations of all sizes. New countries are developing space capabilities and the nature of international trade is also changing. This session will hear from senior leaders in a range of international institutions and companies who will discuss global trends and outline their perspectives of the future global vision for space. CHAIR: PROF. CAROLE MUNDELL, FCO PANELLISTS: Dr. Megan Clark, Australian Space Agency Prof. Johann-Dietrich Wörner, European Space Agency They will also be joined by another senior leader of a key space agency in the global community, and a senior executive from Boeing.			
18:00 - 21:00	NETWORKING RECEPTION, EXHIBITION AND SOAPBOX SESSION 2			
21:00	CLOSE OF DAY 1			

SPACE FOR LIFE

WE BELIEVE IN SPACE AS HUMANKIND'S
NEW HORIZON TO BUILD A BETTER,
SUSTAINABLE LIFE ON EARTH.



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Programme Overview Day Two

WEDNESDAY 25 SEPTEMBER 2019



Please find a more detailed breakdown of the talks and sessions on the following pages.

TIME	ACTIVITY			
08:00	REGISTRATION AND EXHIBITION OPENS			
08:30 - 09:25	SPACE 101 AND REFRESHMENTS			
09:30 - 10:30	PLENARY SESSION 3: DISRUPTING THE STATUS QUO?			
10:30 - 11:00	REFRESHMENTS, EXHIBITION AND SPOTLIGHT STAGE TALKS			
11:00 - 11:40	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c	PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Science: inspiration, innovation & impact – talks selected from submitted abstracts	The strategic drivers for the national space operations capability	Accelerating payload testing for new space satellites	Very Low Earth Orbit (VLEO) missions and technologies
11:50 - 12:30	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c	PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Science: inspiration, innovation & impact – talks selected from submitted abstracts	Space in 2035 – what could the future hold for the UK's defence space programmes?	Challenges of commercial mega-constellations	How to secure funding from the Industrial Strategy Challenge Fund
12:30 - 14:00	NETWORKING LUNCH, EXHIBITION AND SPOTLIGHT STAGE TALKS			
14:00 - 14:40	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c	PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Science: inspiration, innovation & impact – talks selected from submitted abstracts	Developing fresh ideas with the next generation: how young people can help you innovate while they learn	Commercial Spaceflight: A United Kingdom	Pitch to the Primes
14:50 - 15:30	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c	PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Science: inspiration, innovation & impact – talks selected from submitted abstracts	Getting ready for space! Supporting the development of new technology	In-space Propulsion 2030	Pitch to the Primes
15:30 - 16:00	REFRESHMENTS, EXHIBITION, SPOTLIGHT STAGE TALKS AND POSTER SESSIONS			
16:00 - 17:00	PLENARY SESSION 4: GROWING OUR FUTURE SECTOR			
17:00	CLOSE OF DAY 2			

Programme Day Two

WEDNESDAY 25 SEPTEMBER 2019

A detailed look at the day two programme.

TIME	ACTIVITY				
08:00	REGISTRATION AND EXHIBITION OPENS				
08:30 - 09:25	SPACE 101 AND REFRESHMENTS Informative interactive sessions covering a range of space topics. Open to all delegates, however aimed mainly at start-ups, SMEs and those who are new to, or considering entering the sector. Come along for an overview on each topic from a variety of perspectives.				
8:30 - 8:55	SESSION 1 STARTUP STREAM Meeting Room 1a	SESSION 2 STRATEGY STREAM Meeting Room 1b	SESSION 3 BUSINESS STREAM Meeting Room 1c	SESSION 4 OPERATIONS STREAM Meeting Room 2	SESSION 5 SKILLS STREAM Meeting Room 3
	BREAKING INTO SPACE Hear from companies that are utilising space in their business.	ACCESSING THE SUPPLY CHAIN - PRIMES What you need to know from the Primes' perspective on how to enter their supply chains.	PRIVATE INVESTMENT REQUIRED? How do you access private investment? Information about an example fund and investor network.	LAUNCHING INTO SPACE Learn how to engage with launch service providers and about the UK's ambitions to host spaceports and launch services in the near future.	GETTING THE MOST OUT OF OUTREACH Practical help from the experts to make outreach easier, more fun and more effective, including the support available to enable you to deliver great outreach.
9:00 - 9:25	WRITING A SUCCESSFUL PROPOSAL Understanding the application process. What makes a proposal stand out? What are the pitfalls to avoid? Find out how to improve your chance of success.	ACCESSING THE SUPPLY CHAIN - SMES How to access the UK Prime supply chain from the SME's perspective.	IN A SPIN Could your technology be useful in-orbit and on-earth? Does your research have a space application? Do you need expert help to develop a new idea? Learn about the support available.	SPACE STANDARDS OVERVIEW All you need to know about Space Standards including reducing costs, improving quality and how to maintain competitiveness.	MAKING THE MOST OF YOUR RECRUITMENT EFFORTS Come and hear how to maximise the number of people who actively engage with your recruitment, and about strategies to improve retention and encourage returners back from career breaks.
09:30 - 10:30	PLENARY SESSION 3: DISRUPTING THE STATUS QUO? The space sector continues to develop and evolve at pace. Building on an established and solid foundation with new, exciting, ambitious, and potentially high-growth enterprises that can bring space to new markets, and new opportunities. This plenary will bring together thought leadership on emerging trends across the sector, placing UK activities into a global context. Asking whether these trends will endure a long-term disruption of the sector, whilst also giving the audience a chance to comment on developing trends. CO-CHAIRS: Betty Bonnardel, AB5 Consulting and Prof. Malcolm Macdonald, University of Strathclyde and SoXSA SPEAKERS: Dr. Bhavya Lal, IDA Science and Technology Policy Institute Nik Smith, Lockheed Martin Space Adrian Steckel, OneWeb Gemma Whitley, Earth-i				
10:30 - 11:00	REFRESHMENTS AND EXHIBITION				

11:00 - 11:40	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	SCIENCE: INSPIRATION, INNOVATION & IMPACT – TALKS SELECTED FROM SUBMITTED ABSTRACTS This session seeks contributions focussing on the wider benefits of science missions and showing how they provide inspiration, innovation and impact. We encourage contributions highlighting new opportunities, the technical challenges, and the economic benefits arising from space science programmes. Final titles determined by chosen abstracts.	THE STRATEGIC DRIVERS FOR A NATIONAL SPACE OPERATIONS CAPABILITY Space is more congested, contested and commercial than ever before. Studies predict a progressive increase in volume over the coming decades – in the worst-case scenario, rendering LEO unusable and impassable. Low-cost small satellites and mega-constellations will greatly increase the number of active satellites in orbit. Space services and capabilities provide integral support to military, commercial and civilian applications across many daily activities. The combination of the dependency on space, technological advances and increasingly complex environment is driving new requirements for UK space capability.	ACCELERATING PAYLOAD TESTING FOR NEW SPACE SATELLITES New Space brings challenges for manufacturing and delivery of new technology in satellite payloads. How do the industry players, both established and new, change development and manufacturing processes to allow high volume manufacturing? Can methodology be learned from other industries, such as the mobile communications industry in delivery of mobile phones or base stations to apply processes in the satellite world enabling some of the next generation constellations to be brought to life? This session will explore some of the specific topics around manufacturing satellites or subsystems in large quantities to meet the new demands.	VERY LOW EARTH ORBIT (VLEO) MISSIONS AND TECHNOLOGIES Many satellite applications benefit from operating at lower altitudes, from improved resolution for imaging, to reduced latency and improved link budgets for communications. However drag and atomic oxygen erosion need to be addressed. This session gathers the UK's leading institutions developing missions and enabling technologies for VLEO satellites.

Programme Day Two

WEDNESDAY 25 SEPTEMBER 2019

A detailed look at the day two programme.

11:50 - 12:30	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	SCIENCE: INSPIRATION, INNOVATION & IMPACT – TALKS SELECTED FROM SUBMITTED ABSTRACTS	SPACE IN 2035 – WHAT COULD THE FUTURE HOLD FOR THE UK’S DEFENCE SPACE PROGRAMMES?	CHALLENGES OF COMMERCIAL MEGA-CONSTELLATIONS	HOW TO SECURE FUNDING FROM THE INDUSTRIAL STRATEGY CHALLENGE FUND
	<p>This session seeks contributions focussing on the wider benefits of science missions and showing how they provide inspiration, innovation and impact. We encouraged contributions highlighting new opportunities, the technical challenges, and the economic benefits arising from space science programmes.</p> <p>Final titles determined by chosen abstracts.</p>	<p>Space is a rapidly changing environment, with investment in New Space technologies, and the decreasing cost of launch, leading to new strategies being adopted in both the civil and military domains.</p> <p>Three complimentary talks with a defence focus will examine what the future might hold for defence within this context: What might be the next disruptive technologies for defence, and what are the concepts within the MOD (e.g. information advantage) that could be disrupted by future space technology? What are the disruptive technologies we are looking at in the defence S&T programme today? With the space sector being so vibrant, we will also outline how Dstl is engaging with innovators, including Dstl’s sponsorship of Seraphim Capital Space Camp Accelerator, and also announcing the outcome from our Space-themed defence and Security Accelerator call launched in May 2019, covering who we are working with, what are they doing and why is it important to Dstl.</p>	<p>The recent wave of private investment in commercial space ventures is creating an unprecedented growth in the number of small satellites planned to be launched, those constellations introduce new challenges such as complexity and scaling, capital/operating costs and potential creation of space debris among others.</p> <p>We will address how these new challenges are tackled by all the different players from across the “New Space” community and UK’s supply chain.</p>	<p>The Industrial Strategy Challenge Fund provides funding and support to UK businesses and researchers. Delivered by UK Research and Innovation, it is part of the Government’s £4.7 billion investment in R&D over four years.</p> <p>Hear directly from successful applicants on their experience and UKRI on upcoming funding opportunities.</p>
12:30 - 14:00	NETWORKING LUNCH, EXHIBITION AND SPOTLIGHT STAGE TALKS			

14:00 - 14:40	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	SCIENCE: INSPIRATION, INNOVATION & IMPACT – TALKS SELECTED FROM SUBMITTED ABSTRACTS	DEVELOPING FRESH IDEAS WITH THE NEXT GENERATION: HOW YOUNG PEOPLE CAN HELP YOU INNOVATE WHILE THEY LEARN	COMMERCIAL SPACEFLIGHT: A UNITED KINGDOM	PITCH TO THE PRIMES
	<p>This session seeks contributions focussing on the wider benefits of science missions and showing how they provide inspiration, innovation and impact. We encouraged contributions highlighting new opportunities, the technical challenges, and the economic benefits arising from space science programmes.</p> <p>Final titles determined by chosen abstracts.</p>	<p>When professionals in hi-tech sectors collaborate with students in schools to tackle difficult problems, everyone benefits.</p> <p>Students gain by being involved in real-world activities where the answers aren't known, inspiring them and building confidence. In turn professionals value the innovation and fresh ideas from young people, while teachers can demonstrate the relevance of learning and get to experience the cutting edge of science and technology. Hear from professionals, students and teachers about how they have benefited from this collaborative approach and see how it might help your work.</p>	<p>In this session we will give updates on LaunchUK and the developments in the UK spaceflight sector since the UK Government’s announcement of spaceport funding at Farnborough 2018. We will look to provide more information on the UK’s united approach towards establishing spaceflight capabilities, and what benefits of this collaboration could mean in regulatory, legislative, market and international environments.</p>	<p>A fantastic opportunity for early stage SMEs and startups to showcase their innovations to a panel of influential space industry leaders.</p> <p>We have selected candidates from upstream and downstream technologies to identify potential new supply chain opportunities.</p>
14:50 - 15:30	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	SCIENCE: INSPIRATION, INNOVATION & IMPACT – TALKS SELECTED FROM SUBMITTED ABSTRACTS	GETTING READY FOR SPACE! SUPPORTING THE DEVELOPMENT OF NEW TECHNOLOGY	IN-SPACE PROPULSION 2030	PITCH TO THE PRIMES
	<p>This session seeks contributions focussing on the wider benefits of science missions and showing how they provide inspiration, innovation and impact. We encouraged contributions highlighting new opportunities, the technical challenges, and the economic benefits arising from space science programmes.</p> <p>Final titles determined by chosen abstracts.</p>	<p>Hear from both space and non-space SMEs, who have developed new and innovative products, which have societal benefits and are driving growth across the UK. These projects have been funded and supported by the UK Space Agency through the ESA GSTP programme.</p>	<p>What will in-space propulsion look like in 10 years’?</p> <p>In-space propulsion technologies are evolving to meet changing demands for science and exploration. Developing alternatives to established in-space chemical propulsion presents many challenges but also opportunities. What will in-space propulsion look like in 10 years’ time and how will the alternatives become a reality?</p>	<p>A fantastic opportunity for early stage SMEs and startups to showcase their innovations to a panel of influential space industry leaders.</p> <p>We have selected candidates from upstream and downstream technologies to identify potential new supply chain opportunities.</p>
15:30 - 16:00	REFRESHMENTS, EXHIBITION AND POSTER SESSIONS			
16:00 - 17:00	PLENARY SESSION 4: GROWING OUR FUTURE SECTOR			
	<p>We want the benefits of growth of the space sector to be felt across the whole of the UK – driving up productivity and providing well paid jobs. This session will focus on some of the successful outcomes of programmes that have been initiated to develop local space clusters and communities, showcasing opportunities for SMEs and inspiring others to grow their own space clusters.</p> <p>CHAIR: Adina Gillespie, Kispe and GHGSat</p> <p>SPEAKERS: Prof. Martin Barstow, University of Leicester John Bone, RHEA Michael Lawrence, Telespazio VEGA UK Stuart Martin, Satellite Applications Catapult Catherine Mealing-Jones, UK Space Agency</p>			
17:00	CLOSE OF DAY 2			

Programme Overview Day Three

THURSDAY 26 SEPTEMBER 2019

Please find a more detailed breakdown of the talks and sessions on the following pages.



TIME	ACTIVITY				
08:30	REGISTRATION AND EXHIBITION OPENS				
09:50 - 10:50	PLENARY SESSION 5: INSPIRING THE NEXT GENERATION				
10:50 - 11:30	REFRESHMENTS AND EXHIBITION				
11:30 - 12:10	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c		PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Protecting the planet - exploiting ESA data from space for local to global climate policy	The AI revolution		Saving satcom: where will our future markets and users come from?	Economic growth through inward investment
12:20 - 13:00	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c		PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Data quality - why bother?	The quantum space race		5G: will it make or break the space industry?	Cleaning-up space for orbital sustainability
13:00 - 13:50	NETWORKING LUNCH AND EXHIBITION				
13:50 - 14:30	PARALLEL 1 - Meeting Room 1a	PARALLEL 2 - Meeting Room 1c		PARALLEL 3 - Meeting Room 2	PARALLEL 4 - Meeting Room 3
	Saving lives with satellite data – UK Government applications in health, regulation and infrastructure	The Future of UK Spaceflight		How space is enabling international development – from climate resilience to disaster response	Regulating an in-space industry
14:40 - 16:00	PLENARY SESSION 6: PLANETARY SPACE SCIENCE & EXPLORATION				
16:00 - 16:20	FINAL WORDS FROM MARTIN BARSTOW CHAIR, PROGRAMME COMMITTEE AND CLOSE OF UK SPACE CONFERENCE 2019				

Programme Day Three

THURSDAY 26 SEPTEMBER 2019

A detailed look at the day three programme.

