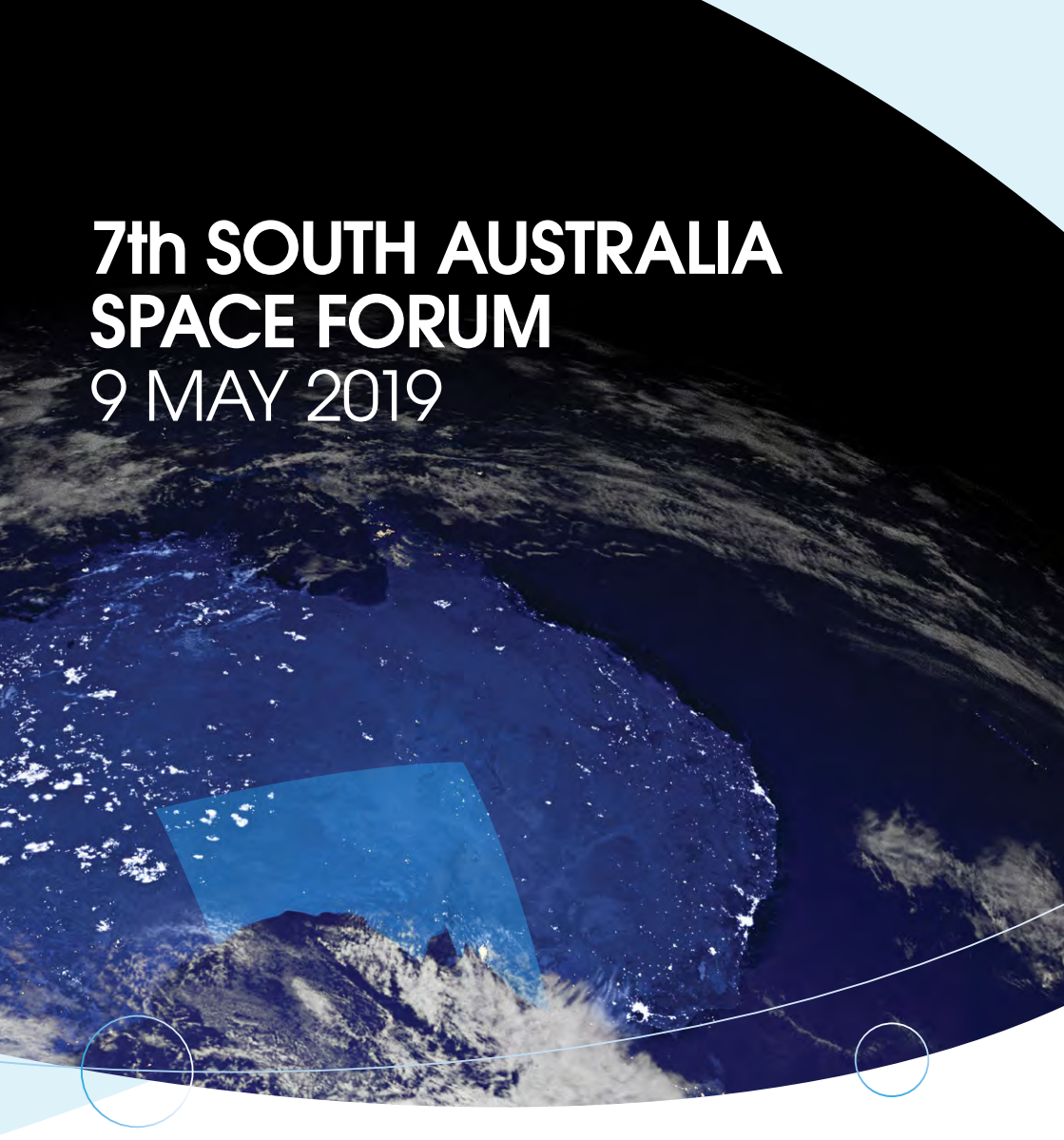
7th SOUTH AUSTRALIA SPACE FORUM

9 MAY 2019



SOUTH AUSTRALIA

Government of South Australia

SOUTH AUSTRALIAN SPACE INDUSTRY CENTRE

Supported by the:

Australian Government

Australian Space Agency

VENTURE CATALYST SPACE

University of South Australia

SMARTSATCRC

7th SOUTH AUSTRALIA SPACE FORUM

THURSDAY 9 MAY 2019
ADELAIDE CONVENTION CENTRE
HALL M & N, GROUND FLOOR, WEST BUILDING

Facilitated by:
Mr Nicola Sasanelli AM, Director
South Australian Space Industry Centre

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PREMIER'S WELCOME

IT IS MY PLEASURE TO WELCOME YOU TO THE 7TH SOUTH AUSTRALIA SPACE FORUM.

Our state and the nation have made great strides in the space sector since the last Space Forum was held six months ago.

South Australia was chosen as the home for the Australian Space Agency headquarters; a testament to the vibrant entrepreneurial ecosystem developing at Lot Fourteen. Some of the most innovative high-tech companies in Australia are already part of our rapidly-growing space community and we look forward to seeing this number increase as a result of this exciting announcement.

In another win for the nation's space sector, Lot Fourteen will also host Mission Control and a Space Discovery Centre.

To top this off, the SmartSat CRC initiative, a locally-led cooperative research centre focused on the niche areas of intelligent satellite systems, advanced communications and Earth Observation, will establish its headquarters in the same building as the Australian Space Agency.

This was secured with a $55 million Commonwealth grant and is a program worth $245 million over seven years.

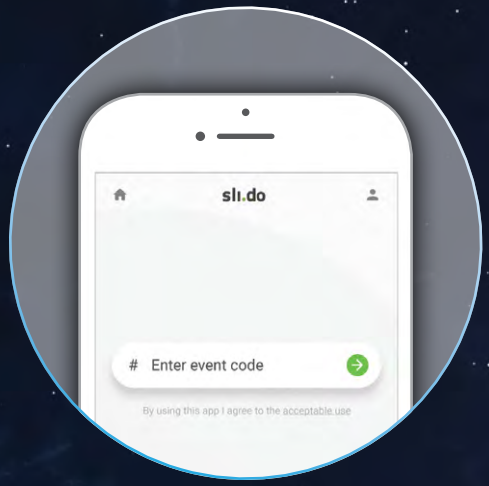
The South Australian Government is committed to building on this momentum in the space sector and ensuring our young people take advantage of the opportunities now available to them in the space industry.

Supported by the Australian Space Agency, the South Australia Space Forum brings together key players in the space industry locally and internationally, and provides a fantastic platform for networking across an extremely exciting and rapidly-developing sector.

This is an exciting point in time for South Australia, as our state's space odyssey continues.

Hon Steven Marshall MP
Premier of South Australia

JOIN THE Q&A



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#SASPACEFORUM

FORUM SCHEDULE

TIME	SESSION
8.00	**REGISTRATION OPEN** Tea and coffee on arrival
8.45	**WELCOME** **Hon Steven Marshall MP**, Premier of South Australia (via video)
8.50	**NATIONAL AND INTERNATIONAL SPACE TRENDS** This session will feature a number of presentations covering policy and trends within the national and international space domain. The session will also feature the Forum's keynote presentation.
8.50	**Anthony Murfett**, Deputy Head, Australian Space Agency
9.00	**Jim Whalley**, Chair, Executive Director and Co-founder, Nova Group and Chief Entrepreneur for South Australia
9.10	**Dr. Kimberley Clayfield**, Director, Space Technology Future Science Platform, CSIRO Astronomy and Space Science
9.20	**Simon Elisha**, Head of Solution Architecture, A/NZ Public Sector, Amazon Web Services
9.30	**Dr. Luigi Scatteia**, Director, Space Practice, PWC Advisory France (Keynote Speaker)
9.50	**THE ECONOMICS OF SPACE TECHNOLOGY** This panel session will explore how to move from research and innovation to sales. Panellists from small and large businesses, along with technical subject matter experts, will discuss topics ranging from how to assess the client's return on investment and risk appetite, through to how suppliers ensure integrity throughout their supply chain to improve customer confidence. *Facilitator:* **Gary Rake**, Partner, Space Industry Leader, Deloitte *Panellists:* **Alan Smart**, Senior Associate, Acil Allen Consultation **Rod Drury**, Chairman, Space Industry Association of Australia **Thomas Pfister**, Sales Director for Space and New Business, AIRBUS, Australasia **Robert Coorey**, CEO, Geospatial Intelligence Pty Ltd **Damien Farrell OAM**, Senior Business Manager, Frazer-Nash Consultancy **Simon Elisha**, Head of Solution Architecture, A/NZ Public Sector, Amazon Web Services Supported by: Deloitte.
10.50	**MORNING TEA**

FORUM SCHEDULE

TIME	SESSION
11.20	**REGULATING AUSTRALIAN SPACE ACTIVITY** Balancing reducing barriers to participation, ensuring the safety of activities, and Australia's obligations under the UN Space Treaties. This panel session will explore some of the current issues associated with Australian launches and returns. *Facilitator:* **Alex Seneta**, Executive Director, Regulation and International Obligations, Australian Space Agency *Panellists:* **Prof. Melissa de Zwart**, Dean of Law. Org Unit, Adelaide Law School **Duncan Blake**, Special Counsel, Space Law, International Aerospace Law and Policy Group **Donna Lawler**, Principal, Azimuth Advisory, Space Law Specialists **Prof. Steven Freeland**, Professor of International Law, School of Law, Western Sydney University Supported by: Australian Government | Australian Space Agency
12.20	**LUNCH**
13.20	**SMARTSAT CRC - BUILDING AUSTRALIA'S SPACE INDUSTRY** The SmartSat CRC will catalyse the transformation and growth of Australia's space industry with focussed activity in three key areas: advanced communications, intelligent satellite systems and next generation Earth Observation sensor technologies and analytics. The panel discussion will provide an overview on these important areas of research will elaborate on the specific topics that promise to develop leapfrogging technologies and will outline how both industry as well as end-users might become involved in this highly collaborative and industry-driven R&D program. *Facilitator:* **Prof. Andy Koronios**, Dean: Industry & Enterprise, University of South Australia *Panellists:* **A/Prof. Gottfried Lechner**, Director, Institute for Telecommunications Research, University of South Australia **Dr. Doug Griffin**, Chief Engineer, UNSW Canberra Space **Prof. Andrew Robson**, Director, UNE 'Applied Agricultural Remote Sensing Centre'. Team Leader, Precision Agriculture Research Group **Peter Nikoloff**, Director/Senior Weapons System Engineer, Nova Group **Peter Kerr**, Scientific Advisor to Chief Joint Operations, Defence Science and Technology Supported by: SMARTSATCRC
14.50	**AFTERNOON TEA**

FORUM SCHEDULE

TIME	SESSION
15.20	**NEW OPPORTUNITIES IN SPACE** Nearly every aspect of our daily lives is touched and made better by space innovation. This panel discussion will provide an overview on specific topics, which will play a central role in supporting emerging technologies. *Facilitator:* **Prof. Caroline McMillen**, Chief Scientist for South Australia *Panellists:* **Prof. Matthew Gilliham**, Deputy Head - Research, School of Agriculture, Food and Wine, The University of Adelaide **Andrea Boyd**, Flight Operations Engineer, European Astronaut Centre, Cologne, Germany **Dr. James Waldie**, Chief Engineer, Human Aerospace **Prof. Ping Koy Lam**, CQC2T Node Director, The Department of Quantum Science, Australian National University Supported by: Government of South Australia, Department for Innovation and Skills
16.20	**CONCLUSION**
16.30	**VENTURE CATALYST SPACE DEMO DAY** In 2018, the Innovation & Collaboration Centre at the University of South Australia inducted five startups to be part of the inaugural Venture Catalyst Space incubation program designed to develop and grow innovative or disruptive ideas in the space sector. Join us as these exciting new space ventures demonstrate their innovations, the journey they have been on, and what they need to take them to the next stage. The following companies will deliver a three-minute pitch in front of a panel of experts: • Ping Services • Tekuma • Wright Technologies • Safety From Space • ResearchSat Supported by: VENTURE CATALYST SPACE | University of South Australia
17.30	**NETWORKING HOUR** Sponsored by Venture Catalyst Space

VENTURE CATALYST SPACE DEMO DAY

Delivered by the University of South Australia's Innovation & Collaboration Centre - Venture Catalyst Space is the State's first space incubator program to develop and grow innovative or disruptive ideas from entrepreneurs and startups in the space sector.

Five start-ups inducted into the program in 2018 will pitch and demonstrate their innovations to a panel of experts in the Demo Day session.

EXPERT PANELLISTS

ALEX GRANT

CHIEF EXECUTIVE OFFICER | MYRIOTA

SARAH MORTELLARO

RELATIONSHIP MANAGER SA GOVERNMENT | CSIRO

SASHA BARANIKOV

START-UP FOUNDER, MENTOR & COMMERCIALISATION SPECIALIST

MARTIN DUURSMA

PARTNER | MAIN SEQUENCE VENTURES

FACILITATOR

TERRY GOLD

Terry Gold is an entrepreneur and mentor. He was the Managing Director of Techstars Adelaide, the first Techstars Accelerator in Australia and SE Asia. He moved to Adelaide in 2016 from Boulder, Colorado to be the Growth Entrepreneur in Residence at the Centre for Business Growth at UniSA.

Prior to that he lived in the US and co-founded Gold Systems, an enterprise software company that created speech recognition applications to improve customer service. Gold Systems was named to the Inc. 500 Fastest Growing Private Companies, and was named seven times to the Deloitte & Touché Colorado Fast 50 Companies.

He was a founding member of the Colorado chapter of YEO. In 2000 he and his co-founder were recognised with the "Esprit Entrepreneur of Distinction" award, and in 2003 Terry was recognised as a finalist at the Rocky Mountain Ernst and Young 'Entrepreneur of the Year' Awards.

START-UPS

PING SERVICES

SOUTH AUSTRALIA

Ping Services use a 'ping monitor' to detect damaged blades on wind turbines using sound waves. The device relies on satellite communication as wind farms are generally located in areas with limited mobile phone reception. Currently turbine monitoring is performed periodically using photography, manual inspection or drone inspection as infrequently as every 18 months.

RESEARCHSAT

SOUTH AUSTRALIA

ResearchSat is working on medical research in space. The team has developed small satellites which can take microbiological experiments to space in a confined and controlled environment to monitor their behaviour and catalogue any changes to eventually develop new pharmaceutical drugs to treat disease. The satellites have been developed to be viable, accessible and affordable for all researchers.

WRIGHT TECHNOLOGIES

SOUTH AUSTRALIA

Winners of the global ActInSpace competition, Wright Technologies envision a future where drones are flying all around us. The team is focused on the importance of a universal standard to guarantee fool-proof identification and tamper-proof tracking of drones. Their solution, 'Seraph', is a unique system for drone registration and real-time tracking to improve safety, security and most of all reduce barriers to innovation by developing a drone ecosystem.

SAFETY FROM SPACE

SOUTH AUSTRALIA

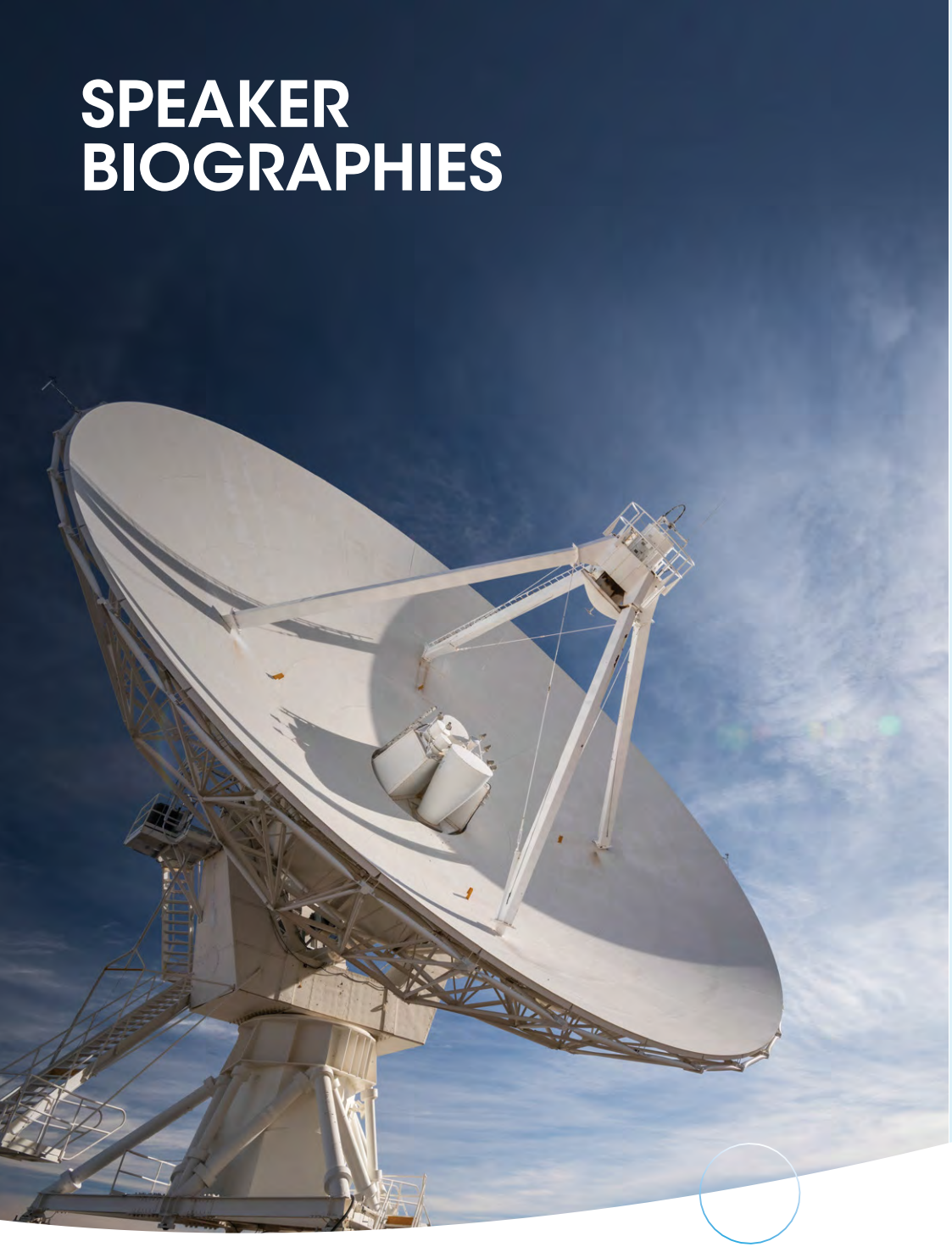
Safety from Space is working on a safety system for those in remote locations too far from wireless coverage. With satellite phones being prohibitively expensive, the team proposes an alternative and supplementary service (and the support infrastructure) to provide specific messaging via satellite for dangerous situations that could easily and rapidly develop into an emergency.