TIME	ACTIVITY			
08:30 - 09:50	REGISTRATION AND EXHIBITION OPENS			
09:50 - 10:50	PLENARY SESSION 5: INSPIRING THE NEXT GENERATION			
	<p>Prosperity from Space set out the ambition for every employee in the space sector to do at least one outreach activity with young people – achieving one million interactions per year.</p> <p>The session will show the evidence for why this is needed and what types of activity are effective. It will also be used to announce the programme of support to help every individual to inspire members of the next generation.</p> <p>CHAIR: Dr. Jeremy Curtis, UK Space Agency</p> <p>SPEAKERS: Prof. Louise Archer, UCL Gill Collinson, National STEM Centre Jessica Leigh, Imperial College Tim Peake, European Space Agency</p>			
10:50 - 11:30	REFRESHMENTS AND EXHIBITION			
11:30 - 12:10	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	<p>PROTECTING THE PLANET - EXPLOITING ESA DATA FROM SPACE FOR LOCAL TO GLOBAL CLIMATE POLICY</p> <p>The European Space Agency's Climate Change Initiative (CCI) is a research programme dedicated to generating satellite-derived Essential Climate Variables, required by the UNFCCC and IPCC, to support evidence-based decision-making. Darren Ghent, NCEO, will highlight the contributions made by participating UK academic and commercial researchers to date and outline future activity.</p> <p>Insight into the data needs of 21st century climate policy makers will be provided by Eleanor Webster, BEIS, followed by a showcase of new innovative project proposals for climate policy services from Space4Climate – a body representing UK expertise delivering, sustaining and making use of trusted climate information from space.</p> <p>The audience will be invited to participate, by selecting their favourite proposal, with the winner receiving a 6-month 'Accelerator' support package to shift from idea to realisation.</p>	<p>THE AI REVOLUTION</p> <p>AI and Machine Learning techniques are helping us push the boundary of what is possible in the utilisation and exploration of space, bringing significant benefit to users through improved services, automation and human-machine cooperation.</p> <p>We will take a look at how AI is accelerating the development of new space products and services, and what challenges need to be addressed to unleash the full potential of AI in the future of a space enabled economy.</p>	<p>SAVING SATCOM: WHERE WILL OUR FUTURE MARKETS AND USERS COME FROM?</p> <p>Satcom accounts for 65% of all space sector revenues but they are falling due to the shift away from direct broadcast.</p> <p>What disruptive innovation and new markets and services can restore the industry's growth, across the whole value chain?</p>	<p>ECONOMIC GROWTH THROUGH INWARD INVESTMENT</p> <p>Delegates will hear how Foreign Direct Investment (FDI) can deliver positive benefits to economic growth to industry and how investment stimulates growth of UK supply chains.</p> <p>Speakers will include experts on the UK business environment, national stakeholders involved in setting out the national strategy for growth and investors across the supply chain who have flourished in the UK.</p>

12:20 – 13:00	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	<p>DATA QUALITY - WHY BOTHER?</p> <p>The UK is a world leader on data quality and assurance in many sectors and this also applies to satellite data.</p> <p>This session will explore the topic through presentations on quality assurance of Earth observation products, data standards and machine learning applied to quality assurance.</p>	<p>THE QUANTUM SPACE RACE</p> <p>Quantum technology has the potential to open up entirely new ways of utilising the space domain for decades to come, for scientific discovery, tackling security, and to open a door to a new era of commercial satellite applications.</p> <p>This session will explore these opportunities and how it might be possible for the UK to take a global lead in the new quantum space race.</p>	<p>5G: WILL IT MAKE OR BREAK THE SPACE INDUSTRY?</p> <p>Integrating satellite systems into future 5G networks is an existential issue for the space industry: how do we avoid our failures with 3G and 4G and secure our industry's future?</p>	<p>CLEANING-UP SPACE FOR ORBITAL SUSTAINABILITY</p> <p>With thousands of satellites scheduled to launch in the near future, the need to provide orbital sustainability for future generations is now critical. The UK in-orbit servicing community is working together to position the UK as a market-leader in the global challenge to 'clean-up space'.</p> <p>This session will demonstrate the technologies being developed, identify how we can support the commercial operator launching large constellations and blue sky thinking around future of in-orbit servicing technologies.</p>
13:00 - 13:50	NETWORKING LUNCH, EXHIBITION AND SPOTLIGHT STAGE TALKS			
13:50 - 14.30	PARALLEL 1	PARALLEL 2	PARALLEL 3	PARALLEL 4
	Meeting Room 1a	Meeting Room 1c	Meeting Room 2	Meeting Room 3
	<p>SAVING LIVES WITH SATELLITE DATA – UK GOVERNMENT APPLICATIONS IN HEALTH, REGULATION AND INFRASTRUCTURE</p> <p>UK government uses of satellite applications - the latest update on the Space for Smarter Government Data Procurement Initiative and the ESA Business Applications NHS competition.</p>	<p>THE FUTURE OF UK SPACEFLIGHT</p> <p>In this session we will look at the future of commercial spaceflight from the UK and what will drive growth beyond the early 2020s. In particular:</p> <ul style="list-style-type: none">• Customer demand: How is the market developing and what new products, supply chains and customer needs will drive growth to 2030 and beyond?• Innovation: What new technologies and services will create future opportunities for the UK in this time frame?• Strategy and finance: What role will private finance companies play in the growth of the space industry? In what ways can private finance support new and existing businesses? What are the biggest challenges when securing private finance and what is the best way to overcome those barriers? What is it that private finance companies look for in businesses before deciding to invest?	<p>HOW SPACE IS ENABLING INTERNATIONAL DEVELOPMENT – FROM CLIMATE RESILIENCE TO DISASTER RESPONSE</p> <p>Data from Earth observation and Global Positioning System satellites are contributing to international development by delivering crucial information directly to the people who need it most.</p> <p>This session will explore how space assets are actively supporting and monitoring progress towards the United Nations Sustainable Development Goals by monitoring target indicators, environmental conditions, and driving economic growth in low and middle income countries. It will cover a range of themes, from climate resilience to disaster response, taking a practitioner and research perspective, and will include the coordinating role of intergovernmental organisations.</p>	<p>REGULATING AN IN-SPACE INDUSTRY</p> <p>The in-space industry includes everything from on-orbit servicing to in-space manufacturing. Although these new markets present great economic opportunities, governments are required to regulate these industries to ensure they satisfy international obligations (safety, risk, security).</p> <p>This session will explore these challenges both from a government and industry perspective.</p>
14:40 - 16:00	PLENARY SESSION 6: PLANETARY SPACE SCIENCE & EXPLORATION			
	<p>Exploring the frontiers of our knowledge and understanding of space has fascinated humankind for millennia, giving us some of our greatest scientific and technological achievements.</p> <p>Today we have the ability to answer some of the greatest questions about our own existence, seek new discoveries in the universe, the possibility of life beyond Earth, and inspire people of all ages to do science, technology, engineering and mathematics. Space science and exploration are also huge drivers of technology and commercial innovation. They give us a platform to collaborate inter-nationally, support global progress, and deliver major economic and societal impact.</p> <p>CHAIR: Chris Lee, UK Space Agency</p> <p>SPEAKERS: Prof. Emma Bunce, University of Leicester Dr. Heidi B. Hammel, Space Science Institute Anna Horleston, Mars Insights Dr Jim Green, NASA Dr. David Parker, European Space Agency</p>			
16:00 - 16:20	FINAL WORDS FROM MARTIN BARSTOW, CHAIR, PROGRAMME COMMITTEE AND CLOSE OF UK SPACE CONFERENCE 2019			

Spotlight Stage: Soapbox

Speakers will have just five minutes and five slides each to convince the audience the merits of their innovative idea.

SPOTLIGHT STAGE
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DAY	TIME	TITLE	SPEAKER
DAY 1 - 24 SEPTEMBER			
DAY ONE: LUNCH (12:40 - 14:00)	1300 - 13:50 Soapbox Session 1	Introduction to the Soapbox Sessions	John Bone, RHEA
		Spatial Finance Initiative	Christophe Christiaen, Satellite Applications Catapult
		Quality Control Optical Learning Tool (Q-COLT)	Geoff Busswell, Telespazio VEGA UK
		Sustainability metrics from space	Simon Tucker, Satellite Vu
		HATCH: an online portal to space	Dr. Ed Chester, Catena Space Ltd
		A compact laser frequency stabilisation system in the IR based on a reference-gas-filled Kagome hollow-core fibre cell for space-based greenhouse gas monitoring	Anne Curtis, National Physical Laboratory
		Engine technology to enable dedicated CubeSat launch - Protolaunch	Matt Escott, Protolaunch
		How to task and access data from NovaSAR-1	Dr. Cristian Rossi, Satellite Applications Catapult
DAY ONE: NETWORKING RECEPTION (18:00 - 21:00)	18:30 - 19:00	Networking Reception VIP welcome and short talks	Johann-Dietrich Wörner, Director General, European Space Agency
			Yvonne Baker, Chief Executive, STEM Learning Ltd
			Tim Peake, Astronaut, European Space Agency
	1910 - 1940 Soapbox Session 2	Introduction to the Soapbox Sessions	John Bone, RHEA
		Lift Me Off Technology Developments for In-Orbit Services	Michel Poucet, Lift Me Off
		Space engineering apprenticeships - coming soon!	Roy Howarth, Space Engineering Trailblazer Group
		Addressing the skills gap with a space skills alliance	Joseph Dudley and Heidi Thiemann, Skills Alliance
		The next generation of sustainability in space.	Josh Western, Space Forge Ltd
		Vast Satcom Antenna (VASANT)	Matthew Stuttard, Airbus Defence and Space

Please visit the Spotlight Stage during the conference for the most up-to-date speakers and scheduling.

Spotlight Stage: Talks

Experts from across industry and academia will give high-level presentations on some of the most engaging and important topics affecting the sector.



DAY	TITLE	SPEAKER
DAY 2 - 25 SEPTEMBER		
5 minute spotlight stage talks will take place during the below times: DAY TWO MORNING BREAK: Talks between 10:35 and 10:55 DAY TWO NETWORKING LUNCH: Talks between 12:40 and 13:50 DAY THREE AFTERNOON BREAK: Talks between 13:35 and 13:55	Introduction to the Spotlight Stage	Mark Roberts, RHEA
	National Satellite Test Facility	Sarah Nash, STFC RAL Space
	The Space Universities Network – enhancing the quality of UK space teaching and learning	Lucy Berthoud, University of Bristol
	Near Space: science and business opportunities	Victor Montero, b2-space
	Optical components for high-speed digital payloads and Inter-Satellite Links (ISLs)	Davinder Basuita, Glenair UK Limited
	Space Park Leicester: low cost access to space	Prof. Martin Barstow, University of Leicester
	What can Harwell Space Cluster do for you?	Dr. Joanna Hart, STFC
	GIoT - Global nano-satellite powered infrastructure for IoT / M2M operators	Vaida Karaliunaite, n-avionics
	How Open Cosmos is making space accessible to anyone	Remco Timmermans, Open Cosmos
	Interconnection of large scale microelectronics components for use in space applications	Juan Bevan, Micross Components
	Benefit from quality assurance in your space project	Tim Lock
	Faraday Service: A commercial approach for service and technology demonstration in space	Doug Liddle, In-Space Missions Limited
	The potential for advanced space operations using virtual and augmented reality	Nick Howes, BMT
	Pre-flight medical checks for commercial suborbital spaceflight	Team Paraboladies - Eleonor Frost (University College London) and Nina Purvis (King's College London)
	The future of small satellites	Tony Azzarelli, AB5 Consulting and ACCESS.SPACE
	Flea powder to CubeSats	Roland Albers, Thomas Keating
DAY 3 - 26 SEPTEMBER		
5 minute spotlight stage talks will take place during the below times: DAY THREE MORNING BREAK: Talks between 11:00 and 11:20 DAY THREE NETWORKING LUNCH: Talks between 13:10 and 13:40	Introduction to the Spotlight Stage	Mark Roberts, RHEA
	SPRINT - transforming UK SME business growth through space	Dr. Ross Burgon, SPRINT - Space Research and Innovation Network for Technology
	Blue Wonder Spacecraft	Alexandru Moloceniuc, Blue Asteroids Ltd
		Dr. Sarah Beardsley, RAL Space Engineering and Technology Group
	Electric propulsion	Alberto Garbayo, AVS UK Ltd
	Ready for launch?	Ben Jarvis, Raptor Aerospace Ltd
	Space technology as enabler for reaching out to Faraway Farmers	Betty Bonnardel, AB5 Consulting
	Earth observation exploitation: myths, lies & reality	Dr. Samantha Lavender, Pixalytics Ltd
	Technology harmonisation: are you missing out?	Tony Mears, UK Space Agency

New for 2019

Spotlight Stage

We are bringing content to the exhibition floor.

On day one the Spotlight Stage will host the Soapbox Sessions during lunch and the networking evening. Speakers will have just five minutes and five slides each to convince judges and delegates of the merits of their innovative ideas. The winner will be announced at the Gala Dinner on Wednesday 25 September.

On days two and three Spotlight Talks will be held featuring experts from across industry and academia who will give high-level presentations on some of the most engaging and important topics affecting the sector.

The Spotlight Stage will also be used to stream plenary sessions live each day.

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Barista Bar

Good networking is made better with great coffee! Refuel and revive yourself at the Hypersonic Café located in the exhibition hall.

Suggested donation of £2 per coffee (via contactless payment). 100% of proceeds will go towards our 2019 charities.

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About The Charities:



THE ACCESS PROJECT
works with bright students from disadvantaged backgrounds, providing in-school support and personalised tuition, helping them gain access to top universities.



CRISIS
is the national charity for homeless people. Homelessness is not inevitable. Together we can end it.

Feature Areas

Innovation Zone

Back by popular demand the UK Space Conference Innovation Zone will showcase leading technology, revolutionary solutions and the latest applications.

You can find the Innovation Zone located at the front of the exhibition hall.

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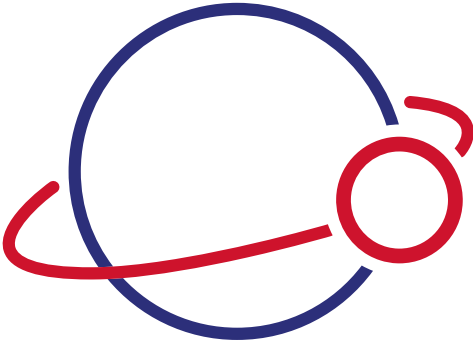
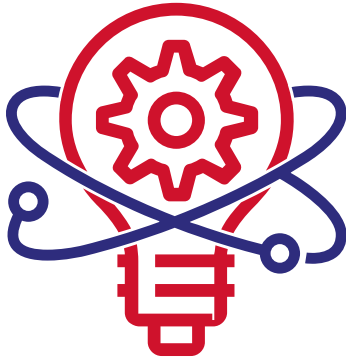
Posters

Posters are welcomed back to the UK Space Conference in 2019.

Situated on the first floor of the ICC Wales next to the upper level exhibition, posters will be on display throughout the conference with designated sessions to discuss the content with poster authors.

The Space Placements in INdustry scheme (SPIN) will display posters on day one, and on days two and three posters will be provided by successful applicants from across academia and industry.

DAY 1: TUESDAY 24 SEPTEMBER
The Space Placements in INdustry scheme (SPIN), poster session on day 1 between 11:20 and 14:00
DAYS 2: WEDNESDAY 25 SEPTEMBER
Academia and industry, poster session, meet the authors on day 2 between 15:30 and 16:00



Parallel Activity

Discover Space 2019 Outreach Programme

24, 25 & 26 SEPTEMBER 2019

LOCATION: ICC, WALES

The 2019 UK Space Conference outreach and educational programme 'Discover Space' will take place across all three days of the conference.

A series of educational challenges, hands-on activities and a talk from ESA Astronaut Tim Peake will aim to inspire young people to pursue careers in science, engineering and technology. 450 year 8 students from local schools in Wales are expected to participate.

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ESERO-UK Conference

24 SEPTEMBER 2019

THE PRIMARY ESERO-UK CONFERENCE

25 SEPTEMBER 2019

THE SECONDARY ESERO-UK CONFERENCE

LOCATION: MEETING ROOM 4B

Ideal for teachers interested in using space as an exciting context for learning, the annual ESERO-UK space conferences give teachers the chance to hear from a space industry careers panel and take part in hands-on activities. Areas covered include the 50th anniversary of the first lunar landing, ESA's ExoMars mission, and the James Webb Space Telescope. Tim Peake will also be joining this careers-themed conference for a question and answer session.

Contact: esero-uk@stem.org.uk

DELIVERED BY:



Space Placements in INdustry (SPIN)

24 SEPTEMBER 2019

LOCATION: THE CONWY SUITE, CELTIC MANOR RESORT

The Space Placements in INdustry scheme (SPIN) has been designed to provide an introductory link for those considering employment in the space sector and space sector organisations looking to find the most talented and enthusiastic people to ensure the future success of their businesses. The scheme is managed by the UK Space Agency and supported by the Satellite Applications Catapult.

SPIN participants will be showcased at the UK Space Conference 2019 through poster presentations on day 1 located on the first floor of the ICC Wales.

DELIVERED BY:



Women In Aerospace

25 SEPTEMBER 2019 AT 08:00

WOMEN IN AEROSPACE MEMBERS BREAKFAST MEETING.

LOCATION: RAL SPACE STAND, EXHIBITION HALL

Women in Aerospace Europe are passionate about expanding women's opportunities for leadership and increasing their visibility in the aerospace sector, and this year the organisation is celebrating its 10th anniversary. Being a part of our ever-growing network means benefiting from our programmes and special member offers, as well as connecting with like-minded professionals. The UK local group aims to bring together the UK space community in support of a more diverse and equal workforce. We organise events around the country, and online, focussing on:

- De-mystifying unconscious bias;
- Networking/mentoring;
- Creating a Network of Experts.

More information can be found by visiting our website at: <http://wia-europe.org> or our stand at the UK Space Conference. At the conference our local group chair, Liz Seward, will be participating in the parallel session on diversity on Tuesday afternoon. WIA-E UK will also be hosting a networking breakfast at 8 o'clock on Thursday morning. Join us on the RAL Space stand in the exhibition area to hear from Surrey Satellite Technology Ltd CEO Sarah Parker, enjoy some breakfast rolls, and hopefully make some new contacts.

DELIVERED BY:



Networking

Welcome Reception

TUESDAY 24 SEPTEMBER 2019
18:00 - 21:00

The buzzing drinks reception takes place at the end of day one of the conference, in the exhibition hall itself. Early attendees will also find selected cocktails on the first floor overlooking the exhibition hall. The event is free to attend for all UK Space Conference participants.

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Gala Dinner

WEDNESDAY 25 SEPTEMBER 2019
19:00 - 23:00

The spectacular gala dinner takes place at the end of day two of the conference. Welsh-themed entertainment accompanies a three course meal, and the announcement and presentation of the UK Space Conference Awards.

The Gala Dinner is a ticketed event.

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UK Space Conference 2019 Awards Programme

We are delighted to announce the launch of the inaugural UK Space Conference Awards which will take place at the Gala Dinner.

Five awards are available, each highlighting the exciting, diverse and forward-thinking ideas and innovations that make the conference the most influential event for space in the UK.

The categories will be judged by experts from across government, industry and academia during the first two days of the conference. All winners will be announced during the Gala Dinner on Wednesday 25 September 2019.

CATEGORIES INCLUDE:

Soapbox Award
Pitch to the Primes Award
Poster Award
Paper Session Award
Innovation Showcase Award

The Meeting Portal

For 2019 we have launched the meeting portal. Sign up online to link in and network with other delegates at the event. You'll find the official Meeting Point on the first floor, overlooking the exhibition hall.

Visit the information desk in the atrium for more information.

Share your experiences

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Plenary Speakers

Prof. Louise Archer

Karl Mannheim Chair of Sociology of Education, UCL

DAY 3: PLENARY 5



Louise is Karl Mannheim Professor of Sociology of Education at UCL Institute of Education. Her research focuses on educational identities and inequalities of social class, gender and ethnicity, with a particular focus on the factors shaping young people's participation in science. She has directed several large, national studies, including the ten year ASPIRES/ ASPIRES2 study of young people's science and career choices age 10-18, the five year Enterprising Science project and the four year Youth Equity+STEM project.

Dr. Heidi B. Hammel

Senior Research Scientist, Space Science Institute

DAY 3: PLENARY 6



Heidi served as a Science Liaison for the New Horizons mission during the Pluto and MU69 flybys. She primarily studies outer planets using telescopes in space and on the ground. Dr. Hammel is currently the Executive Vice President of AURA, a consortium that operates large astronomical observatories, including Hubble Space Telescope. She is an Interdisciplinary Scientist for NASA's James Webb Space Telescope, with a focus on Solar System observations.

She has been recognised for both her science and her work in public outreach, including the Sagan Medal and the San Francisco Exploratorium's Public Understanding of Science Award.

Prof. Martin Barstow

Chair of UK Space Conference 2019 and UoL Pro-Vice Chancellor, University of Leicester

DAY 1: PLENARY 1, CHAIR AND PLENARY 4



Martin has been a space scientist for 40 years and is a Professor of Astrophysics and Space Science at the University of Leicester. He also holds the titles of head of Physics & Astronomy, founding head of the College of Science & Engineering and Pro-Vice-Chancellor for Strategic Science Projects and Director of the Leicester Institute of Space & Earth Observation. He was President of the Royal Astronomical Society from 2014 to 2016. He has been involved in many space missions and published almost 400 research papers. He is the originator of the concept of Space Park Leicester and a leader in its development, and leads the SPRINT project, supporting SME growth.

Plenary Speakers



Betty Bonnardel

CEO, AB5 Consulting
DAY 2: PLENARY 3, CHAIR



Betty is the CEO of AB5, an award-winning London SME developing innovative solutions in an enabled environment, in high-tech sectors. Betty has worked with industry, regulators and UN Agencies in due diligence, system assessment, business development, market access, regulatory, licensing. She is the chair of the Society of Satellite Professionals International UK Chapter, WES Trustee, Vice-President Industry and board member of the International Women in Engineering and Science.

Betty has managed complex international projects and develops her owns as well. Her latest achievements include a study on satellite constellations for the European Space Agency and a smart agriculture hub.

Prof. Emma Bunce

Planetary Scientist, University of Leicester
DAY 3: PLENARY 6



Emma is a planetary scientist working at the University of Leicester, and is the President Elect of the Royal Astronomical Society.

She is involved in multiple high-profile space missions exploring our solar system including Cassini at Saturn, Juno at Jupiter, BepiColombo at Mercury, and the future JUpiter ICy moons Explorer (JUICE) mission to Ganymede. She uses the data from these missions to answer fundamental questions about these diverse solar system objects. She is the PI on the Mercury Imaging X-ray Spectrometer, part of the BepiColombo payload which launched to Mercury in October 2018. She played a key role in the definition of and proposal for the JUICE mission, and will be working on two of the instrument teams from that mission when it arrives in the Jupiter system in 2030.

She has published >100 scientific papers on solar system science, and has received multiple awards in recognition of her work. Most recently she was awarded the RAS Chapman Medal for her research on the gas giant planets.

Gill Collinson

Head of National STEM Centre, National STEM Centre
DAY 3: PLENARY 5



Gill Collinson, B.Sc. (Hons), M.Sc. MBA, CEng, MIET is Head of Centre & Programmes at the National STEM Learning Centre & Network, the leading provider of high quality STEM continuing professional development, which aims to achieve a world-leading STEM education for all young people across the UK. Having worked both within the public and private sector, Gill has many years' experience in STEM education, employment and skills. As a Chartered Engineer she has worked in both the engineering and manufacturing industries in the UK, with companies such as Philips, Rolls Royce and Siemens.

Theresa Condor

Executive Vice President of Corporate Development, Spire Global, Inc.
DAY 1: PLENARY 1



As part of the early team at Spire, Theresa focused on building the initial business case and then taking a lead role in business development, fundraising, and corporate partnerships. In addition to spearheading Spire's international expansion, she signed Spire's first international MOU, first LOI, and first million-dollar contract. Theresa now leads Spire's engagement on special projects related to space-as-a-service, satellite data licensing policy, and new markets, and also sits on the Board of Directors. Prior to Spire, Theresa spent the past decade working in emerging markets.

Sarah Cruddas

Space Journalist
DAY 1: PLENARY 1, CHAIR



Sarah is a Space Journalist, TV Host and Author with an academic background in astrophysics and is a global thought leader in the new space sector.

In the US, Sarah is the host of a major new series on the Discovery Channel. In the UK, Sarah can be seen on BBC News, Sky News, ITV and Channel 5 and heard across various national radio stations.

She also writes about commercial spaceflight for various international press.

A passionate advocate for the commercial space sector, Sarah speaks internationally, working with high profile organisations, people and various heads of agencies.

Sarah is also a board member of Space for Humanity through its citizen astronaut program.

Dr. Jeremy Curtis

Head of Education and Skills, UKSA
DAY 3: PLENARY 5, CHAIR



Jeremy trained as an engineer and leads the UK Space Agency's space education programme, which uses space to inspire interest in STEM subjects and to address the skills needs of the growing UK space sector.

He chairs the ESERO-UK Steering Group and is a member of the steering group of the National Space Academy and the ESA Advisory Committee on Education. He led the team that delivered the Principia education programme in support of Tim Peake's mission to the ISS, which reached over two million young people across the UK.

He has chaired the Organising Committee for the UK Space Conference since it began in Warwick in 2011.



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Telespazio-vega.com

Plenary Speakers

Dickie Davies OBE

Deputy Director Thematic and Foundation Sector, Welsh Government

DAY 1: PLENARY 1



Dickie joined Welsh Government in 2012 after 30 years in the Army. Appointed Deputy Director for the Advanced Materials & Manufacturing Sector in 2013, Dickie and his team has helped create, assist or safeguard over 10,000 jobs in the Welsh manufacturing sphere, directly supporting 380 Wales based companies. Under new arrangements following the implementation in 2018 of the Welsh Government's new Economic Action Plan, Dickie was appointed Deputy Director, Thematic and Foundation Division, which supports regional economic growth across the whole of Wales.

Adina Gillespie

Principle Consultant, Kiske, and Business Development Director (Europe), GHGSat

DAY 2: PLENARY 4, CHAIR



Adina is a Principle Consultant to Kiske and Business Development Director (Europe) for GHGSat. She is responsible for delivering strategic advice and guidance in the application of Earth Observation (EO) technology. Adina has more than 15 years' experience developing and delivering New Space programmes and policy for industry and government.

Adina has served on the EO Advisory Committee to the UK Space Agency and chaired the Industrial Advisory Group on Commercial EO Regulations. She is currently serving on the Satellite Applications Catapult Advisory Group, the Regional Catapult Advisory Board, the UK Space Agency Regulatory Advisory Group and the Spatial Finance Initiative (SFI) Advisory Board.

Andy Green

President, UKspace

DAY 1: PLENARY 1



Andy is President of UKspace, co-chair of the UK Space Leadership Council and a member of the CBI President's Committee. He holds a number of Chairman, NED and advisory roles, linked by his passion for how technology transforms business and our daily lives.

He chairs IG Group plc, a global leader in online trading, and the Digital Catapult, an initiative to help grow the UK Digital Economy. He is NED and Chair of the European Advisory Forum at Link Administration Holdings, an international provider of financial administration services. He is a National Infrastructure Commissioner and a Trustee of the Disasters Emergency Committee and WWF UK.

Plenary Speakers



Dr. Jane Hurley

Project Manager, Science and Technology Facilities Council

DAY 3: PLENARY 6



Jane leads the Project Management Group at STFC RAL Space's Space Engineering and Technology Division. Jane is the instrument scientist on the UK-designed and built short-period microseismometer (SEIS-SP) on the NASA InSight mission, and part of the international InSight science team.

Jane comes from a background of atmospheric remote-sensing, and instrument development and operations, for Earth and planetary missions.

Dr. Rain Irshad

Autonomous Systems Lead, Mars Insights

DAY 3: PLENARY 6



Rain is the Autonomous Systems Lead at STFC RAL Space. She was the Planetary Protection Officer for SEIS-SP Instrument on the InSight Mission and led the RAL Space contribution to the project. She has worked on a number of instruments over the course of her career, including the Spice Instrument on the Solar Orbiter Mission and the Compact Modular Sounder on TechDemoSat, for which she holds a patent.

She was the Project Manager for the Highly Miniaturised Radiation Monitor for ESA and for the SterLim project looking at sterilisation limits for Mars and Phobos. She is currently leading STFC's contribution to ESA's FRONTIER project to provide a field trials unit for validation and verification of European robotic missions, and has set up a project to apply space technology to the detection of Landmines in Cambodia.

Dr. Bhavya Lal

Research Staff Member, IDA Science and Technology Policy Institute

DAY 2: PLENARY 3



Bhavya leads strategy, technology assessment, and policy studies and analyses at the IDA Science and Technology Policy Institute (STPI) for the White House Office of Science and Technology Policy (OSTP), the National Space Council, and Federal space-oriented organisations including NASA, the Department of Defense, and the Intelligence Community. She has applied her expertise in engineering systems and innovation theory and practice to topics in space, with particular focus on commercial activities related to small satellites, space nuclear power, on-orbit servicing assembly and manufacturing, human exploration, and space science.