TEKUMA

NEW SOUTH WALES

Tekuma has developed the next generation of intuitive hand controller hardware or 'joysticks' which uses patented technology and custom firmware to process a user's tactile hand movements. This enables them to control an object, such as a drone, with one hand. The solution is sturdier and more secure than current solutions in the market and is universal, allowing it to speak to all drones or other hand-controlled objects such as remote robots or jet packs.

SPEAKER BIOGRAPHIES



MR DUNCAN BLAKE

SPECIAL COUNSEL, SPACE LAW |
INTERNATIONAL AEROSPACE LAW AND POLICY GROUP

Duncan Blake transferred from the permanent Air Force to the Reserves in January 2017, after 22 years as a Legal Officer in the RAAF. He worked at the tactical, operational and strategic levels at home and on deployment overseas. Duncan has contributed extensively to doctrine and policy for Defence and whole-of-government, on issues of operations law and space law. He has chaired inter-departmental and international working groups on space law, especially in a military and strategic context. Although this work is not publicly accessible, he has authored many articles, including an article for which he was awarded the 2011 Lieber Society Military Prize by the American Society of International Law.

He has undergraduate degrees in Law and Economics, a Master of Laws by coursework from the University of Melbourne and a Master of Laws by research from McGill University. He is also a graduate of Australian Command and Staff College. His Masters thesis topic at McGill University was on the need for a 'Manual on International Law Applicable to Warfare in Space'. Duncan is currently Managing Editor of a project that brings together a group of international experts to draft such a manual (the 'Woomera Manual'), aiming for publication in 2020.

He is also undertaking doctoral research at The University of Adelaide on a topic associated with the project. Duncan is also Project Manager for the ANGELS Project (Australian 'Navigational' Guide Explaining Laws for Space), which aims to develop a web resource to help Australian space entrepreneurs to 'navigate' the legal and regulatory framework applicable to their space activities, wherever they may be in the world.

MS ANDREA BOYD

FLIGHT OPERATIONS ENGINEER
| EUROPEAN ASTRONAUT CENTRE, COLOGNE GERMANY

Andrea is the only Australian International Space Station Flight Controller on Earth. A Mechatronic Engineer from the University of Adelaide, she specialised in robotics in South Korea, worked for many years as an Automation Engineer in Adelaide then underground and in the end to end process plant as a FIFO Mining Control Systems Specialist. Andrea certified as an ISS Flight Operations Engineer for payload control and cross-certified for crew operations, serving the last seven years in the European Space Agency's Human Spaceflight and Robotic Exploration Directorate.

DR KIMBERLEY CLAYFIELD

DIRECTOR | SPACE TECHNOLOGY FUTURE SCIENCE PLATFORM, CSIRO ASTRONOMY AND SPACE SCIENCE

Dr Kimberley Clayfield is Leader of the new CSIRO Space Technology Future Science Platform (Space FSP). This program, established in Nov 2018 with an initial $16 million investment from CSIRO over 3.5 years, will build capability, identify and develop innovative new space technologies and applications, and support the growth of Australia's space industry. It includes a portfolio of activities across the key application areas of space-derived services, space object tracking, and space exploration and utilisation.

Kimberley is also Satellite Technologies and Ground Operations Team Leader within the CSIRO Centre for Earth Observation, which includes a part-time secondment to the Defence Materials Technology Centre (DMTC) as Program Leader of the High Altitude Sensor Systems Program, and oversight of the acquisition of CSIRO's first CubeSat (CSIROSat-1).

Prior to the establishment of the Space FSP Kimberley was Executive Manager Space Sciences and Technology within CSIRO, in which role she focused on space strategy, industry development, and the implementation of new space-related activities and capabilities within CSIRO. Her previous experience includes time as the CSIRO SKA Consortium Officer (2014-15), managing CSIRO's obligations as lead organisation of the Square Kilometre Array (SKA) Dish Consortium - the largest of the 11 international consortia responsible for designing the world's biggest radio-telescope.

Prior to joining CSIRO, Kimberley was Assistant Manager of Space Policy within the Australian Government Department of Innovation, Industry, Science and Research. There she co-authored the policy proposal which led to the four-year $40 million Australian Space Research Program (2009 – 2013).

Dr Clayfield holds a Bachelor of Engineering (Hons I) and PhD in mechanical engineering, a Master of Business Administration (Cum Laude) from the International Space University, and additional graduate qualifications in space science and public policy.

In 2014 Kimberley became the first Australian to receive the prestigious Lawrence Sperry Award from the American Institute of Aeronautics and Astronautics. She has also served as Chair of Engineers, Australia's National Committee on Space Engineering.

MR ROBERT COOREY

CEO | GEOSPATIAL INTELLIGENCE PTY LTD

Before establishing Geospatial Intelligence Pty Ltd in 2002, Robert worked in Local, State, and Federal Government. He established the Canberra office of ESRI Australia and later a new company, ESRI Australia Defence, as its Managing Director. Robert was also the General Manager - Imagery and Geospatial Systems, and later the General Manager - Intelligence, Surveillance and Reconnaissance (ISR) at Raytheon Australia. In these roles, he was instrumental in establishing a commercial imaging satellite ground station in Australia and the associated capability for exploitation and dissemination of imagery.

Robert has been called upon on numerous occasions by both the private sector and the Government to act as a Subject Matter Expert for a number of Department of Defence projects with a geospatial/ imagery requirement. Robert was also invited by the Australian Academy of Technological Science and Engineering and the Indian National Academy of Engineering to present at an Indo-Australian Workshop on Remote Sensing in Bangalore.

Robert's strong technical expertise in imagery and geospatial technologies ensures the delivery of technical solutions which not only meet current requirements but will also satisfy broader business needs. Robert has also recently authored a Chapter titled "The evolution of Geospatial Intelligence – GEOINT" a book published by Springer titled Australian Contribution to Strategic and Military Geography.

PROF MELISSA DE ZWART

DEAN OF LAW. ORG UNIT
| ADELAIDE LAW SCHOOL

Professor Melissa de Zwart is Dean of Adelaide Law School and Deputy Director, Research Unit on Military Law and Ethics. Having developed a keen interest in the regulation and commercialisation of cutting edge technology as Manager, CSIRO Corporate Legal Service, she has published widely on internet law, intellectual property, online intermediaries, social media and online communities, surveillance, privacy and the law of outer space. She is a Board Member, Space Industry Association of Australia, a Member of the International Institute of Space Law, and Director of the Woomera Manual on the International Law of Military Space Operations.

MR ROD DRURY

CHAIRMAN | SPACE INDUSTRY ASSOCIATION OF AUSTRALIA

Rod Drury is the Managing Director, Australia and New Zealand for Lockheed Martin Space. In this role Rod, in partnership with the LM Space Lines of Business, is responsible for the strategy, growth and execution of all LM Space business activities in Australia and New Zealand.

Previously, Rod spent eleven years with the Boeing Corporation in Australia where he served in a number of increasingly challenging leadership roles covering corporate governance, strategy, business development, domestic and international government relations, full profit/loss accountability and mission critical program management.

In 2000, Rod left the Royal Australian Air Force following 20 years of service. During his service he enjoyed postings across Australia and USA and served in many locations around the globe. Rod's contribution was recognised in 1998, when he was awarded a Conspicuous Service Cross for 'exceptional leadership, whilst Commanding Officer of No 1 Radar Surveillance Unit, Alice Springs'.

Rod is Chair, Space Industry Association of Australia and a member of the South Australian Space Council.

Rod has been awarded a Master's Degree in Business Administration, a Graduate Diploma in Management Studies and a Diploma in Company Directorship from the Australian Institute of Company Directors.

MR SIMON ELISHA

HEAD OF SOLUTION ARCHITECTURE
| A/NZ PUBLIC SECTOR, AMAZON WEB SERVICES

As Head of Solution Architecture at Amazon Web Services, Simon Elisha is sought after by C-Level Executives who want deep insights into how Cloud Computing, Agile software development and technology innovation are changing the way organisations improve customer experience, reduce costs and adapt quickly.

Simon was a leader in cloud well before it was "cool". As the first technical staff member for Amazon Web Services in Australia, he led the charge to Public Cloud before most people even knew what AWS was. Bringing over 29 years of industry experience in software and infrastructure to the "brave new world"– he was able to guide start-ups, digital businesses, Government and Enterprises alike on their journey to the cloud. He has been instrumental in organizations large and small achieving outsized results with the pragmatic application of technology.

A noted industry speaker and communicator – if it happens in the cloud, Simon probably knows about it.

Simon has held senior roles at organisations including Pivotal Software, Cisco, Hitachi Data Systems, VERITAS Software, PricewaterhouseCoopers and EDS.

In addition, Simon earned an Honors Degree in Information Technology from Monash University.

MR DAMIEN FARRELL OAM

SENIOR BUSINESS MANAGER
| FRAZER-NASH CONSULTANCY

During a successful 20 years in the Air Force Damien was at the forefront of establishing new strategic space based surveillance capabilities. Since joining Frazer-Nash he has continued to support Defence in defining and acquiring new capabilities across the space, wide area surveillance, land battlespace communications and maritime domains. In this time has also supported various organisations to align their processes and management structure to comply with international standards and Defence engineering processes within and outside the Defence sector.

In his current role as Senior Business Manager, Damien is responsible for the strategic direction, development and growth of business in the Defence sector. This includes identifying opportunities, securing contracts and also developing staff skills in business development and commercial risk awareness. As a member of the Australian senior leadership team he contributes to the wider strategic direction of the business, including recruitment, marketing and development of new services for the market.