She is currently serving on a National Academy of Science (NAS) committee on assessing the relative merits of infrared vs. visual observations by a space-based telescope to detect and characterise near Earth objects. She recently co-chaired a NAS Committee on the State of U.S. Electronic Parts Radiation Testing Infrastructure for Space Applications, and was previously vice-chair of the NAS committee on Achieving Science Goals with CubeSats, and member of the NAS committee on 3D Printing in Space. She is serving a second term on the NOAA Advisory Committee on Commercial Remote Sensing (ACCRES), and participated on the UN Committee on Space Research (COSPAR) to develop an international scientific roadmap for small satellites. She co-organises a seminar series on space history and policy with the Smithsonian National Air and Space Museum. She co-founded and is co-chair of the policy track of American Nuclear Society's annual conference on nuclear and emerging technologies for space.

Before joining STPI, Dr. Lal was president of C-STPS LLC, a science and technology policy research and consulting firm. Prior to that, she was the Director of the Center for Science and Technology Policy Studies at Abt Associates. Dr. Lal holds B.S. and M.S. degrees in nuclear engineering from the Massachusetts Institute of Technology (MIT), a second M.S. from MIT's Technology and Policy Program, and a Ph.D. in Public Policy and Public Administration from George Washington University.

Michael Lawrence

Head of Marketing & Sales, Telespazio VEGA UK

DAY 2: PLENARY 4



Michael is responsible for Commercial, Sales and Communication functions at Telespazio VEGA UK.

Michael worked in Product Development at Jaguar Cars for 26 years, including a role as Business Director for Product Development. He has also worked in Local Government as Director of Housing at Oxford City Council and at InnovateUK where he was responsible for R&D programmes to stimulate growth in the UK space sector.

Michael has worked in the commercial space sector since 2012 as Managing Director of Magellium Limited and Business Development Director at Deimos Space UK. He is a Chartered Engineer and Fellow of the IMechE.

Plenary Speakers

Chris Lee

Chief Scientist, UK Space Agency
DAY 3: PLENARY 6, CHAIR



Chris graduated from the University of Leicester in 1980 with a Master's in Space Science. From here he joined the UK space industry and took design and leadership roles on many space missions, including Hubble, Giotto, Envisat, Beagle 2 and ExoMars.

In 2014 he joined the newly formed UK Space Agency as its first Head of International Space Policy and initiated several international partnerships. In 2018 Chris was appointed Chief Scientist where he now coordinates the Agency science agenda and leads its space science portfolio.

Chris is a Fellow of the Royal Astronomical Society.

Prof. Malcolm Macdonald

Space Technology Engineer, Academic & Director. University of Strathclyde and SoXSA
DAY 2: PLENARY 3, CHAIR



Malcolm is a space technology engineer, academic, and director working at the interface between academia, industry and government to bring space down to Earth. He is a Professor and Chair of Space Technology at University of Strathclyde, the Director of SoXSA, Scottish Centre of Excellence in Satellite Application, Chairperson of Drodion Ltd., and a non-executive member of the UK Space Agency Steering Board.

His work focuses on enabling and developing new space-derived services, with an end-to-end focus on the development and application of systems his work challenges conventional ideas at the interface between disciplines.

Read more at SpaceProf.com

Catherine Mealing-Jones

Director of Growth, UK Space Agency
DAY 2: PLENARY 4



Catherine joined the UK Space Agency from the Home Office in January 2012 to lead work on the Agency's goal of growing the UK space sector. She leads the development of new uses, new users, new applications, new technologies and a new attitude to the use of space in order to grow the space sector. She and her team are responsible for delivering and/or coordinating the government input to the development of Earth observation, telecommunications, and standards working through the EU, ESA and nationally and internationally. She is also responsible for providing the conditions to enable:

- Government/public sector use of space to drive efficiency and effectiveness and to enable growth in the sector through the Space for Smarter Government Programme
- The development of regional/local clusters including the UK Space Gateway at Harwell Oxford
- Incubation and technology transfer opportunities for new companies

Catherine is a Chartered Public Finance Accountant. She is a lay member of Council at the University of Bath.

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Plenary Speakers



Dr. David Parker

Director of Human Robotic Exploration, European Space Agency

DAY 3: PLENARY 6



David has been ESA's space exploration director since April 2016. He led the creation of the European Exploration Envelope Programme, approved by Ministers at the 2016 Lucerne space conference. Highlights include astronaut missions to the International Space Station, the first Mars life-search rover and the power and propulsion system that will take astronauts back to the Moon. He has worked in the space sector for nearly thirty years and from 2013 to 2016 was Chief Executive of the UK Space Agency. Trained in aeronautics and astronautics at Southampton University, Dr. Parker was awarded a PhD for aeronautical research supported by NASA.

Tim Peake

Astronaut, European Space Agency

DAY 3: PLENARY 5



Born in Chichester, England, on 7 April 1972. Tim became an Army Air Corps officer in 1992, served on attachment with the Royal Green Jackets as a Platoon Commander in Northern Ireland before beginning flight training. He was awarded his Army Flying Wings in 1994.

On retirement from the British Army as a major in 2009, Tim was employed as a senior helicopter test pilot for Agusta Westland. During his career, he has logged over 3000 hours' flying time on more than 30 types of helicopter and fixed wing aircraft, including the Apache, Hawk, Dakota and Mi-17.

Tim was selected as an ESA astronaut in May 2009. Along with his five ESA classmates, he graduated from astronaut basic training in November 2010. Tim spent three years conducting further training and working as a communicator with the International Space Station prior to his assignment to a long-duration mission in 2013. Tim was the first British ESA astronaut to visit the International Space Station, launching on a Soyuz rocket on 15 December 2015 with crewmates Tim Kopra and Yuri Malenchenko. His Principia mission was an eventful and busy six months in space. Tim returned to Earth on 18 June 2016.

Graham Peters

Chair, UKspace

DAY 1: PLENARY 1



Graham is Managing Director of Avanti's Government Solutions business. Avanti is a satellite operator providing broadband services across EMEA. Graham is also chairman of the industry trade body UKspace and VP Space for ADS Group.

He has 30 years' experience in the ICT and space sectors and has worked at Avanti since 2005 with previous engineering and business development roles in what are now Airbus and Telespazio VEGA.

Plenary Speakers

Ken Skates

Minister for Economy and Transport, Welsh Government

DAY 1: PLENARY 1



Ken was born in 1976 in Wrexham, educated at Mold Alun School and went on to study Social and Political Science at Cambridge University. Previously, Ken was a journalist at the Wrexham Leader newspaper, and BBC Wales in Wrexham and PA to Mark Tami MP. In 2008, he was elected a community councillor. Ken's policy interests include manufacturing, mental health, sport and leisure, eliminating poverty and political economy. Ken was appointed to the Welsh Government as Deputy Minister for Skills and Technology in 2011, Deputy Minister for Culture, Sport and Tourism in 2014 and promoted to Cabinet Secretary for Economy and Infrastructure in May 2016.

Nik Smith

Country Director, Lockheed Martin Space UK

DAY 2: PLENARY 3



Nik is the UK Country Director for Lockheed Martin Space. He is responsible for the growth strategy in the UK, seeking opportunities for the entire portfolio of the company's capabilities as well as providing leadership for the current programmes.

Prior to joining Lockheed Martin Space, Nik served in the Royal Air Force fulfilling a range of roles focused on information technology, communications, information and cyber policy, intelligence capability and spacecraft operations.

Adrian Steckel

CEO, OneWeb

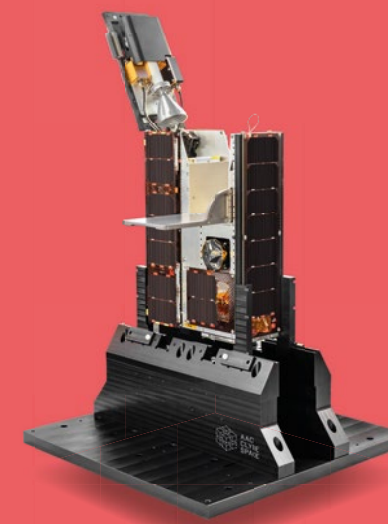
DAY 2: PLENARY 3



Adrian is Chief Executive Officer at OneWeb, where he is responsible for overseeing the company's growth. Since 1999, he has been building companies from the ground up and working to enable voice and data communications in emerging markets.

Adrian was the CEO of Iusacell, a mobile carrier in Mexico, which he sold to AT&T in 2015. He also led the buildout and operations of the fibre backbones in both Colombia and Peru in cooperation with their respective governments and during his time as CFO at TV Azteca, he took the company public on the New York Stock Exchange (NYSE).

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Graham Stuart MP

Minister for Investment, Department for International Trade, International growth perspective

DAY 1: PLENARY 1



Graham was elected Conservative MP for Beverley and Holderness in 2005 and more recently, appointed Minister for Investment at the Department for International Trade. Graham's Parliamentary career has seen him serve as Chair of the Education Select Committee (2010-15) and as a Government Whip with responsibility for the Department of Health, and later for HM Treasury and the Ministry of Defence.

In his role as Minister for Investment at the Department for International Trade Graham focuses on encouraging foreign investment into the UK economy and promoting overseas investment opportunities to British companies.

Graham Turnock

CEO, UK Space Agency

DAY 1: PLENARY 1



Graham has been CEO at the UK Space Agency, an Executive Agency of the Department for Business, Energy and Industrial Strategy (BEIS), since March 2017. Prior to this he led the Better Regulation Executive, a unit within BEIS. He holds a PhD in Particle Physics from Cambridge University for theoretical work at CERN.

Graham also holds a diploma in public administration from the École Nationale d'Administration (ENA). He has extensive experience across Whitehall and at a European level – a key priority for the Agency's head. He has worked in the European Commission and held several other posts in the UK Civil Service with a strong European element, including the Treasury's lead on the EU budget.

Plenary Speakers

Gemma Whitley

Head of Defence, Security and Intelligence Development and Production, Earth-i

DAY 2: PLENARY 3



Gemma joins Earth-i as Head of Defence, Security and Intelligence (DSI) Development and Production, after 16 years in the Royal Air Force. Gemma is an accomplished Operations Manager and All Source Intelligence Analyst with expertise in the highly specialised fields of Imagery and Signals Intelligence. Gemma is responsible for developing unique products solutions for clients within Earth-i's Defence, Security and intelligence division. She brings significant operational experience and has held a variety of Intelligence roles within her career and is adept at problem solving, turning complexity into deliverable simplicity.

Prof. Johann-Dietrich Wörner

Director General, ESA

DAY 1: PLENARY 2



Johann-Dietrich 'Jan' Wörner became the ESA Director General on 1 July 2015. Previously, from March 2007 to June 2015, he served as Chairman of the Executive Board of the German Aerospace Center (DLR).

Jan was head of the German delegation to ESA from 2007 to 2015 and served as Chairman of the ESA Council from 2012 to 2014.

Jan was born in Kassel, Germany, in 1954. He studied civil engineering at the Technical University (TU) Berlin and TU Darmstadt, from where he graduated in 1985. In 1982, as part of his studies, he spent one year in Japan. In 1990 he returned to TU Darmstadt, where he was appointed as a professor of Civil Engineering and took over as Head of the Test and Research Institute. Before being elected as President of TU Darmstadt in 1995, he held the position of Dean of the newly established Civil Engineering Faculty.

Jan headed the university from 1995 to 2007 and succeeded in making it the first autonomous university of the Federal Republic of Germany.



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ESA has established formal cooperation with six Member States of the EU. Canada takes part in some ESA programmes under a Cooperation Agreement. By coordinating the financial

and intellectual resources of its members, ESA can undertake programmes and activities far beyond the scope of any single European country. It is working in particular with the EU on implementing the Galileo and Copernicus programmes as well as with Eumetsat for the development of meteorological missions.

Today, it develops and launches satellites for Earth observation, navigation, telecommunications and astronomy, sends probes to the far reaches of the Solar System and cooperates in the human exploration of space. ESA also has a strong applications programme developing services in Earth observation, navigation and telecommunications. Its business incubation centres form the largest network of space-related incubators in the world.

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The UK Space Agency is working with industry and academia to stimulate an even stronger position in global space markets, while using the power of space to inspire the next generation of scientists and engineers – all as part of the UK Government's Industrial Strategy. And as new technologies are making space more accessible, the UK is seizing the significant opportunity to play a major role in commercial small satellite launch and sub-orbital spaceflight from spaceports across the country.

The UK Space Agency is an active member of the international space community, with an annual £300m investment in the European Space Agency and through its innovative International Partnership Programme, which is using space expertise and technology to tackle global challenges. It supports UK universities in conducting cutting-edge space research and astronomy, while funding exploration missions that are putting the UK space community at the forefront of space science.

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A leading European provider of Workforce Solutions Services and Technologies to demanding clients in high-tech, high-reliability, and critical sectors such as Space, Defence and Security since 1994.

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www.sapienzaconsulting.com



Teledyne Technologies Gold Sponsor

B8

Providing key enabling technologies for space, their UK capabilities and heritage span custom CCD, infrared, COTS+ and CMOS imaging sensors and sub-systems used for Earth observation and the largest space telescopes, through to space-based communications systems for OneWeb. With an eye always to the future they are leading, the UK, in the commercialisation of quantum technologies for space. Teledyne companies also develop systems and components for the ISS and spacecraft that visit distant planets and asteroids. Teledyne's UK space capabilities include Teledyne e2v and Teledyne Defence & Space.

www.teledyne.com



AAC Clyde Silver Sponsor

A13

Operating internationally within the Small Satellite market, AAC Clyde Space specialise in the provision of advanced spacecraft, mission services, and reliable subsystems. They provide market-leading space solutions and services for government, commercial, and educational organisations. They offer specialist expertise and experience in delivering a wide range of commercially focused satellite solutions, including Space as a Service; a complete end-to-end mission service providing customers everything from constellation design to satellite operations.

www.clyde.space



Cobham Advanced Electronic Solutions Silver Sponsor

C14

Cobham has a long heritage as the world leader in space and satellite technologies beginning with the breathing regulator used in Project Mercury through today's commercial programs. Their semiconductor, RadHard, High Reliability, microelectronic products, waveguides and rotary joints are widely recognised for their rich feature set, performance, pedigree and dependability.

www.cobham.com

2019 Sponsors



Inmarsat Silver Sponsor

C15

Inmarsat is the world leader in global, mobile satellite communications. It owns and operates the world's best global portfolio of satellite networks, specifically designed for customer mobility, and holds a multi-layered, global spectrum portfolio, covering L-band, Ka-band and S-bands. Inmarsat operates across a diversified portfolio of sectors and holds leading positions in the Maritime, Government and Aviation satcoms markets across the globe.

www.inmarsat.com



Isotropic Systems Silver Sponsor

A15

Isotropic Systems, headquartered in the UK, is developing the world's first multi-service, high-bandwidth, low power, fully integrated range of high throughput terminals designed to support the satellite industry 'reach beyond' traditional markets.

www.isotropicsystems.com



Satellite Applications Catapult Conference Bag Sponsor

C10

The Satellite Applications Catapult is a unique technology and innovation company, boosting UK productivity by helping organisations harness the power of satellite based services. They work with businesses of all sizes to realise their potential from space infrastructure and its applications and bringing new services to market. By connecting industry and academia they get new research off the ground and into the market more quickly.

The Satellite Applications Catapult is one of 10 Catapults, established to transform the UK's capability for innovation in specific areas and to help drive future economic growth. They help organisations make use of, and benefit from, satellite technologies, and bring together multi-disciplinary teams to generate ideas and solutions in an open innovation environment.

Their aim is to support UK industry by accelerating the growth of satellite applications and to contribute to capturing a 10% share of the global space market predicted by 2030.

<https://sa.catapult.org.uk>



REACTION ENGINES

Reaction Engines Barista Bar Sponsor

D12

Reaction Engines Limited ('Reaction Engines') is a privately held company based in Culham, Oxfordshire, UK. It employs over 200 staff across its sites in the UK and US. Reaction Engines develops the technologies needed for an advanced combined cycle air-breathing rocket engine class called SABRE (Synergetic Air-Breathing Rocket Engine), a leading contender for the next generation of hypersonic flight and space access vehicles.

Central to the SABRE design is the ultra-lightweight heat exchangers (precooler) Reaction Engines has developed, which stop engine components overheating at high flight speeds. These are capable of cooling airstreams from over 1,000°C to ambient temperature in less than 1/20th of a second with world leading compactness and low weight.

Reaction Engines' proprietary heat exchanger technology has a wide range of potential commercial applications and the ability to revolutionise the approach to thermal management across a range of industries; from aerospace to motorsport, industrial processes, and the oil and gas industry.

www.reactionengines.co.uk



Telespazio Vega Silver Sponsor

A14

Telespazio VEGA UK (a Leonardo and Thales company) is an experienced consulting, technology, engineering, space operations and service development business. TPZV UK has built its first class reputation over the last 40 years by exploiting new technology developments in Earth Observation and Satellite Navigation & Communications to pioneer innovative services in space operations and geospatial data applications.

<http://telespazio-vega.com/>



Honeywell Innovation Zone Sponsor

D5

Honeywell is a Fortune 100 software-industrial company that delivers technology solutions for aerospace and automotive, control technologies for buildings and homes and performance materials globally. As a major supplier to the global space industry, Honeywell drives innovation and offers leading products for radio frequency (RF) payloads from the United Kingdom, including instrumentation, ferrite switches, beamhopping solutions, multiplexers, isolators, circulators, power switching electronics, tracking, telemetry and command (TT&C) and payload data downlinking. More widely, their spacecraft bus products offer dependable solutions for onboard computing, momentum control through reaction wheels and control moment gyros, inertial measurement units, microelectronics and fibre optic gyros.

www.honeywell.com



Skyrora Outreach Sponsor

A16

Skyrora are a launch vehicle development company based in Edinburgh, Scotland. They aim to cater for the growing demand to send small satellites into space.

Skyrora use a combination of proven technology, inspired by Black Arrow and Skylark, alongside advanced manufacturing to create cost-effective vehicles that will launch from the UK. They are currently working through a sub-orbital test programme whilst conducting engine testing for their orbital vehicle.

www.skyrora.com



UKspace Lanyard Sponsor

UKspace is the trade association of the UK space industry. Dedicated to representing the interests of its members and supporting them in growing and developing their businesses. As a UKspace member you have access to a wealth of information, advice, support and expertise from the UK space industry.

www.ukspace.org

2019 Sponsors



RHEA Spotlight Stage Sponsor

RHEA Group is a world leading space systems engineering and cyber security company, providing over 25 years' experience in professional engineering services. Since its creation in 1992, RHEA has built a reputation as a trusted partner. They employ over 400 staff, across 10 different countries, developing the technologies, products and services of tomorrow.

www.rheagroup.com



A MAXAR COMPANY

MDA Corporation Small Business Zone Sponsor

D19

MDA has been a trusted provider of industry-leading radar satellite systems and imagery, ground systems, space robotics and sensors, satellite antennas, electronics and payloads, surveillance and intelligence solutions, and defence systems for customers in international government and commercial sectors for five decades. The company's breadth of expertise, and long history of innovative industrial firsts has made it the go-to source for advanced technology and mission-critical solutions for exploring space, and monitoring and understanding land and maritime change and activity anywhere on Earth.

<https://mdacorporation.com/>



IN SPACE
MISSIONS

In-Space Collateral Sponsor

E7

In-Space Missions (UK) brings together experience and innovation to create space businesses through collaboration and in-orbit demonstration. It develops new space and 'newspace' missions and provides consultancy and procurement support to the space sector. In-Space operates globally and has collaborated with or supported over 25 newspace, traditional space, institutional, financial, academic and government organisations since its inception in 2015.

<https://in-space.co.uk>

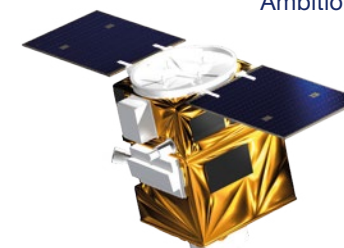
SATELLITES WITH LOTS OF CLEVER INNOVATIONS. INCLUDING NOT HAVING TO WAIT.



**FLY
WE MAKE IT**

We make highly sophisticated Earth observation satellites faster than anyone else in the World. What's more, you'll get your first satellite images the moment you order your satellite. That's because we can give all our customers access to the World's most comprehensive Earth observation constellation. And we're not just the fastest. We're the most technically accomplished too. We manufacture using lightweight silicon carbide. Which makes your launch significantly cheaper too.

Ambition. We make it fly.



2019 Exhibitors



AB5 Consulting

SBZ 6

AB5 Consulting is an award-winning SME, in London and in France, developing innovative solutions in an enabled environment in high-tech sectors (space, satellite, IoT, energy, nuclear, tech, logistics), working on business plans, technical studies, strategies, regulatory, licensing, government affairs, business development and market access. Flagship project: a smart agri-tech hub.

<http://ab5consulting.gandi.ws/>



Adacore

D16

AdaCore has a long history of providing tools and expertise to the Space industry, helping developers build mission critical applications that extend to the farthest reaches of human exploration. Their tools can be used to meet verification objectives including coding standard compliance, code accuracy (prevention of errors such as buffer overrun, integer overflow, and references to uninitialised variables), and structural coverage analysis up to MC/DC.

AdaCore has extensive experience helping their aerospace customers meet the European Space standards ECSS-E-ST-40C and ECSS-Q-ST-80C, and has already qualified versions of the run-time libraries.

All products come with expert and timely support provided by the developers themselves. For further information, contact them at info@adacore.com.

www.adacore.com



Alden Legal Limited

FFE 3

Alden Legal are a thought-leading professional advisory firm for the space, satellite and communications sector, with significant experience in providing policy and legal advice (including commercial contracts, IP, corporate and general finance) and all forms of regulatory and licensing advice.

They advise on complex areas such as the regulatory and commercial aspects of innovative technology, including in-orbit servicing, large constellations, aeronautical services and new applications. They also cover all forms of licensing, spectrum, liability, insurance and financial issues. Alden Legal are often involved in the drafting of national space and communication laws, launch and spectrum regulations.

<https://wearealden.com/>



Alter Technology Group

FFE 14

Alter Technology Group is a quality driven company providing procurement, engineering and test services for electronic components and systems, within the space and harsh environment markets.

OPTOCAP provides optoelectronics, microelectronics and MEMS packaging design and assembly services.

www.altertechnology.com



Aircraft Materials UK

C1

Aircraft Materials UK aim to be the number one independent global provider of specialist alloy supply chain solutions, delivering unparalleled levels of technical excellence, logistics expertise and above all, outstanding customer service. From their beginnings in 2001, they have grown to be the trusted partner of many prestigious manufacturing companies across a wide spectrum of industries including aerospace, defence, power generation, high-end electronics and, of course, space. They remain a family-run AS9120-approved stockholder, carrying a wide range of alloys including Aluminium Alloys, Stainless and Alloy Steels, Nickel and High Temperature Alloy, and Titanium in many forms and sizes to all aerospace and commercial specifications.

Supplying to over 70 countries, they are also experts in global logistics, ensuring fast, secure delivery to anywhere in the world. Aircraft Materials UK – Your Single Source Metal Specialists.

www.aircraftmaterials.com



Alba Orbital

SBZ 8

Scottish satellite hub, Alba Orbital, is the world leader in PocketQube technology, manufacturing pico-satellites comprised of 5cm cubes. Both PocketQube platforms, Unicorn-1 and Unicorn-2, were designed, funded and approved in partnership with the European Space Agency.

Alba's Cluster 2 mission will fly in SSO orbit on RocketLab's launch vehicle with seven PocketQubes for seven customers, including Stara Space. They are integrated into the new AlbaPod v2 deployer. This mission will help fulfill their goal of democratising access to space by reducing the barriers to launch PocketQubes in a regular and cost effective manner.

Although Cluster 2 is sold out, slots for Alba's third launch are still available, with prices starting at €25,000 (£21,300).

www.albaorbital.com



APC PLC

D23

Since 1982, APC Technology Group has been a design-in distributor of specialist electronic components, products and systems for space, aerospace and defence applications.

Their technical sales teams have designed-in components and products into space programmes including ExoMars, BepiColombo, EarthCARE and Galileo ground segment. As an AS9120B certified distributor, our space-compatible technologies from leading global manufacturers includes: amplifiers, cable assemblies, capacitors, connectors, diodes, filters, frequency sources, GaAs FETs, GNSS antennas and accessories, high performance NTP time servers, memory products, minaturised cameras, optocouplers, power supplies, PTP network switches and cards.

APC can also supply 'system-in-package' solutions that minaturise radiation tolerant systems from our technology partner 3D PLUS.

<https://apcplc.com>



Arralis Technologies Ltd

E1-4

Arralis is a rapidly scaling technology company, providing world leading expertise in RF, micro and millimetre-wave technology. With a head office in Limerick, Ireland, Arralis also has subsidiaries in Belfast, Harwell and Manchester, UK. Arralis excels in Monolithic Microwave Integrated Circuits (MMICs), packaged component modules, proprietary antenna technology and integrated radar and communications front-end platforms.

Its core focus is in E, K/Ka and W band where it is the world leader at the highly desirable attenuation window of 94GHz, which allows the development of very high-resolution radar; applications of which include autonomous automotive, helicopter landing, satcomms and massive data rate wireless communications. Arralis products, which are the ultimate in precision and innovation, are used in both global and space environments where accuracy and reliability are critical. Arralis works with some of the world's largest aerospace, automotive, defence and communications companies.

https://arralis.com

2019 Exhibitors



Astroscale

C2

Astroscale is the first commercial company worldwide proposing to aid in the removal of orbital debris. Just as humankind has polluted the oceans, air and land, we have similarly left our mark in Earth’s orbit, leaving defunct satellites and spent rockets in space that increase the threat to current and future orbital activities.

Astroscale was founded in 2013 by an IT entrepreneur, Nobu Okada, who proposed using a start-up mentality to address the business of orbital debris mitigation. Astroscale now employs over 70 staff internationally. Their team is driven by the ambition to make the orbital environment safe for future space activities and continue to provide vital satellite data and technology that improve lives. They do this through two programmes; the provision of an End-of-Life (EOL) service for new and existing commercial operators launching large constellations into low Earth orbit, and Active Debris Removal (ADR) service to remove existing defunct satellites and rocket bodies orbiting the Earth.

<https://astroscale.com>



Astrotanks Ltd

FFE 15

Astrotanks Ltd designs and manufactures bespoke high-performance storage tanks for spaceflight and commercial flight. Custom pressure vessels designed to meet the requirements of each mission and platform use aerospace grade alloys, modern polymer composites and patented techniques to create tanks for satellites, launch vehicles and commercial aircraft propulsion systems.

<https://astrotanks-ltd.uk/>



Beckhoff Automation Ltd

FFE 8

Beckhoff is transforming the industrial environment with fast, compact, accurate and secure control technology. Beckhoff implements open automation systems based on PC Control technology. Their product range covers industrial PCs, I/O and fieldbus components, drive technology and automation software.

They provide products that can be used as separate components or integrated into a complete and seamless control system, for all industries. As the world leader in PC-based control systems, they enable every company to take advantage of the step change in universal, open control and automation solutions.

www.beckhoff.co.uk



Blue Asteroids

SBZ 5

Blue Asteroids is a space startup founded in 2018 with the aim of mining asteroids and bringing humanity closer to becoming a spacefaring civilization. Their first mission is empowering space startups and universities to explore the Universe through their own missions by developing a Revolutionary Low-Cost Deep Space Exploration Spacecraft.

www.blueasteroids.com



Axon’ Cable

D7

Axon’ Cable Ltd will be showcasing the company’s extensive range of space proven products and capabilities. Axon’s wires, cables, connectors and interconnect solutions are present on a wide range of spacecraft and launchers, delivering power, DC, high data rate and high frequency signals within reduced size and weight configurations. As well as delivering numerous space grade harnessing projects built in class 100,000 cleanrooms, the company also regularly undertakes space agency technology research projects, ensuring that Axon’ is always at the forefront of new component and harness technology developments. This year, Axon’ unveils a third phase in cleanroom expansion, and takes delivery of the company’s first, in-house TVAC facility.

www.axon-cable.com



B2Space

SBZ 2

B2Space is the start-up that will democratise access to space, by providing small and micro-satellites with a flexible, reliable, customised and low cost launch service to Low Earth Orbit. Leveraging on its knowledge and expertise in high altitude operations, B2Space will become as well the reference company in near Space testing and operations, supporting the development of new products, systems and technologies.

<https://b2-space.com/>



BMT Defence & Security UK Ltd

D1

BMT offer design solutions, asset management, programme delivery and technology services to customers in the defence, security, transport, energy and infrastructure markets. Their team tackle the most complex engineering and programme challenges, blending capabilities from the entire spectrum of engineering disciplines to deliver enduring and value-adding benefits. We can adopt agile practices to rapidly tailor solutions to meet customers’ needs.

With over thirty years of industry experience, and a long-term commitment to research and innovation, they solve the problems of today and shape the ideas of tomorrow. If you are seeking clarity from complexity, they are there to help.

www.bmtdsl.co.uk



Bright Ascension Ltd

D18

Bright Ascension are space software specialists offering products and services addressing the complete range of upstream software needs.

Their flagship Flight Software Development kit has off-the-shelf support for a wide range of platforms and subsystems from a broad range of vendors. The unique modular technology makes key functions portable, enabling vendor-independence and facilitating development, testing and integration.