PROF STEVEN FREELAND

PROFESSOR OF INTERNATIONAL LAW
| SCHOOL OF LAW,
WESTERN SYDNEY UNIVERSITY

Steven Freeland is Professor of International Law at Western Sydney University. He is also Visiting Professor at the University of Vienna; Permanent Visiting Professor at the iCourts Centre of Excellence for International Courts, University of Copenhagen; Member of Faculty at the London Institute of Space Policy and Law; Visiting Professor at Université Toulouse 1 Capitole; Adjunct Professor at University of Adelaide; Associate Member at the Centre for Research in Air and Space Law, McGill University; Fellow of the Australian Academy of Law; and a former Marie Curie Fellow. He has been an expert assessor for Government Research Councils in Australia, Canada, Hong Kong, South Africa, The Netherlands and the United States and has taught various aspects of International Law at Universities in over 20 countries.

He has also been a Visiting Professional within the Appeals Chamber at the International Criminal Court (ICC), and a Special Advisor to the Danish Foreign Ministry in matters related to the ICC. He represents the Australian Government at various United Nations Conferences and Committee Meetings, and has advised the Australian Commonwealth Department of Industry, Innovation and Science, and the New Zealand Government, on issues related to the regulation of space activities and the development of a space-industry strategy.

Among other appointments, he is a Director of the Paris-based International Institute of Space Law (IISL), and a member of the Space Law Committee of the London-based International Law Association (ILA) and also of both the Space Law Committee and War Crimes Committee of the London-based International Bar Association (IBA).

PROF MATT GILLIHAM

DEPUTY HEAD OF SCHOOL - RESEARCH
| SCHOOL OF AGRICULTURE, FOOD AND WINE, UNIVERSITY OF ADELAIDE

Matt is the Professor of Crop Molecular Physiology at the University of Adelaide and group leader of the ARC Centre of Excellence in Plant Energy Biology. His research group studies crop plant nutrition and stress resilience with a focus on signalling and membrane transport mechanisms, scaling from genetics, through cell biology and whole plant physiology. His main areas of study include salinity, drought and hypoxia tolerance. Matt gained a BSc in Ecology from Lancaster University and a PhD in Plant Physiology from the University of Cambridge, both in the UK. After a postdoc at Cambridge, he immigrated to Australia to run the Plant Transport and Signalling Laboratory at the Waite Campus, University of Adelaide, in 2006. He has publications in Science, Nature Biotechnology, Nature Communications and high impact plant-specific journals; he is an ASPB highly cited author and is a Monitoring Editor for Plant Physiology. He is Convener for the Special Interest Group of the Society of Experimental Biology in Abiotic Stress Tolerance, and Deputy Director of the Waite Research Institute which supports Agricultural science initiatives for both applied and fundamental impact. He is excited about the opportunities for Space Agriculture Research and Development in South Australia.

DR DOUG GRIFFIN

CHIEF ENGINEER
| UNSW CANBERRA SPACE

As Chief Engineer for the UNSW Canberra Space Group, my current professional responsibilities lie in the management of multi-disciplinary teams for the development of space missions and spacecraft systems. This role covers the entire scope of the development life-cycle; from the initial proposal, feasibility assessment and contract negotiation through to implementation and flight operations.

MR PETER KERR

SCIENTIFIC ADVISOR TO CHIEF JOINT OPERATIONS | DEFENCE SCIENCE AND TECHNOLOGY

In his 30 years in Defence, Peter Kerr has carried out research on Jindalee/JORN, High Frequency (HF) Communications, Communications Electronic Warfare, Signals Intelligence and Satellite Communications, always focusing on radio frequency technology and systems.

He has been seconded to academia (UniSA), diplomatic posting (Counsellor Defence Science, London) and Strategic Policy and Intelligence Group (Defence Industry Division).

He has led research teams in satellite communications for over 15 years from 1994 and developed the case for and led the Defence involvement in the Satellite Systems CRC that built and launched FEDSAT.

He led the Satellite Communications Discipline at DSTO until 2010 supporting the Australian Defence Force through a research program in satellite IP networking, satellite resource management, satellite vulnerability and mobile satellite communications. He developed a satellite systems modelling capability that provided the evidence to support the decision to partner with the US DoD on the Wideband Global SATCOM system. This $900m investment will provide Defence with global, high capacity military satellite communications beyond 2030.

He was DST's Program Leader for Innovation during the initial implementation of the Next Generation Technologies Fund. During this time he worked across Defence and Government and provided key contributions to the establishment of elements of the 2016 Defence Industry Policy Statement including the Defence Innovation Hub, the Defence CRC program and the USA-Australia Multidisciplinary University Research Initiative (AUSMURI).

In July 2018 he moved to the role of Scientific Advisor to Chief of Joint Operations Command, the principal scientific advisor to Headquarters JOC. This position helps focus Defence S&T contributions to the planning and execution of Defence Operations.

His personal research interests include application of advanced RF technology to military capability, military application of space technology and systems and the strategic dimension of national and international research cooperation.

PROF ANDY KORONIOS

DEAN: INDUSTRY AND ENTERPRISE | UNIVERSITY OF SOUTH AUSTRALIA

Professor Andy Koronios is the Dean: Industry & Enterprise at the University of South Australia. He previously spent 15 years as the Head of the School of Information Technology & Mathematical Sciences at UniSA. Andy holds academic qualifications in Electrical Engineering, Computing and education and a PhD from the University of Queensland. Andy has extensive experience in both commercial and academic environments and his research interests include information quality, management & governance, analytics and the strategic exploitation of information.

Andy is the CEO-designate of the recently announced SmartSat CRC - a space industry-focused Cooperative Research Centre (CRC) aimed at catapulting Australia into the global space industry through collaborative research and development. The CRC was recently awarded $55 million in federal government funding as well as over $190 million in cash and in-kind contributions from 85 participants from industry, government and academia.

PROF PING KOY LAM

CQC2T NODE DIRECTOR | THE DEPARTMENT OF QUANTUM SCIENCE, AUSTRALIAN NATIONAL UNIVERSITY

Prof Ping Koy Lam is currently an ARC Laureate Fellow and the Australian National University's Node Director for the Centre of Excellence for Quantum Computation and Communication Technology.

He completed his BSc in mathematics and physics from the University of Auckland in 1990. He worked as a process engineer for Sony (audio electronics) and Hewlett-Packard (semiconductor LED) for three years prior to completing his MSc (theoretical physics) and PhD (experimental physics) at the Australian National University.

Ping Koy pursues research in quantum optics, optical metrology, opto-mechanics, and quantum information. He was an Alexander von Humboldt fellow at the Erlangen-Nürnberg Universität in 2000, and a CNRS visiting professor at Paris University in 2007. He was an adjunct Professor for Tianjin University from 2013 to 2015. He was awarded the British Council Eureka Prize for inspiring science with his research and outreach activities (2003), and the University of New South Wales Eureka Prize for innovative research for his work in quantum communication (2006). In 2006, he co-founded QuintessenceLabs, the first Australian company to commercialise quantum communication technology. In 2014, he was awarded the Australian Institute of Physics Alan Walsh Medal for significant contribution to Australian Industry.

MS DONNA LAWLER

PRINCIPAL | AZIMUTH ADVISORY,
SPACE LAW SPECIALISTS

Donna Lawler is a Co-Founder and Principal at Azimuth Advisory and is a member of the International Institute of Space Lawyers. She is an experienced commercial lawyer specialising in complex transactions in the space and telecommunications industries.

Over almost twenty years in the satellite industry she has been an advisor to a range of commercial space organisations, from operators of cubesats to established operators of geo-stationary satellites.

In particular, she has had key involvement in the build, launch and insurance programmes for six geo-stationary satellites on behalf of Optus and its parent company SingTel. These include the Optus C1 satellite, which is a hybrid civilian and military spacecraft, jointly owned by Optus and the Australian Defence Forces.

Her involvement in space-related programmes has also included the sale and purchase of satellite capacity, securing the use of orbital slots, advising on risk, liability and insurance issues and negotiating other civilian and military satellite-related contracts.

Prior to co-founding Azimuth Advisory, Donna served as Assistant General Counsel for Optus Satellite, an Australian satellite operator.

She has also practiced technology and telecommunications law at Baker & McKenzie in Hong Kong and Minter Ellison in Sydney.

Donna has published joint papers on Space Law topics internationally and has been a presenter on commercial Space Law topics in Australia (including the International Space University's Southern Hemisphere Space Program), Europe, Denmark, South Africa, Canada and the United States.

ASSOC. PROF GOTTFRIED LECHNER

DIRECTOR | INSTITUTE FOR TELECOMMUNICATIONS RESEARCH, UNIVERSITY OF SOUTH AUSTRALIA

Dr Gottfried Lechner is Associate Research Professor in Telecommunications at the University of South Australia. He is the Director of the Institute for Telecommunications Research where he leads a team of academic researchers, engineers and postgraduate students.

Dr Lechner completed his Dipl.-Ing. and Dr.techn. degrees from Vienna University of Technology, Austria, in 2003 and 2007, respectively. He worked as a software developer before joining the Telecommunications Research Centre Vienna in 2002. In this role he collaborated with European research organisations and industry partners.

In 2008 he joined the University of South Australia where his research includes areas such as error correcting coding, signal processing, wireless communications, satellite communications, software defined radios and quantum key distribution.

Dr Lechner contributed to a number of funded research projects ranging from fundamental research to applied research and consulting. He delivered key solutions to the project "Global Sensor Network" which was awarded Technology of the Year 2013 and attracted international investors resulting in the spinoff company Myriota.

Dr Lechner is the Program Leader for "Advanced Communications" in the SmartSat CRC.

PROF CAROLINE MCMILLEN

CHIEF SCIENTIST FOR SOUTH AUSTRALIA

Professor Caroline McMillen commenced in the role as Chief Scientist for South Australia in October 2018 after serving as Vice-Chancellor of the University of Newcastle from 2011.