Bright Ascension’s intuitive Mission Control Software seamlessly integrates with our flight software permitting rapid configuration and scalability to constellation operations. The focus on operability and automation gets more from space systems. System modularity permits interaction with alternative platforms, eliminating vendor lock-in and increasing the efficiency and competitiveness of space services.

www.brightascension.com

2019 Exhibitors



Celestia Technologies Group UK D8

Celestia Technologies Group UK Ltd (CTG UK) is a fast growing British SME focusing on solving technology challenges sought by the satellite market. It supplies innovative technology products, systems and services to Aerospace and Telecommunications markets. With a focus on R&D efforts and engineering excellence, it delivers innovative satellite ground segment products to maximise the space-based systems capabilities.

Innovations include fully electronic scanning (eScan) gateway and control ground stations, capable of tracking and communicating simultaneously with multi satellites and mega constellations.

<http://celestia-tech.com/>



Charcroft Electronics C3

Charcroft Electronics are an established UK-based supplier to the space sector, offering a wide range of EEE components; Passive, Active, Protection, Sensors and Electro-mechanical solutions from Franchised manufacturers with many years of space-heritage.

Their Product Specialists are able to provide assistance in component selection at every stage of development, from BB to FM, selecting from the range of available quality levels; from Automotive-grades considered for High-Altitude Pseudo Satellites & LEO Nano/Cube satellites, to components on the EPPL, up to full ESCC-QPL or the relevant MIL-PRF qualification for the extended mission length of MEO/GEO satellites, rovers & deep-space missions. They also provide advice on the available screening options.

Charcroft will be joined by AEM, Inc. - a high reliability component solutions provider, and Kemet - a leading global supplier of electronic components.

www.charcroft.com



Craft Prospect FFE 11

Craft Prospect provides space mission architecture and delivery products and services for CubeSat and small satellite missions, to maximise their operational efficiency and allowing mission primes to focus on what's important to them: delivery of downstream services. Founded in 2017, their growing team of experienced engineers have worked with customers including ESA, established industry and start-ups supporting missions at all stages in the lifecycle from concept through to in-orbit operations and scale-up. Their domain knowledge of spacecraft supplier systems, model based systems methodology, interdisciplinary skills base, and system agnostic approach allows valued insights into the solution architecture. Their products using onboard autonomy and machine learning can further ensure the mission prime is able to maximise the utility of the space asset and the value returned. Craft Prospect is currently developing quantum space missions for CubeSats in partnership with major UK stakeholders, with a first in-orbit demonstration of the Responsive Operations for Key Services mission planned in 2021.

<https://craftprospect.com/>



Deimos Space UK Ltd A18

Deimos Space UK is a wholly owned subsidiary of Elecnor Deimos created in 2013 to address the UK and overseas markets for space systems, services and applications. Deimos UK is located on the Harwell campus and offers expertise in these areas:

- Mission/Flight Engineering
- Ground Segment Systems
- Global Navigation Satellite Systems
- Satellite Applications
- Space Situational Awareness

www.elecnor-deimos.com



Coilcraft UK B9

Founded in 1945, Coilcraft is a leading global supplier of magnetic components including high performance RF chip inductors, power magnetics and filters. In addition to a large selection of standard components, Coilcraft also designs and builds custom magnetics to fit a customer's exact electrical requirements.

www.coilcraft.com



Commercial Space Technologies D4

Founded in 1983, Commercial Space Technologies (CST) has been dedicated to providing the space industry with the highest quality of consultancy, launch brokerage and management services which helps to keep its partners and customers at the leading edge of their field.

The company is engaged in numerous fields of activity, supporting players in both upstream and downstream markets, service providers in the insurance and legal sectors, space agencies (such as UKSA, ESA and NASA) and new entrants. CST has brokered the launch of 81 satellites on 5 different launch vehicles from 4 different launch sites.

<https://commercialspace.co.uk>



The Department for International Trade D13

The Department for International Trade (DIT) helps businesses export, drives inward and outward investment, negotiates market access and trade deals, and champions free trade.

They are an international economic department, responsible for:

- Supporting and encouraging UK businesses to drive sustainable international growth
- Ensuring the UK remains a leading destination for international investment and maintains its number one position for international investment stock in Europe
- Opening markets, building a trade framework with new and existing partners which is free and fair
- Using trade and investment to underpin the government's agenda for a Global Britain and its ambitions for prosperity, stability and security worldwide.

www.gov.uk/dit



DMTL FFE 16-17

Founded in 1987, DMTL has become a global provider of passive and electro-mechanical components. With a growing customer base within the space sector, DMTL will co-exhibit, with AVX, leading manufacturers of advanced electronic components, showcasing the latest passive component technologies from commercial, automotive grade through to ESCC-QPL or relevant MIL-PRF.

www.dmtl.co.uk

2019 Exhibitors



ExoAnalytic Solutions

D2

ExoAnalytic Solutions is the world’s leading provider of high-altitude space situational awareness (SSA) data products and services. With a network of over 300 telescopes, ExoAnalytic Solutions produces vast amounts of high-quality, real-time correlated observations of man-made satellites and debris. The ExoAnalytic Global Telescope Network (EGTN) currently consists of 30+ observatories on five continents (Africa, Australia, Europe, North America, and South America) and Hawaii. Headquartered in Foothill Ranch, CA, ExoAnalytic Solutions is a technology and innovation leader in missile defence, complex systems modelling and simulation, and space situational awareness.

<https://exoanalytic.com>



FAIR-SPACE Hub

B13

The Future AI and Robotics for Space (FAIR-SPACE) Hub brings together leading experts from academia, industry and governments, and aims at pushing the boundary of AI robotics for future space utilisation and exploration. In the immediate term, the Hub will help advance knowledge and technologies in orbital manipulation, extra-terrestrial vehicles, and robotic support for astronaut missions. These directly address technical priorities in the space sector worldwide. In the long term, the Hub will help transfer the field to a new era by achieving long-lived robotic operations in space.

www.fairspacehub.org



Glasgow City Innovation District

A7

Glasgow City Innovation District is a hub for entrepreneurship, innovation and collaboration, building on Scotland’s rich tradition of scientific excellence and industrial ingenuity.

A key strategy for the district is to support development of technologies and services that advance our exploration, exploitation, and understanding of space, and to link across sectors to develop new solutions.

The District is the result of a successful partnership between Glasgow City Council, the University of Strathclyde, Scottish Enterprise, Glasgow Chamber of Commerce and Entrepreneurial Scotland, and brings together ambitious, forward-thinking people focused on tackling societal and global challenges and driving inclusive economic growth.

www.strath.ac.uk/workwithus/glasgowcityinnovationdistrict



GMV UK

D24

Founded in 1984, GMV is a privately owned international technological business group. GMV operates in very diverse sectors: Aeronautics, Banking and Finances, Space, Defence, Health, Security, Transportation, Telecommunications, and Information Technology for Public Administration and large corporations.

In the space market, GMV provides products, services and solutions to space agencies, satellite operators, satellite manufacturers and final users. GMV portfolio includes: space segment subsystems (Mission analysis, guidance navigation and control, robotics, satellite and mission simulators and on-board SW), satellite navigation systems (Algorithms, processing facilities, precise positioning, GNSS receivers, GNSS applications and tools), ground segments (Ground control systems, payload data segment, science operations centres, telecom payload management, flight dynamics systems, mission planning and ground Segment and stations Monitoring systems), and space applications for different community sectors.

www.gmv.com/en



Farnborough International

D20

The Space Zone at the Farnborough International Airshow 2020 presents the perfect opportunity to meet with the international space community in a form that is now recognised as one of the world’s leading space features. Building on the success of 2018, the space zone has increased in size to offer more opportunities and more ways to do business.

The Farnborough International Airshow will run from 20 – 24 July 2020. Join the leaders in space innovation and enquire about participation options today.

www.farnboroughairshow.com/trade



Galorath International

SBZ 3

For over 30 years, Galorath International has provided the industry’s most comprehensive set of predictive analytic applications. SEER-Space provides lifecycle cost estimates of the spacecraft bus, payload/instruments and more. It allows early estimation of space missions and may be used during later phases equally well, providing subsystem-level parametric estimation of cost and risk.

<https://galorath.com/>



Hamamatsu Photonics UK Limited

A5

Hamamatsu Photonics is a world-leading manufacturer of optoelectronic components and systems. The Company’s corporate philosophy stresses the advancement of photonics through extensive research and yields products that are regarded as state-of-the-art.

Hamamatsu have established themselves in the space technology sector; having equipped the International Space Station with various high performance detectors.

www.hamamatsu.com



HE Space Operations BV

A8

HE Space Operations is based in Noordwijk (HE Space Operations BV, the Netherlands), Bremen and Darmstadt (HE Space Operations GmbH, Germany) and Houston (HE Space Inc, USA). For over 35 years, the company has been providing engineers, scientists and other specialists to customers such as the European Space Agency, Airbus Defense and Space, ArianeGroup, Eumetsat and DLR GfR. HE Space brings together experts and projects and invests in the best personnel so that space companies of all sizes can successfully implement their programmes. Customers take care of the missions - HE Space takes care of the people.

www.hespace.com

2019 Exhibitors



HUBER+SUHNER (UK) Limited E8

HUBER+SUHNER offers customers around the globe outstanding products and services for their electrical and optical connectivity needs. They focus on combining products from the three technologies of Radio Frequency, Fiber Optics and Low Frequency to create solutions for Communication, Transportation and Industrial. And the balanced diversity of their 3x3 strategy gives them long-term financial stability.

HUBER+SUHNER products deliver high performance, quality, reliability and a long service life – even under the toughest of conditions. The company's global production network, combined with group companies and agencies, ensures that HUBER+SUHNER maintains a close relationship with its customers in over 60 countries.

www.hubersuhner.com/en



Interface Force Measurements Ltd D3

Interface Force Measurements are specialist in Force, Multi Axis, Torque and Pressure measurement solutions with a strong belief in offering the best quality sensors possible. This belief is backed by our range of high quality, high accuracy force, torque, pressure sensors and systems from some of the world's leading manufacturers.

Their product range includes;

- Single & multi axis force sensors for fatigue, wind tunnel, engine test stand and multi axis control stick testing
- Flight and space qualified pressure transmitters for propulsion, engine stand and oxygen systems test and monitoring
- Pressure Mapping systems for high speed, dynamic and impact testing.

https://interfaceforce.co.uk/



Leybold UK Ltd D6

Leybold has been offering customers the largest sales and after sales network in the vacuum technology industry for over 165 years. Their wide manufacturing range includes fore and high vacuum pumps, vacuum gauges, leak detectors, flanges, fittings and valves, as well as complete vacuum solutions. Genuine spare parts and full UK local service support for all vacuum brands is offered.

www.leybold.com



Lift Me Off FFE 7

LIFT ME OFF is a UK Space Start-up designing propulsion and robotic solutions for next-generation in-orbit mobility services. Their technologies open up new opportunities in the fields of In-Orbit Transportation, Servicing, Manufacturing and Recovery.

www.liftmeoff.com



Kayser Space FFE 10

Kayser Space develops systems supporting microgravity investigations, in cooperation with several research institutions. The company is currently working on two payloads for the next UK mission on the ISS. Kayser Space is a partner of Kayser Italia and ESA in "Bioreactor Express", an initiative for the commercialisation of the ISS.

www.bioreactorexpress.com



Kispe Ltd A4

KISPE: Delivering trusted, bespoke services that create value for partners

KISPE is a specialist technology group, established to accelerate the development and introduction of innovative solutions, knowledge and consultancy in the fields of space systems, telecommunications and electronics.

By providing timely, targeted, tailored support and expertise at all stages of the programmatic lifecycle, KISPE enables partners to make critical progress on current and urgent needs as well as build momentum to achieve longer-term objectives.

Working as consultants, partners, and as embedded team members, KISPE provides specialised services that allows clients to maintain competitiveness and responsiveness to their own end customers.

www.kispe.co.uk



Livewire C12

Livewire Digital Ltd. has over 25 years' experience implementing communications protocols. To meet the 5G objectives of a seamless transition between satellite and terrestrial services, Livewire Digital has designed RazorLink® Smart Networking technology. RazorLink® is cross platform Software Defined Networking offering a transparent and comprehensive solution to IP Mobility, Bonding, Acceleration, Resilience, Prioritisation, Cost Control and Security. RazorLink® can be installed on a laptop, incorporated into a smartphone app, embedded in firmware or deployed like a router. The Cloud model provides a centrally managed scalable architecture for delivering Hybrid Communications as a Service to key markets like Emergency Services.

www.livewire.co.uk



London Economics E9

Experts in the economics of space. They're a leading independent economics and policy consultancy with a dedicated team of economists specialised in the space sector. Since 2008, they have pioneered innovative analytical techniques to provide trusted economic advice to decision-makers across the space industry, space agencies (UK Space Agency, GSA, ESA) and international governments. They offer expertise in: market quantification (e.g. Size and Health of the UK Space Industry); business cases; value-for-money; return on investment; cost-benefit analysis; business cases; evaluation. Their analyses cover the full value chain from manufacturing and launch to applications within GNSS, Earth Observation, Telecommunications, and Science.

https://londoneconomics.co.uk

2019 Exhibitors



METRON A. E.

SBZ 9

METRON A.E. Ltd. is an AS9100 accredited company for “Additive Manufacturing of metallic components”, mainly in titanium and its alloys.

METRON A.E. owns and operates an ARCAM EBM machine and is regarded as a lead user of that technology, with excellent success rate, countless unique / innovative solutions and products supplied to our customers.

With over ten years experience of designing parts for A. M. as well as manufacturing well over 4000 titanium parts over the last 4 years, we can assist any potential customer to realise their ambitions of taking advantage of this new technology.

The expertise of our highly qualified team range from metallurgy and special parameter creation for special purposes, to CAD design with FEA stress analysis for product optimisation.

The company is currently developing the process for γTiAl a high temperature capable material that is half the density of INCONEL.

<http://additive-engineering.co.uk/>



Micross Components

D22

Micross Components, Inc. (“Micross”) is the leading one-source, one-solution provider of Bare Die & Wafers, Advanced Interconnect Technology, Custom Packaging & Assembly, Component Modification Services, Electrical & Environmental Testing and Standard Products to manufacturers and users of semiconductor devices. In business for more than 35 years, our comprehensive array of high-reliability capabilities serve the global Defence, Space, Medical, Industrial and Fabless Semiconductor markets. Micross possesses the sourcing, packaging, assembly, test and logistics expertise needed to support an application throughout its entire program cycle.

www.micross.com



NanoAvionika UAB (NanoAvionics LLC)

A17

NanoAvionics is a nanosatellite mission integrator delivering new generation satellite buses and propulsion systems. Their flagship multi-purpose M6P is the first preconfigured nano-satellite Bus in the sector, designed to serve emerging commercial space markets. The company’s efforts are focused on enabling critical satellite functions and optimising their launch, hardware and operation costs - ranging from single missions to constellations.

With facilities in North America, UK and EU, NanoAvionics’ team consists of 80 driven and skillful employees: they have over fifty successful satellite missions and projects under their belt, and they keep counting. NanoAvionics is ISO 9001 certified.

<https://n-avionics.com/>



National Centre for Earth Observation

B2

The National Centre for Earth Observation (NCEO) has world-class capabilities in processing and analysing vast quantities of satellite data generated to monitor and understand global/regional environmental change. Earth observation scientists and data assimilation experts model the Earth system to address societal and environmental challenges. Unique in Europe, NCEO works with public sector agencies and Government to improve understanding of environmental conditions.

NCEO’s internationally recognised science covers a broad range of environmental science fields. Four principal focal points are: global and regional carbon cycles with their complex linkages; terrestrial-atmosphere connectivity, from biospheres of forests and deltas to anthropogenic influences of agriculture and urbanisation; physical energy and water exchanges in the Earth system; and observations of global climate change. NCEO’s work improves understanding, prediction and mitigation of natural hazards. And they provide the scientific rationale for new satellite missions, working with space agencies, engineers and industry to design next generation sensors.

www.nceo.ac.uk



Moog Inc., Space and Defense Group

A11

Moog is a proven leader in components, subsystems and systems for the spacecraft market, including spacecraft controls, in-space propulsion, spacecraft payloads and mission planning. Moog has been successfully providing spacecraft solutions for science, military, and commercial applications. Moog is leading the way in introducing metal additive manufactured hardware for next generation space vehicles.

www.moog.com



Nammo Westcott

B12

Nammo is a World leader in the field of Space and Aerospace propulsion. Our space activities cover fluidic components and subsystems for both electric and chemical propulsion. Their thrusters and main engines power Earth orbiting satellites for our customers and deep space missions for ESA and NASA and our valves and subsystems are used extensively throughout the spacecraft industry. They are constantly finding new technologies and new developments to further the capabilities of customer missions. Nammo welcome discussions with all interested parties during the UK Space Conference so please come and visit their stand to talk rockets and propulsion.

www.nammo.com



NewSpace

A6

NewSpace Systems Limited (NSS UK) is an advanced manufacturer of robust satellite sub-systems and components with facilities in both the United Kingdom and South Africa and resellers in 7 countries. Focused on providing customers with robust GNC products, on-board control systems and airborne delivery products, the NSS team utilises its 30 plus years of experience in the space industry to assist customers with their unique mission requirements. Additional services offered include technology commercialisation and contract manufacturing.

Committed to delivering on high-quality, NSS products are manufactured in ISO 14644-1, Class 7, certified cleanrooms by ESA accredited technicians who work according to the rigorous ECSS standards.”

www.newspacesystems.com



Nitrexos

SBZ 10

Thermal engineering, particularly in the space industry, is the expertise of Nitrexo, a start-up company based in Ireland. The company provides engineering and consultancy services, as well as digital solutions, thermal analysis reports, and various space products, to its clients.

Nitrexo’s competence involves using ESATAN-TMS® for conducting thermal analyses on space systems and sub-systems prior to the implementation of the thermal design. This ensures that the device or product that undergoes analysis and testing will function effectively under certain space conditions.

www.nitrexo.com

2019 Exhibitors



Northern Space and Security Ltd (NORSS)

D2

Northern Space and Security Limited is an innovative UK based Space Situational Awareness and Space Surveillance and Tracking specialist, providing dedicated outer space vision and support to industry, academia and government. Its military-grade space tracking understanding has been developed through current space operations, planning and training experience. The unique, specialist team possesses unprecedented knowledge and understanding developing bespoke orbital analysis for numerous areas of space operations and provides space domain awareness, supporting current and future satellite operator requirements.

NORSS specialises in democratising "data of space" for R&D with a passion for the space environment, dedicated to enabling sustainable space operations.

www.norss.co.uk



The Northern Space Consortium FFE 13

The NSC is the advocacy group for NW England and North Wales dedicated to informing & introducing new & existing businesses to the tremendous opportunities presented by the well-established, yet rapidly growing, UK and International Space Industry. They aim to engage, connect and co-ordinate.

www.thensc-uk.com



Orbital Micro Systems (OMS)

A1

Orbital Micro Systems (OMS) specialises in the development and delivery of technology and data for space applications. With broad expertise in applied science, weather science and earth observation, instrumentation development, data science, space operations, and program delivery, OMS is positioned to deliver innovation to many areas of the aerospace sector.

www.orbitalmicro.com



Open Cosmos

A9

Open Cosmos is revolutionising the way space technology is used and is at the forefront of the emerging new space industry. Their mission is to make space accessible to anyone, to help solve the world's biggest challenges. They do this by simplifying the process to get to space, while at the same time making it affordable and fast. They use standardised nanosatellite technology, in addition to their payload development and qualification software and hardware.

Open Cosmos provide end-to-end space missions for customers around the world. They do the rocket science, so their customers can focus on results.

Aim high, go beyond.

www.open-cosmos.com



Northrop Grumman Innovation Systems

C4

Northrop Grumman is the world's leading producer of titanium propellant tanks used in government, scientific and commercial satellites, launch vehicles, and space explorers. Their tanks have been a part of nearly every large U.S. launch vehicle and geosynchronous earth-orbiting satellite from the inception of the space age.

Northrop Grumman propellant tanks have landed on Mars, Venus and the Moon, and have visited every planet in the solar system. They have been an integral part of nearly every major space-exploration vehicle, including Cassini, Mariner, Pioneer, and Voyager. Launch vehicles with Northrop Grumman tanks have included Delta III and Delta IV, the space shuttle and the entire Atlas family of vehicles.

www.northropgrumman.com



Octagon Studio UK

FFE 2

Octagon Studio is an award winning tech company specialising in providing high quality Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) products and services.

Their creative team passionately work with partners globally such as European Space Agency (ESA), BBC, Discovery, to provide the best possible solutions.

www.octagonstudio.com



Open University

B12

Space science research at the Open University is at the cutting edge of instrument development for planetary science, space science and astronomy missions. They work closely with the UK Space Agency (UKSA), the European Space Agency (ESA) and other national space agencies, universities, research centres and industry around the world to develop instrumentation and concepts for leading-edge space science missions. Their researchers also specialise in adapting this spaceflight technology expertise to industrial and commercial challenges on the ground. The Open University is also actively involved in the SSpace Academic Network (SPAN), with Professor Andrew Holland chairing the organisation that aims to provide a single voice for academics across a broad range of disciplines in space research.

Open University space science and instrumentation researchers contribute to a wide range of undergraduate and postgraduate taught and research degrees available for study on a full-time or part-time basis.

www.open.ac.uk



Oxford Space Systems

D21

Oxford Space Systems (OSS) provides innovative deployable satellite antennas & structures that meet the challenges of the new space age. The OSS approach of agile development, combined with its unique proprietary materials, permits solutions to be matured at a lower cost and faster pace than traditional incumbents. This exemplified by the setting of an industry record with the success of the OSS AstroTube™ boom: from concept to successful orbital demonstration in under 30 months. Recent expansion into its own secure custom facility gives OSS the largest cleanroom at the Harwell Space Cluster, permitting volume supply to constellation opportunities.

2019 Exhibitors

Pixalytics

Pixalytics

SBZ 1

Pixalytics Ltd is an independent Earth observation company specialising in satellite remote sensing. They combine cutting edge scientific knowledge with satellite data to offer vegetation, agriculture, water body mapping, land classification, coastal and marine products. Their services also include scientific consultancy, data management, training, research and development work.

www.pixalytics.com



Printech Circuit Laboratories Ltd E1-4

Printech Circuit Laboratories has been supplying bespoke circuitry to the Space industry for over 35 years.

Printech is a key supplier to the new space sector, designing and manufacturing patch antenna and antenna arrays in less than 6 weeks. Other products include flex and rigid flex, RF and Microwave, and traditional printed circuit boards.

www.pcbs.space



Royal Astronomical Society

A10

The Royal Astronomical Society is the UK's leading body for astronomers, space scientists and geophysicists. Their more than 4,000 members work in academia, industry, teaching, public engagement, journalism and other related occupations.

They support our sciences, and their scientists, through public policy advocacy, conferences, a grants scheme, scientific journals, a bi-monthly magazine, meeting spaces in central London, public engagement programmes, and a library of international importance.

In 2020 they celebrate their 200th anniversary, with special events planned in the UK and around the world. This is a perfect time to join them – come to their stand in the exhibition hall and sign up today!

<https://ras.ac.uk/>



Sandvik Osprey

FFE 9

At Sandvik Osprey they manufacture and sell components made from a range of binary Aluminium Silicon alloys called Controlled Expansion (CE) Alloy. By changing the ratio of Silicon and Aluminium they can tune the CTE anywhere from 5 to 17 ppm/K.

www.home.sandvik/en/



Raptor Aerospace

SBZ 7

Raptor Aerospace Ltd is built upon 30 years of sounding rocket experience to provide staff training, launch simulation, educational opportunities and test/research payload launch capabilities to the UK space industry. Raptor are the first British company to be offering commercial sub-orbital launch services from UK space-ports.

www.raptor-aerospace.com



Royal Aeronautical Society

FFE 4

The Royal Aeronautical Society is a global membership organisation dedicated to the entire aerospace and aviation industry. They provide authoritative, evidence based and independent insight into complex subjects surrounding the future of the aerospace industry whilst providing their members with recognition, professional development opportunities and an influential platform to share knowledge.

www.aerosociety.com



Satellite Confers

SBZ 4

CONFERS is an industry-led initiative that aims to leverage best practices from government and industry to research, develop, and publish non-binding, consensus-derived technical and operations standards for OOS and RPO. These standards would provide the foundation for a new commercial repertoire of robust space-based capabilities and a future in-space economy.

www.satelliteconfers.org



SatixFy UK Limited

E6

SatixFy designs next-generation satellite communication systems based on in-house developed chipsets. SatixFy's advanced modems radically increase system performance and reduce the weight and power requirements of terminals, payloads and gateway equipment with full support of advanced standards, such as DVB-S2X.

The company delivers among others the industry's smallest VSAT as well as Electronically Steered Multibeam Antennas (ESMA) for a variety of mobility applications and services such as Connected Car, IoT, consumer broadband, in-flight connectivity, communication payloads and more.

www.satixfy.com

2019 Exhibitors



SCISYS UK Limited

B6

SCISYS is a multinational company, employing over 650 people from all over the world. They have over 38 years' experience in delivering integrated software solutions, high-quality products for satellites and control centres as well as offering engineering support. Their customers range from start-ups and industry-leading companies to established institutions, academia and other government agencies. These include the European Space Agency, Airbus, OneWeb, Sky and Space Global, Environment Agency, Welsh Government and DEFRA.

www.scisys.co.uk/space



Seradata

FFE 1

Seradata produces SpaceTrak, the Space Industry's leading launch and satellite database. Delivered via a powerful website, SpaceTrak provides comprehensive, consistent, independent and authoritative information for every launch and satellite.

SpaceTrak guides the business decisions of over 85 organisations world-wide including manufacturers, space-agencies, launch providers, satellite operators and insurance companies.

www.seradata.com



Spicule

FFE 5

Spicule LTD have built upon 10+ years of data processing and open source software experience to help build data platforms for organisations including NASA JPL. Providing affordable, bespoke solutions to businesses within the Space industry, driving innovation within the field and providing unsurpassed solutions in the data storage and processing sectors.

<https://spicule.co.uk>



SPRINT

A19

If you are a UK SME looking to develop new products and services using space data or technologies, then the SPRINT programme can help you to accelerate your goals. SSpace Research and Innovation Network for Technology (SPRINT) funds SME access to the resources, facilities and expertise of five of the leading space universities in the UK (Leicester, Surrey, Southampton, the Open University and Edinburgh) to support the development of your new commercial, space-enabled products and services. Visit them at A19 in the exhibition hall to find out more and see how your business could benefit from working with their SPRINT experts.

<https://sprintnetwork.space>



SpaceTec Partners SPRL

FFE 12

SpaceTec Partners is an independent (100% European and privately owned) strategy consultancy specialised in Space and Space applications, with reckon track record in the Space sector. STP capabilities range from management consulting (strategy and business planning, user requirements and market analysis, policy making and impact assessment, technology road mapping, etc.), to market development and strategic communication, to innovation management and access to finance advisory services.

www.spacetec.partners



Spectrum Tech

D17

Spectrum Technologies has been at the forefront of Laser wire processing technology for 30 years. Their main design and manufacturing facility is based in Bridgend, South Wales. They are also located in North America, India and China.

They design and manufacture Laser Wire Markers and Laser Wire Strippers to the Aerospace, Automotive, Medical and Electronics market. Spectrum Technologies has an enviable client list including Airbus, Boeing, Lockheed Martin, Bombardier, BAE Systems.

Their products include Nova™ UV laser wire marking systems, SIENNA™ laser wire stripping equipment and Nova MaX™ high performance wire and cable measure and cut systems.

www.spectrumtech.com



Star Dundee

A2

STAR-Dundee designs network and related data-handling technology for use on-board spacecraft, providing electronic test and development equipment and chip designs for spaceflight applications. Their highly experienced engineers were instrumental in the development of SpaceWire, writing the standard with inputs from international spacecraft engineers. SpaceWire is now widely used on-board spacecraft with over 100 space missions using SpaceWire technology. Their engineers have led the research, technical development and standardisation of the next generation of SpaceWire technology, SpaceFibre, which is a substantial leap forward, offering much higher data rates, quality of service, FDIR, deterministic data delivery, low latency time-synchronisation and event signalling.

www.star-dundee.com



The British Interplanetary Society

A12

"From Imagination to Reality"

The British Interplanetary Society, the world's longest-established space organisation, has promoted astronautics and the peaceful use and exploration of space since its inception in 1933. The wide range of interests of its founders, from science fiction writers like Arthur C. Clarke and inspirational artists like RA Smith to the scientists and engineers with the vision and technical expertise to complete the mission studies that would take mankind to the Moon, Mars and beyond. It continues to encourage and inspire the next generation of engineers and scientists.

Fly the Soyuz/ISS Docking Simulator or browse our books, magazines and space memorabilia.

www.bis-space.com

2019 Exhibitors



Thomas Keating Ltd

D15

Thomas Keating Ltd has a 75 year history of design and manufacture of scientific instruments for astronomy, cosmology, weather forecasting and structural biology, as well as supporting the UK motor sport, aerospace and medical device industries.

Current customers include, ESA (European Space Agency), NASA, Jet Propulsion Laboratory (JPL) as well as universities/government laboratories in the Far East, Europe and the Americas.

All under one roof - and using novel manufacturing technologies - 'Keatings' in-house highly-skilled toolmakers, machinists and designers interact both with clients as well as their customer-facing PhD-qualified project scientists.

www.terahertz.co.uk



TISICS Limited

A3

TISICS develops lighter, faster production rate spacecraft tanks and structures with world leading metal composite and net-shape manufacture technologies.

The work is currently focused on pressure vessels, propellant tanks and robotic arms. Light-weighting other structural parts for satellites, launchers or science missions could deliver 30% to 70% weight reduction, utilising aluminium and titanium based technology.