She is a Fellow of the Australian Academy of Health and Medical Sciences, a Fellow of the Royal Society of New South Wales and a Bragg Member of the Royal Institution, Australia. She holds a BA(Honours) and Doctor of Philosophy from the University of Oxford, and completed her medical training graduating from the University of Cambridge. Professor McMillen's research on how the environment in early development determines adult health has attracted national and international recognition. She has served on a range of industry boards including the National Automotive Industry Innovation Council, CRC for Advanced Automotive Technology, CRC for Rail Innovation as well as a range of national and state research, industry and government leadership groups. She is committed to building collaborations between research, government and industry to deliver economic, environmental and social impact. Professor McMillen was honoured at the end of her term as Vice-Chancellor to be presented with the Keys to the City of Newcastle in recognition of her leadership contribution to Newcastle and the region.

MR ANTHONY MURFETT

DEPUTY HEAD
| AUSTRALIAN SPACE AGENCY

Anthony Murfett is Deputy Head of the Australian Space Agency, where Anthony has oversight of strategy, policy and day-to-day operations and supports the Agency Head in monitoring the performance of the Agency.

Anthony has worked as Minister Counsellor, Industry, Science and Education at the Australian Embassy in Washington DC and as General Manager of the Growth Centres Branch within the Department of Industry, Innovation and Science in Canberra. Anthony ensures the Agency delivers on its purpose to transform and grow a globally respected Australian space industry that contributes to productivity and employment across the Australian economy.

Dedicated to this purpose, Anthony brings an entrepreneurial spirit to the Agency, valuing partnerships while drawing strength from diversity and pushing the boundaries of our knowledge.

As a road bike enthusiast, Anthony is not only at the forefront of space industry development, he is well on his way to cycling the distance to the moon (238,855 miles or 384,400 km), having ridden and competed across the country and the globe.

MR PETER NIKOLOFF

DIRECTOR/SENIOR WEAPONS SYSTEM ENGINEER | NOVA GROUP

Pete Nikoloff is an Executive Director and Co-founder of Nova Systems and Senior Weapons System Engineer. He obtained an Aeronautical Engineer degree from RMIT in 1986 and has 30 years' experience supporting and conducting test and evaluation of defence and space systems.

Prior to starting Nova, Pete worked as a Flight Test Engineer at the RAAF's Aircraft Research and Development Unit (ARDU) in the role of Senior F/A-18 Hornet Test Engineer. Pete served at ARDU for over ten years and has vast experience over a range of aircraft and associated systems including extensive experience with the Woomera Test Range. Pete's F/A-18 experience includes calibration and flight loads collection for the F/A-18 IFOSTP Fatigue Test Program, Operational Flight Program Testing, ASRAAM Integration and Stores Clearance Testing (including Flutter and HERO testing), Flight Test Instrumentation Upgrades (Aircraft and ground systems).

Pete's T&E experience has been diverse, including F/A-18, C-130J, Seahawk, Air Warfare Destroyer, JAXA Experimental Supersonic Transport, Woomera Range Control System Upgrade, ASRAAM and C-Band Space Surveillance Radar.

Pete actively supports the aerospace sector:

- Director, Space Industry Association of Australia (SIAA)
- South Australian Government Space Advisory Council Member
- Industry member of the SmartSat CRC Bid executive
- President – Southern Cross Chapter International Test and Evaluation Association (ITEA)
- Board of Directors - International Test and Evaluation Association (ITEA)
- Member – Royal Aeronautical Society
- Member – Flight Test Society of Australia
- Member - Mars Society of Australia (MSA)
- Fellow/EngExec Engineers Australia

MR THOMAS PFISTER

SALES DIRECTOR FOR SPACE AND NEW BUSINESS | AIRBUS, AUSTRALASIA

Thomas held various positions in the Space and Defence part of Airbus since he joined the company in 2006. Originally in charge of business development for Earth Observation services and related infrastructures, he then developed the business in Telecommunications Satellites for private and institutional customers in Asia Pacific. In 2016 he was appointed Head of Airbus Defence and Space for Thailand, Laos, Myanmar and Cambodia.

Since November 2018, Thomas joined the Australasia team to focus on development of Space and New Businesses in the Australasian region.

MR GARY RAKE

PARTNER, SPACE INDUSTRY LEADER
| DELOITTE

Gary is one of Deloitte's leaders supporting development of the Australian space industry. With more than 25 years' experience in the private and public sectors, he has served as CFO, COO and CEO of agencies in the Commonwealth and ACT Governments.

Gary has a proven track record at the most senior levels and has led organisations in an array of responsibility areas including planning and development, environment, arts, economic development, sport, major venues and events, justice, community services and commercial forestry.

As Deputy Director-General of the ACT Chief Minister and Treasury Directorate, Gary oversaw development of the 2014 ACT Business Development Strategy – which identified space as one of the ACT's key opportunities for the future.
More recently, Gary has been working with other Australian jurisdictions and organisations to develop their own strategies for participating in the growth of Australia's space industry.

PROF ANDREW ROBSON

DIRECTOR | UNE 'APPLIED AGRICULTURAL REMOTE SENSING CENTRE' **TEAM LEADER** | PRECISION AGRICULTURE RESEARCH GROUP

From an agricultural science career that extends over 20 years in industry, government, commercial and academia, Professor Andrew Robson has developed a balanced understanding of remote sensing technologies and analytics; the need for appropriate calibration and validation; and a well-demonstrated ability to engage with industry to ensure the research and development adheres to specific needs. In 2012, Professor Robson joined the University of New England and with his team, now undertake applied remote sensing research over a dozen agricultural and horticultural industries.
In 2013, Prof Robson brought together a multidisciplinary team in a national project that mapped the extent of all commercial avocado, mango and macadamia orchards across Australia to assist with biosecurity response and natural disaster monitoring. The project also evaluated a range of remote sensing and robotic platforms to identify those best suited for improving on farm management.
Professor Robson has just established the Applied Agricultural Remote Sensing Centre (AARSC) based at UNE.
The Centre will further build on the national collaborative network and provide industries with a trusted gateway to remote sensing technologies and analytics, offer education and training in applied agricultural remote sensing and continue to bridge the gap between industry, research and commercialisation.

MR NICOLA SASANELLI AM

DIRECTOR | SOUTH AUSTRALIAN SPACE INDUSTRY CENTRE

Nicola Sasanelli joined Defence SA in April 2016 as Director of the Space Industry and R&D Collaborations project. In September 2017 the South Australian Space Industry Centre was created, with Nicola as Director. His focus is to support space industry growth and increase international R&D collaborations in South Australia's space sector. In 2018 Nicola was appointed Adjunct Professor at the University of South Australia - Division of Information Technology, Engineering and the Environment and he was appointed on the board of the Space Industry Association of Australia (SIAA). Nicola graduated from the University of Bari, Italy in 1987 with a degree in Electronic Engineering. He went on to work as a researcher in microelectronics high-reliability components at Tecnopolis S&T Park, Bari before being appointed as Scientific Attaché at the Embassy of Italy in Canberra from 2001 to 2008. In 2009, Nicola joined the South Australian Government as a Special Envoy for higher education research and technology transfer to Europe with the Department of Premier and Cabinet and later joined the Department of State Development as Director for International R&D Collaborations. From 2003 to 2013 he was appointed as Adjunct Professor of Science and Technology at the University of Canberra, Australia, and in 2007 he became an Honorary Member of the Order of Australia. Nicola's main passion, outside of his interest in space, is painting.

DR LUIGI SCATTEIA

DIRECTOR, SPACE PRACTICE
| PWC ADVISORY FRANCE

Luigi is a Director in PwC Paris. He leads the PwC Space Practice, and its core advisory team dedicated to consulting within the space sector. Luigi has over 18 years of experience in the space sector along the wider value chain, including downstream applications, and 9+ years in consulting for the industry and institutions in the sector.

Luigi is a trusted advisor for the European Commission, the European Space Agency and multiple agencies across the world, supporting them in space market assessments, economic impact assessments, industrial policy, and regulatory matters. He has also extensively supported the space industry on new business models and go-to-market strategies for new products and services. His work, and the work of PwC Space Practice, spans multiple functional areas (strategy, policy, economics, regulatory) and all main space domains (EO, SatCom, SSA, Space Explorations, LEO Economy, Navigation, Cross-domain).

His recent work targeting the space downstream allowed him to develop extensive insights on the impact of space data for both industry and public organisations, and on the possibilities to exploit satellite data for policy and business intelligence purposes.

MS ALEX SENETA

EXECUTIVE DIRECTOR, REGULATION AND INTERNATIONAL OBLIGATIONS
| AUSTRALIAN SPACE AGENCY

Alex is the Executive Director of Regulation and International Obligations at the Australian Space Agency (the Agency), commencing in the role when the Agency launched operations in July 2018. Alex and her team work on civil space issues including authorisations for launches and returns. This includes work underway to reform the Space Activities Act 1998.

The team is also responsible for the Agency's engagement in the United Nations Committee on the Peaceful uses of Outer Space and its two subcommittees. Current work includes engagement in the Space 2030 Agenda, and involvement in implementation of the Long Term Sustainability of Outer Space Activities Guidelines.

Previously, Alex worked at the Australian Communications and Media Authority for more than a decade, mostly in satellite communications regulation. She has attended International Telecommunication Union World Radiocommunication Conferences; representing Australia in the treaty level negotiations regarding frequencies for communications.

Previously an on the road television news and current affairs reporter for SBS Television, she is also a graduate of UNSW law school, and a qualified legal practitioner. She is Faculty with the International Space University (ISU), having worked with the Space Studies Program, Southern Hemisphere Space Studies Program; and has previously been based at ISU in Strasbourg, France.

MR ALAN SMART

SENIOR ASSOCIATE
| ACIL ALLEN CONSULTATION

Alan Smart is a Senior Associate in the Sydney office of ACIL Allen Consulting. Alan consults in economics, policy and strategy. He has over 19 years' experience in consulting on the economics of geospatial and space systems which includes earth observation from space, global Navigational Satellite Systems and applications of geospatial and related technologies in surveying and mapping, agriculture, mining, energy, water, emergency services, environmental management.

He has undertaken projects on the structure and size of the space industry for the Commonwealth Government and the governments of Western Australia and Victoria. He has also undertaken economic valuation studies of Earth Observations from Space and augmented GNSS.

Alan is qualified in Engineering and Economics. He is Chair of the Tasmanian Spatial Information Council. His past appointments include Member of the Board of the Tasmanian Economic Regulator and Chair of the Spatial Information Business Association.

DR JAMES WALDIE

CHIEF ENGINEER | HUMAN AEROSPACE

James Waldie has studied Aerospace Engineering and Bioastronautics at RMIT, UCSD, MIT, ESA and NASA with research focusing on new spacesuit designs. He was a Postdoctoral Fellow at MIT, where he worked principally on his Skinsuit design as a physical deconditioning countermeasure for astronauts, and served as a Principal Investigator with the European Space Agency (ESA) to fly his Skinsuit to the ISS for a 2 week mission in October 2015, and for 6 months in 2017. He was also a consultant at NASA for investigations into reducing the mobility resistance and injury mechanisms of gas-pressurised gloves. He is an Adjunct Associate Professor at RMIT, and in 2016 was voted as one of Australia's most Innovative Engineers by Engineers Australia. James worked for BAE Systems for over 15 years, most recently as an Engineering Manager for R&D on the F-35 programme, earning the Defence Industry Innovation Award at the Avalon Airshow in 2017. Dr Waldie co-founded Human Aerospace to provide specialised space life science and engineering services to benefit those who live on Earth through the stimulus of supporting those who travel away from it.

MR JIM WHALLEY

CHAIR, EXECUTIVE DIRECTOR, CO-FOUNDER | NOVA GROUP
CHIEF ENTREPRENEUR FOR SOUTH AUSTRALIA

Jim Whalley is the Chair, Executive Director and co-founder of the Nova Group and a former RAAF fighter pilot and test pilot. He is a graduate of the Royal Air Force, Empire Test Pilots' School, holds an MBA from the University of Adelaide and a Science Degree (Physics) from UNSW.

Since starting in 2000, Nova has grown to over 600 people throughout Australia, New Zealand, Singapore, Norway and the UK and is one of Australia's largest privately owned Defence Professional Service Providers. Its customer base has also expanded outside defence to include space, satellite communications, utilities, mining and rail.

Jim is a member of the Sir Ross and Keith Smith Advisory Committee, the council of the University of South Australia, the board of the Adelaide Festival, and a non-executive director of Australian Naval Infrastructure.

In September 2018 he was appointed Chief Entrepreneur for South Australia to provide advice to Government on entrepreneurship as Chair of the Entrepreneurship Advisory Board.

EXHIBITOR PROFILES

ADVANCED TECHNOLOGY PROGRAM

DLB.SA.EDU.AU/ATMOODLE

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Australian Government
Department of Defence

Government of South Australia

ATP ADVANCED TECHNOLOGY PROGRAM

The Advanced Technology Program (ATP) is part of the Defence Industry skilling and STEM Strategy School Pathways Program. Our aim is to help reduce skills shortages in defence industry by increasing the pool of STEM educated students and informing Australia's youth about employment opportunities and pathways into defence industry and increase student awareness of defence industry as an employer of choice. We provide secondary students with positive career experiences in defence (and allied) industries to support their awareness of and access to pathways into the defence industry sector. ATP also provides student activities and teacher professional development opportunities to enhance STEM capability, education and enterprise skills as well as enhancing student engagement, participation and enrolment in STEM subjects. We aim to increase focus on indigenous and female participation within all our activities, opportunities and events and are thrilled at the current and future opportunities for Space Industry careers in South Australia for our students.

ANU INSTITUTE FOR SPACE – INSPACE

INSPACE.ANU.EDU.AU

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InSpace
ANU INSTITUTE FOR SPACE

InSpace provides leadership for the Australian National University (ANU)'s space activities and is the 'go-to' centre in Australia for national space solutions. It is a 'front-door' for external players such as industry and Government to the University's space related capabilities and initiatives.

InSpace brings together experts from various disciplines to establish the flagship programs for the future.

InSpace will enable growth in space research and innovation by financially seeding and developing high impact, high return programs through an environment that is collaborative, creative and entrepreneurial.

InSpace will contribute significantly to the growth of the Australian space industry, and enhance its impact globally.
The Institute will enable national and international collaboration by forming and growing relationships with industry and other research organisations.

InSpace HQ is at the iconic AITC Building at Mt Stromlo, Canberra. The AITC has world-class space science and instrumentation R&D capabilities, including the national Space Test Facility.

THE AUSTRALIAN SPACE AGENCY

INDUSTRY.GOV.AU/STRATEGIES-FOR-THE-FUTURE/AUSTRALIAN-SPACE-AGENCY

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The Australian Space Agency is responsible for whole-of-government coordination of civil space matters. The Agency will transform and grow a globally respected space industry, and to reach and inspire all Australians through seven National Civil Space Priorities - Position, navigation and timing; Earth observation; Communication technologies services, Leapfrog R&D, Space situational awareness, Robotics and automation, and Access to space.

Through the Agency, Australia aims to significantly grow its market segment from 10,000 jobs and a market size of $3.9 billion to up to another 20,000 jobs and $12 billion by 2030.

AUSTRALIAN SPACE RESEARCH CONFERENCE

NSSA.COM.AU/19ASRC

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The 19th Australian Space Research Conference (ASRC) will be held at the Adelaide Convention Centre, South Australia over September 30 to October 2, 2019.

This will be the Thirteenth ASRC jointly sponsored and organised by the National Committee for Space and Radio Science (NCSRS) and the National Space Society of Australia (NSSA), with the support of the Mars Society of Australia (MSA). The 2019 conference will be held in conjunction with the South Australia Space Forum, convened by the South Australian Space Industry Centre.

The ASRC is intended to be the primary annual meeting for Australian researchers relating to space science and technology. It welcomes space scientists, engineers, educators, and workers in industry, government and NGOs. The scope of the conference covers both fundamental and applied research related to space science, engineering and technologies.

There will be a number of special sessions not on specific research areas including, (1) the national context, as seen by key Government entities, the Academy of Science, and others, including connections to national strategic roadmaps for research infrastructure, (2) development of the 2020 – 2030 Strategic Plan for Australian Space Science, (3) Workshop on science communication with the media.

AVALON 2021

AIRSHOW.COM.AU

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The Australian International Airshow and Aerospace & Defence Exposition is one of Asia-Pacific's most prestigious aviation and aerospace events and the most comprehensive aviation, aerospace and defence exposition in the southern hemisphere.

AVALON 2021 will be held at Avalon Airport in Geelong in March 2021. This event will celebrate 100 years of the Royal Australian Air Force.

AUSTRALIAN YOUTH AEROSPACE ASSOCIATION

AYAA.COM.AU

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The Australian Youth Aerospace Association (AYAA) is a not-for-profit organisation managed by student volunteers and young professionals, who have the objective of promoting education, awareness and involvement in the aerospace industry to young Australians.

AYAA hosts three major annual events, the Australian Youth Aerospace Forum (AYAF) for high school students, the Aerospace Futures conference (AF) for undergraduate and postgraduate university students, and the Australian Universities Rocketry Competition (AURC). AYAA also runs the rocket program in both VIC and QLD, which gives students all over Australia the opportunity to become Rocket Engineers for a day. It is designed to showcase both the theoretical and practical applications of modern rocketry.

BENTLEYS SA

BENTLEYS.COM.AU

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Bentleys
THINKING AHEAD
Advisors
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Bentleys SA is a professional service advisory and accounting firm. We work with aspirational businesses and entrepreneurial people to help them achieve their objectives and get where they want to be.

Bentleys SA has a proud 40-year history in South Australia, of providing professional and dependable support across audit and assurance, business advisory, tax advisory, corporate recovery, wealth management, superannuation and R&D tax.

As trusted advisors, we provide the future thinking, strategic direction and practical support to strengthen businesses and to build personal wealth. Bentleys has a proven track record of results-driven advice, acting as essential advisors to growth businesses, individuals and governments, providing them with 'future thinking' and strategic direction in an increasingly globalised, digital world.

Bentleys SA is passionate about helping our clients achieve their objectives and making a positive impact on their financial affairs. Bentleys is one of the most respected advisory firms among Australia's Top 20, providing businesses, individuals and governments with advice and support, to enable them to get where they want to be.

BLUSTREAM PTY LTD

BLUSTREAM.CO.UK

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BLUSTREAM

Founded in Melbourne, Australia, Blustream is the creation of a highly progressive team of technology product managers and forward-thinking industry leaders. Utilising a wealth of experience within the signal management and display sector, we have set about delivering a comprehensive serviceability of the distribution of video transport over a network infrastructure. Our products offer more for the technology design workflow and ultimately achieving an enhanced user experience.

Working with a product development team that spans three continents, we have the unique ability to input vital market feedback that contributes to our product evolution on a global perspective. This has enabled Blustream to develop a range of products that enable an easily managed video wall, control room or conceptual display environment.