TISICS proprietary ceramic fibre reinforced titanium is stronger and stiffer than high strength steel. Fibre reinforced aluminium exceeds the strength and stiffness of titanium, delivering 40% lower density.

TISICS is ready to build Europe's first industrial fibre-reinforced metal composite facility to deliver Space qualified parts.

www.tisics.co.uk



Winslow Adaptics

E5

Winslow has 30 years' experience in the Specialist Design & Manufacture of Connectors, Integrated Circuit Adapters/ Interposers, Test Contactor & Custom Test Sockets, Prototyping and Emulation Modules

Their precision engineering service extends to processing a broad range of ferrous and non-ferrous metals and engineering plastics manufacturing a minimum order quantity of just one, whether a new design or the re-engineering of a legacy part

Since the early 1990's the experts at Winslow have successfully provided mission critical solutions for harsh environments, such as, Hubble Telescope Servicing Mission 1 and more recently a custom connector for the ESA Solar Orbiter Spice Instrument.

www.winslowadaptics.com



World Space Week

A13

World Space Week is an international celebration of Space and its contribution to the betterment of the humankind. In 1999 the UN General Assembly declared that World Space Week would be held each year from October 4-10, commemorating the 4th October 1957 launch of Sputnik 1 and the 10th October 1967 signing of the Treaty on the Exploration and Peaceful Use of Outer Space.

Numerous space education and outreach events are held by space agencies, aerospace companies, schools, planetariums, museums, and astronomy clubs around the world.

The British Interplanetary Society coordinates all these events in the UK and looks forward to your thoughts and ideas.

www.worldspaceweek.org



Toray Advanced Composites

Toray Advanced Composites

FFE 6

Toray Advanced Composites are the market leader in developing and manufacturing advanced composite materials for the space and satellite market.

With production facilities in North America and Europe, their products have been deployed on applications including bus structures, solar panels, reflectors, antennae, heat shields, booms, tubes and trusses and tanks.

www.toraytac.com

Space Park Leicester

University of Leicester - Space Park

B10

Located in the heart of the UK, Space Park Leicester will be a global hub for space and space-enabled industry. Building on the University of Leicester's international reputation for space science and innovation, it will be a world-leading centre for the translation of space research and Earth Observation (EO) data into commercial applications and services for businesses, researchers and academia.

Space Park Leicester complements other UK capabilities, and provides an important element of a cohesive national infrastructure. Their unique selling points include: their research and innovation breadth; nearly-60 years of space exploration, working with the space industry; the focus on volume production of low-cost satellites; acting as host to the National Centre for Earth Observation; supporting National skills development.

<https://le.ac.uk/spacepark>



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ORGANISATION	STAND
3D PLUS	D23
AAC Clyde	A13
AB5 Consulting	SBZ 7
Adacore	D16
Aerospace Cornwall	C7
Airbus	C8
Aircraft Materials	C1
Alba Orbital	SBZ 9
Alden Legal Limited	FFE 3
Alter Technology Group	FFE 14
APC PLC	D23
Arralis Technologies	E1-4
Astroscale	C2
Astrotanks	FFE 15
Axon Cable	D7
B2-Space	SBZ 2
Beckhoff Automation	FFE 8
Blue Asteroids	SBZ 6
BMT Defence & Security UK	D1
Bright Ascension	D18
Celestia Technologies Group UK	D8
CGI	C6
Charcroft	C3
Cobham Advanced Electronic Solutions	C14
Coilcraft UK	B9
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The Northern Space Consortium CIC	FFE 13
The Science and Technology Facilities Council	D9
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UK Research and Innovation	C5
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University of Leicester - Space Park	B10
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Winslow Adaptics	E5
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FFE= First Floor Exhibitors
SBZ= Small Business Zone

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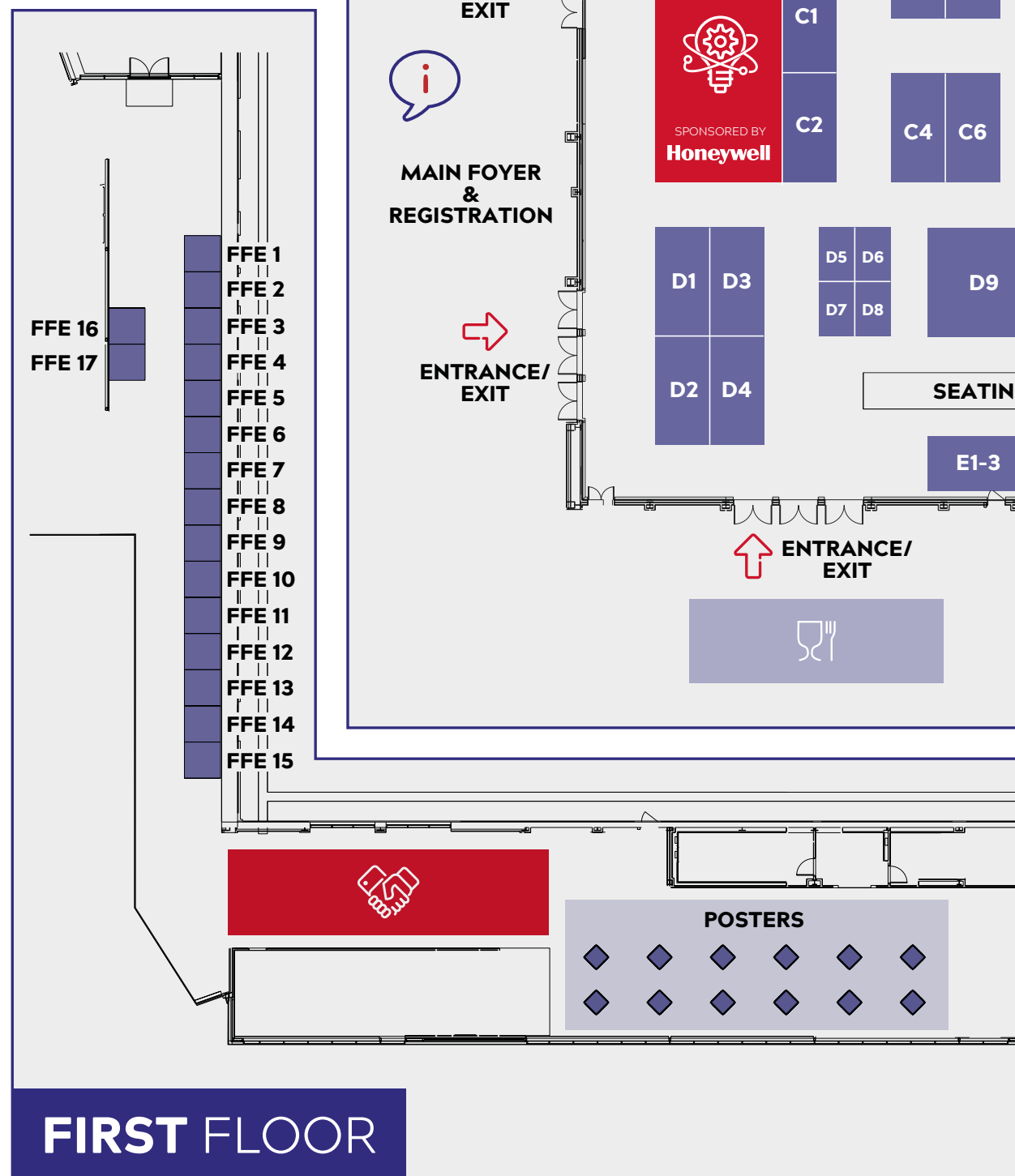
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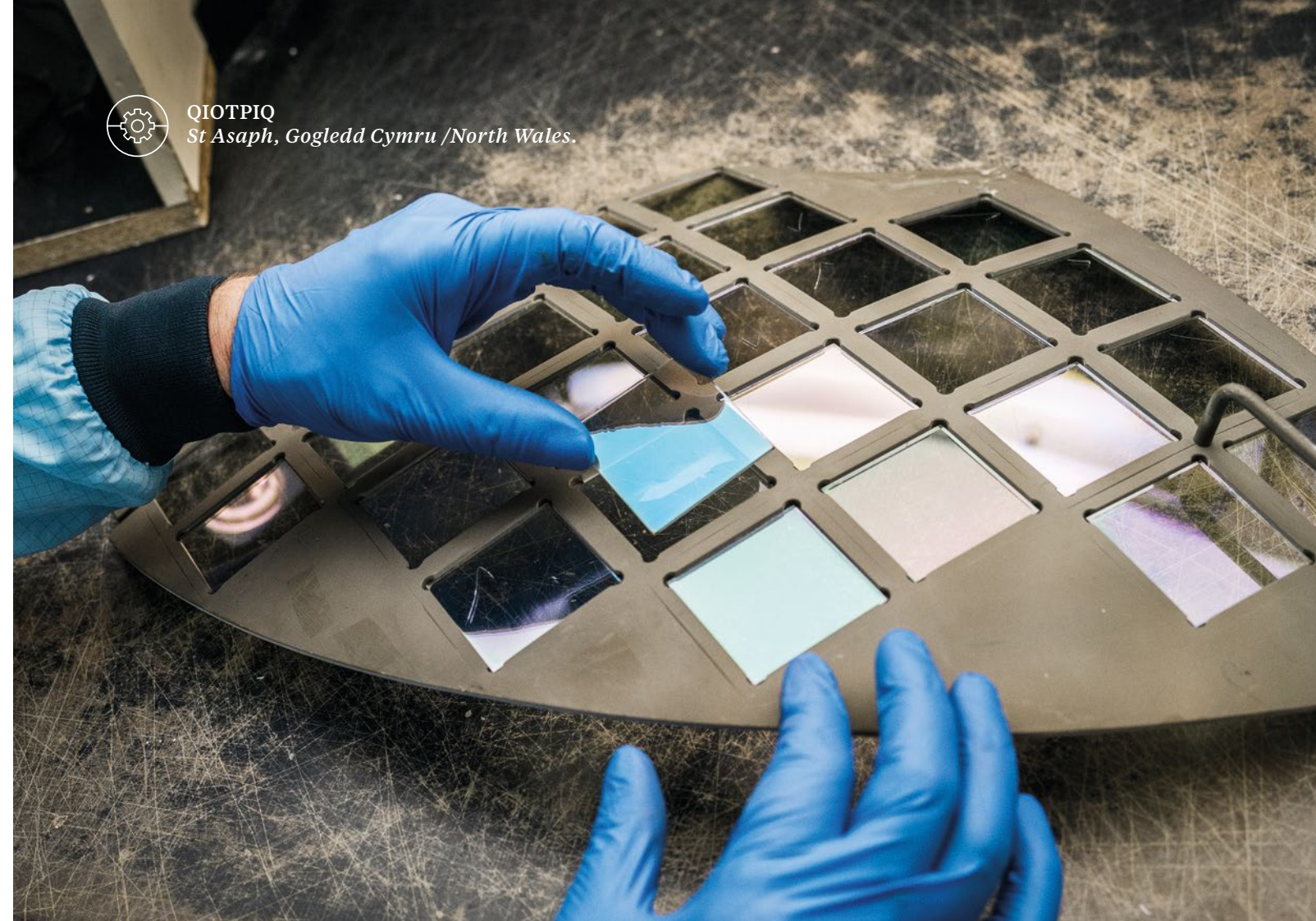
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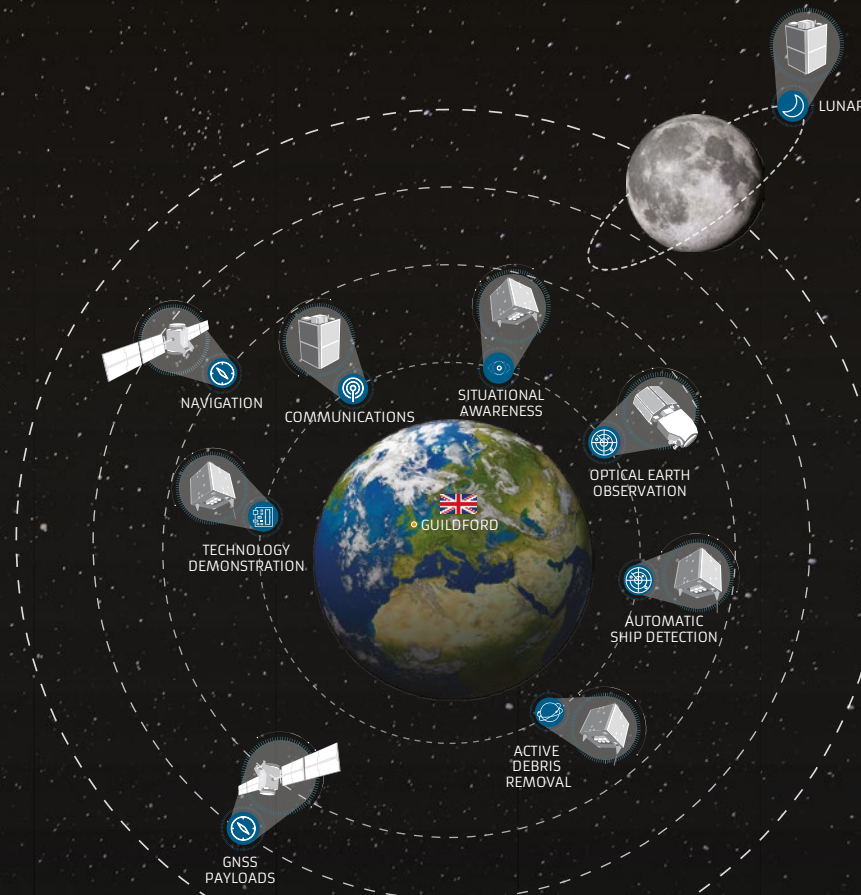
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Mae Qioptiq wedi'i leoli yng Ngogledd Cymru ac mae ganddo bellach enw heb ei ail ar draws y byd ym maes opteg amddiffyn. Mae'r cwmni yn rhan o brosiectau mor amrywiol ag arwain arddangosfeydd ar gyfer yr awyrennau diweddaraf i deithwyr i ddarparu cyfarpar allweddol ar gyfer holl loerennau'r byd gorllewinol.

DYMA EIN BUSNES.
DYMA EIN CYMRU.

THE SKY'S THE LIMIT.

Based in North Wales, Qioptiq has established themselves as a world leader in defence optics and are involved in projects from head up displays for the latest passenger aircraft to providing vital equipment to all of the western world's satellites.

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CORNWALL

SPACE SECTOR

Cornwall, Virgin Orbit and the UK Space Agency are developing Europe's first horizontal launch spaceport, Spaceport Cornwall. With launch set for 2021, the partnership offers the satellite industry a dedicated launch solution.

Flann Microwave is advancing the state of the art in 'waveguide' technology for space, with a miniaturised 'W' band spaceflight switch. This offers super-high capacity satellite communication (71GHz to 112GHz).

Goonhilly Earth Station is developing the capability to support the exploration of Lunar and Deep Space for institutions and private enterprise.

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aerospacecornwall.co.uk/space

VISIT US ON
STAND C7