Blustream has a global customer support framework that is committed to project design, service and product development via our local product management and accredited training team. Coupled with comprehensive testing, training and support facilities this ensures our solutions can be installed in any technology environment with proven confidence.

CSIRO

CSIRO.AU

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A national organisation with a global outlook, we have a long and accomplished history in the space sector. Let's work together to help you achieve your goals.

CSIRO

We are recognised globally as an expert in Earth observation from space, particularly in data modelling, analytics and applications. Our goal is to provide technical support to the Australian space sector and help streamline research and the operation of projects through advances in remote sensing technologies.

Our investment in high-performance computing infrastructure and expertise in handling big data allows us to develop insights and solutions to tackle Australia's biggest challenges and opportunities.

We work with NASA and other international space agencies at the forefront of exploring our Solar System and space object tracking. We're also a world leader in radio astronomy, advanced manufacturing technologies, and managing complex facilities.

Whatever your challenge, we're here to help secure your innovation footprint in the space economy.

DEWC SYSTEMS

DEWC.COM.AU

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DEWC
ELECTRONIC WARFARE IS OUR PASSION

DEWC Systems is a wholly South Australian owned and operated technology company focused on developing innovative, state of the art systems and subsystems for Defence and Space applications. DEWC Systems partners with academia and Defence Science Technology to conduct research and development of technologies related to electronic warfare, space situational awareness, micro satellite subsystems, space antennas, miniaturised sensors and communication protocols.

DEWC Systems is part of the DEWC family of companies dedicated to providing Australia with the technological superiority to ensure dominance of the electromagnetic battlespace. DEWC engineers, technicians and researches are all highly experienced professionals with backgrounds in all areas of Defence and across the engineering disciplines. DEWC Systems operates out of the DEWC HQ at Innovation House in Mawson Lakes and at our production and lab facility in Salisbury South.

FRAZER-NASH CONSULTANCY LTD

FNCAUSTRALIA.COM.AU

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Frazer-Nash Consultancy is a leading systems and engineering technology company. We're renowned for our work in the space, defence, transport, energy, resources, government and industry sectors.

The breadth of expertise and the insight we apply deliver successful outcomes in collaboration with our clients. Our Systems Approach helps us respond to your challenges. We work with you to understand the whole range of technical, financial, operational, organisational, people and other issues surrounding your technical needs.

Our depth of knowledge means we can transfer our skills, experience and best practice from one area to benefit our clients in other fields. Our expertise comes from detailed knowledge of a broad range of disciplines and their application across different markets.

INTERNATIONAL AEROSPACE LAW & POLICY GROUP

(IALPG - AUSTRALIA'S AIR & SPACE LAWYERS)

IALPG.COM

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IALPG was founded in 2015 by Joseph Wheeler, who is an alumnus of the McGill University Institute of Air and Space Law in Montreal. Joseph is an expert in and practices in the field of law predominantly for pilots, remote pilots, industry, and air passengers. Duncan Blake is Special Counsel to IALPG, and a McGill alumnus. He spent 22 years serving in the Royal Australian Air Force as a legal officer in postings at tactical, operational and strategic level in Australia and deployed abroad, before transferring to the Reserves and joining IALPG. He is a leading global expert on the law of outer space in a military and strategic context. His experience spans legal support to military operations in all domains (land, sea, cyber, electronic and air and space). Duncan is also the Project Manager for the ANGELS Project **www.spacelaws.com**. IALPG is Brisbane based but advises both in Australia and internationally.

INOVOR TECHNOLOGIES

INOVOR.COM

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Inovor Technologies is a world-leading supplier of next generation nanosatellite technology. Our unique low-cost, disaggregated technology has the flexibility to host an extensive range of technical applications including communications, remote sensing, imaging and scientific payloads.

We are positioned at the centre of Australia's growing space hub, and uniquely, all hardware is manufactured in Australia.

In addition to providing turnkey solutions for commercial, government and research clients wanting missions flown in space, Inovor is also developing a nanosatellite based Space Situational Awareness (SSA) mission called Hyperion, to enhance Australia's SSA capability. Further missions in Earth Imaging and Remote Sensing are also under development.

Inovor has developed significant intellectual property related to satellite platform and SSA mission technology. We have a robust Engineering Management System to support the delivery of reliable, world class satellites - and we do it all in Australia.

JOHN MORRIS GROUP

JOHNMORRISGROUP.COM

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John Morris Group is the largest and only third generation privately owned scientific and testing instrumentation supplier in Australia. Established in 1956, we specialise in the supply, installation and servicing of precision instruments covering diverse industry sectors through the South West Pacific Region.

Our core customers are engaged in Science and Engineering, and we offer a variety of technical solutions for the Space Industry. Our Test & Measurement Division covers solutions to test materials, structures and assets, also sensors for force, load, shock, strain, pressure, torque, acceleration and vibration. Supplied from global brands including: MTS Systems, PCB Piezotronics, The Modal Shop, Crystal Instruments and more…

Our Vacuum Division covers solutions including vacuum pumps, vacuum systems and chambers, (climate chambers), components, vacuum measurement, flow control, gas analysis, leak detection, thin film systems, gloveboxes, plasma technology. Supplied from global leading brands including: Leybold, Vacuubrand, MKS Instruments, Ebara, Vigor and more…

LOT FOURTEEN

LOTFOURTEEN.COM.AU

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Lot Fourteen in the Adelaide CBD is a global innovation neighbourhood that will be home to the Australian Space Agency, Mission Control Centre and the Questacon partnered Space Discovery Centre, who will join industry tenants Myriota and Inovor Technologies.

At the forefront of the advanced technologies that are reshaping the world economy in the areas of defence and space, cyber security, blockchain technology, artificial intelligence and creative technologies, Lot Fourteen is a connected community united by a single philosophy to push boundaries further than ever before and where progressive global brands mix with the best young minds, world leading research and entrepreneurial spirit.

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Nano Vacuum offers turnkey solutions for the Australian & New Zealand space & aerospace industry including: space simulation vacuum systems with heating/cooling control including instrumentation feedthroughs, portable & temporary cleanrooms rated to Class 100/ISO 5 standards for assembly of particle sensitive devices, helium leak detectors, wire & die bonders, 3D non-contact metrology testing tools, thin film deposition tools and etching for fabricating photonics, MEMs, Lab-On-Chip devices, Gloveboxes for laser welding and assembly of oxygen and moisture sensitive components, rapid thermal annealers for high-temperature stress relief and maskless lithography systems.

With over 20 years of experience we have the know how to assist in your next project. Please feel free to contact Nano Vacuum at **info@nanovactech.com** or visit our website: **www.nanovactech.com**

NEUMANN SPACE

NEUMANNSPACE.COM

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Neumann Space is a South Australian company developing an efficient and scalable in-space electric propulsion system for satellites. The Neumann Space thruster marks a revolution in the field of satellite propulsion.

Our lightweight products use our patented Centre-Triggered Pulsed Cathodic Arc Thruster (CT-PCAT) technology to convert solid conductive propellants into plasma and produce thrust.

Our product range creates value for our customers in all space operations and travel. For example, our thruster can fulfill all requirements for Low Earth Orbit (LEO) mission profiles such as extending mission lifetimes, station keeping, orbit raising, constellation phasing, inclination changes, de-orbiting and more.

Neumann Space is the only Australian company able to provide a sovereign in-space electric propulsion system capability.

With Neumann Space, Australia will be poised to take advantage of the rapidly growing global CubeSat market.

NOVA SYSTEMS

NOVASYSTEMS.COM

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Nova Systems is an Australian owned and operated Global Professional Service Provider, specialising in the provision of technology enabling solutions and world class expertise to deliver complex capabilities and systems and solve technologically challenging problems.

Nova Systems has a strategic interest in solving problems of national interest through enabling satellite communications, next generation ground stations, space situational technologies and space launch.

Committed to enhancing the capability and competitiveness of the Australian space sector, Nova Systems signed a Statement of Strategic Intent with the Australian Space Agency in 2018.

In-depth specialist space segment knowledge and experience in the acquisition, introduction into service, and certification of large, space-based capabilities, uniquely equips Nova Systems to provide training, certification, systems safety and engineering support to the nation's space sector in the strategic areas of communications, operations and ground segment, and space situational awareness.

We solve the problems that really matter.

NPC SPACEMIND

NPCSPACEMIND.COM

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NPC SPACEMIND is a versatile italian space company with the vision of becoming a one-stop shop for innovative products and space projects. Guided by Aerospace Engineers and a variety of professionals, the company belongs to a larger consolidated company group, leader in the production and supply of mechatronic complex systems: thanks to this corporate configuration the business model is targeted to offer the customer an end-to-end solution provider for space products, offering on one hand all the advantages of a young, lean and flexible company and on the other hand the capabilities to manage in-house all the processes starting from complete system design, going through mechanical, electrical and software production up to delivery and commissioning. Since 2012 SPACEMIND activities have been focused on the problem of space debris, aiming to embrace the growing space business offering solutions to allow future generations to deal with a safe and sustainable use of space. With a view to tackling the problem from both points of view, terrestrial and spatial, two important technologies have been developed. The first is the project MORAL, a family of modular tracking mount for professional observatories with the scope to raise up the performances and disrupt the state of the art of current SSA/SST activities. On space segment the development of ARTICA, a deorbiting system for Cuebsat currently in orbit for IOD, is aimed to introduce an affordable and competitive mitigation solution for future space missions. Thanks to the production and delivery in orbit of multiple nanosatellites in cooperation with Italian Academic center of excellence, nowadays SPACEMIND is a recognized hardware and mission developer & integrator in nanosatellite markets.

PING SERVICES

PINGMONITOR.CO

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Ping Monitor helps wind turbine managers reduce blade repair costs. We achieve this with an intelligent listening device which uses analysis of sound, uses satellite communication and is self powered. Wind turbine blade damage make sound which we hear and analyse. We are expanding the Ping Monitor to other industries where remote sound analysis assists condition monitoring and surveillance.

SCIENCE ALIVE!

SCIENCEALIVE.ORG.AU

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All kinds of awesome.

The 14th annual Science Alive! event at the Adelaide Showground is on 2nd-4th August 2019 and this year the event incorporates a 'space' theme. This is Australia's largest science expo with 6,000 high school students on Friday's STEM Day Out and 25,000 visitors over the two community days.

The event is about community engagement with science while encouraging young people to more seriously consider science and engineering study and career pathways. In 2019 we want to especially highlight career opportunities in the space industry and seek the help of industry players to do this. Booth fees are very modest compared to other expos and some 60 science-related organizations are expected to take part. A similar event is being held in Geelong from 24-26 May this year and satellite events in Port Augusta, Whyalla and Mount Gambier will be held in the second half of the year.

SCITEK AUSTRALIA PTY LTD

SCITEK.COM.AU

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As a vacuum technology and temperature control specialist business with 30 years' experience we design, fabricate and supply space simulation chambers and related technologies for space research. Our capability includes vacuum systems down to 10-12mbar pressure and a temperature range from near absolute zero (near 0° Kelvin or -273° Celsius) to 400° Celsius.

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SMARTSAT CRC

SMARTSATCRC.COM

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SMARTSATCRC

The SmartSat CRC is a consortium of industry and research organisations that will develop game changing technologies to bootstrap Australia's space industry and catapult it into the 1/2 trillion dollar global economy.

The SmartSat CRC will create leapfrogging technologies in advanced telecommunications and smart satellite systems to build Australia's space infrastructure for advanced communications and connectivity, remote sensing and monitoring for its land, seas and oceans. It brings together nearly 100 partners and international collaborators which, together with significant investment by the Australian Federal Government, have committed $245 million, represents the biggest space industry R&D collaboration in Australia's history.

DEPARTMENT FOR EDUCATION

EDUCATION.SA.GOV.AU/TEACHING/CURRICULUM-AND-TEACHING/STEM-LEARNING-STRATEGY

Contact: Brenton Willson
E Brenton.willson@sa.gov.au
T 0403 447 207

STEM STUDENT AMBASSADORS

The SA Department for Education Student STEM Ambassador program aims to show the possibilities open to 'junior secondary' students if they continue to study STEM subjects throughout secondary school, and to demonstrate that 'doing science' doesn't necessarily have to mean working in a laboratory or as a researcher at a university.

The department's STEM Learning Strategy has intentionally positioned students as powerful agents of change by launching projects to activate, cultivate and amplify students' capacity to partner with teachers, leaders and community to accelerate teaching and learning improvement in STEM.

THE UNIVERSITY OF ADELAIDE

ADELAIDE.EDU.AU

Contact: Professor Michael R. Webb, Director, Defence, Cyber & Space
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T +61 8 8313 0128

THE UNIVERSITY of ADELAIDE

The University of Adelaide is a destination of choice for world-leading researchers, high-achieving students, and government and industry partners.

Since 1874, we've had at our core a deep commitment to research. In all fields of endeavour, we're working to expand the boundaries of knowledge to benefit people and planet.

With over 50 years' space R&D, we have a proud history of collaborating with Australia's space sector.

Our expertise in this area spans a wide range of disciplines including science, mathematics, computer science, health sciences, law and policy, and engineering. From the design of nanosatellites, communication networks and advanced systems, through to the challenges of global security and aerospace medicine, our impact in Space is immense.

UNSEENLABS

UNSEENLABS.SPACE

Contact: Olivier Michel
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T +33 7 8650 3265

unseenlabs — THE BRIGHT SIGHT

UNSEENLABS is a French company from Brittany whose core business is the development, production and operation of innovative Earth observation instruments, specialised in the detection of electromagnetic emissions. The service proposed by UNSEENLABS is a maritime surveillance service, allowing the location and characterization of ships at sea from space, based on the electromagnetic intelligence instruments developed by UNSEENLABS, and deployed on a constellation of Cubesatellites. UNSEENLABS stands out from the other players in the field of maritime surveillance with an innovative and unique service capable of observing maritime traffic, even without any cooperative beacon.

VENTURE CATALYST SPACE (UNIVERSITY OF SOUTH AUSTRALIA)

ICC.UNISA.EDU.AU

Contact: Georgia Minarelli
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T 08 8302 7620

VENTURE CATALYST SPACE

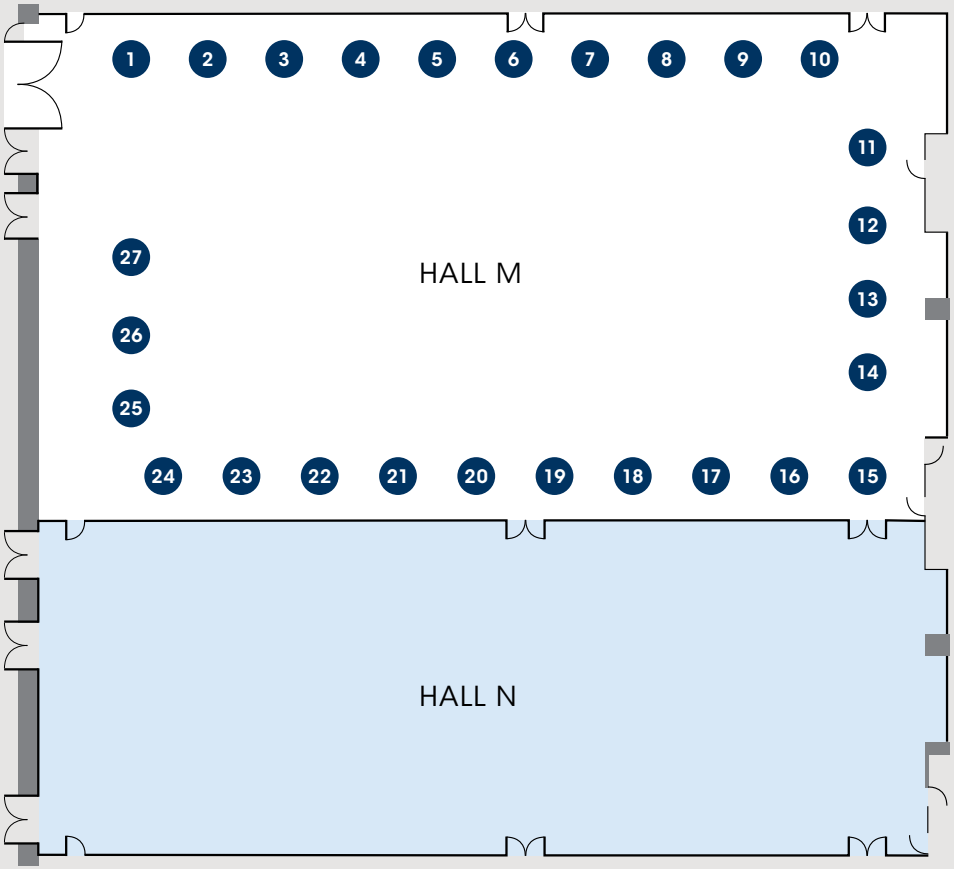
University of South Australia

Venture Catalyst Space is the State's first space incubator program to develop and grow innovative or disruptive ideas from entrepreneurs and startups in the space sector. Delivered by the University of South Australia's Innovation & Collaboration Centre and supported by the State's Space Innovation Fund and the International Space University, the program gives founders the support and tools they need to plan and successfully execute the building of a scalable and investment ready business.

The one-of-a-kind program delivers tailored support and guidance working with a global pool of expert advisers, a series of capability workshops designed for founders, one-on-one mentoring, workspace, a stipend and the chance to pitch for a sponsored overseas tour to network with relevant space industry primes, investors and other space startups.

FLOOR PLAN

ADELAIDE CONVENTION CENTRE
HALL M & N, GROUND FLOOR, WEST BUILDING



EXHIBITOR STANDS

1. AUSTRALIAN SPACE AGENCY
2. VENTURE CATALYST SPACE (UNIVERSITY OF SOUTH AUSTRALIA)
3. SMARTSAT CRC
4. NPC SPACEMIND
5. AVALON 2021
6. NEUMANN SPACE
7. SCIENCE ALIVE!
8. JOHN MORRIS GROUP
9. INOVOR TECHNOLOGIES
10. UNIVERSITY OF ADELAIDE
11. CSIRO
12. LOT FOURTEEN
13. UNSEENLABS
14. NOVA SYSTEMS
15. NANO VACUUM AUSTRALIA & NZ
16. BENTLEYS SA
17. PING SERVICES
18. SCITEK AUSTRALIA PTY LTD
19. BLUSTREAM
20. INTERNATIONAL AEROSPACE LAW & POLICY GROUP
21. DEWC SYSTEMS
22. FRAZER-NASH CONSULTANCY LTD
23. ANU INSTITUTE FOR SPACE – INSPACE
24. AUSTRALIAN SPACE RESEARCH CONFERENCE 2019
25. AUSTRALIAN YOUTH AEROSPACE ASSOCIATION
26. ADVANCED TECHNOLOGY PROGRAM, DEPARTMENT FOR EDUCATION
27. STEM AMBASSADOR PROJECT, DEPARTMENT FOR EDUCATION

NOTES

If you would like to contact the South Australian Space Industry Centre for information about this Forum or for any other enquiries please contact us via:

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