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EARTH OBSERVATION SERVICES INDUSTRY MISSION TO AUSTRALIA

INDUSTRY MISSION SUMMARY

MARCH 5–9, 2018

PARTNERS:



Earth Observation
Australia





1 Introduction

Europe and Australia have a wealth of different but complementary expertise across the Earth Observation (EO) value chain. This balance opens up significant opportunities for partnerships between European and Australian companies, targeted to solve specific challenges faced by major industries in each continent and globally. In addition, there is a range of timely funding and technical opportunities, such as the Horizon 2020 initiative, that make 2018 the perfect year to start these partnerships.

Horizon2020 is the biggest European Union Research and Innovation program ever, €80 Billion over 7 years. €5 million (equivalent to AUD 7.85 million) of H2020 funding has been quarantined for European company proposals that partner directly with Australian and/or US entities for Copernicus EO downstream applications. This eligibility criteria stems from the partnership nations such as Australia (and US) who have successfully negotiated with the European Union (EU) on accessing and exploiting EO data from the Copernicus Programme in their regions. Geoscience Australia successfully negotiated such an agreement with the EU in 2016, making Australia eligible for this exciting opportunity.

Supporting this opportunity, Australian companies in Brisbane, Canberra and Sydney hosted a delegation of European remote sensing companies in early March 2018. These organisations participated in a mission to Australia to connect with businesses, with the intention of forming partnerships focused around EO Services and with the potential to bid together for Horizon 2020 funding. This Earth Observation Services Industry Mission to Australia coincided with a visit by EU Commissioner Elzbieta Bienkowska, and her focus while in Australia on the space industry and digital economy.

1.1 Trade mission sponsors and acknowledgements

This mission was made possible through the sponsorship of Geoscience Australia, and the significant in-kind contributions of the European Association of Remote Sensing Companies, the CRC for Spatial Information, PDN Ventures, Earth Observation Australia, CSIRO, Data61, SIBA|GITA, QUT and the European Union External Action Service.

2 Trade mission events

The overall purpose of the trade mission events was to build brand new networks for organisations in Australia and Europe, create cross industry and geography partnerships, and generate new ideas.

The mission events were structured across three cities in Australia, Brisbane, Canberra and Sydney, with each city focusing on a different theme. These themes directly aligned with the new Horizon 2020 initiative DT-SPACE-06-EO-2019 - International Cooperation Copernicus – Designing EO downstream applications with international partners.

- Market Overview - Brisbane provided attendees with a background and introduction in to the Australian and European earth observation industries from a variety of perspectives, highlighting capabilities from all countries represented in the room.
- Collaboration - Canberra focused on the challenges and opportunities of international collaboration to grow the space economy, and to discuss the market across the Australian and ASEAN region.
- Application Industries - Sydney involved a panel session covering the banking, insurance, mining, natural resource management and state government sectors, particularly highlighting value generating opportunities within each sector. The outcome from this session was to ensure that companies are answering the right questions and creating useful outputs.



The section below provides a brief summary of presentations across the trade mission. Detailed descriptions of discussion points and key messages can be found in Appendix 1.

All presentations from the week can be found through the following link:

<https://www.dropbox.com/sh/pvwjexh2jnxyslr/AACw2i7Vdc0xteuTgkvjr-UPa?dl=0>

2.1 Brisbane event - Day 1 – 5th March 2018

- EU Delegates Round Table with Queensland Chief Scientist
- Setting the Scene Keynote presentations
 - Prof. Bronwyn Harch, Queensland University of Technology
 - Prof. Stuart Phinn, University of Qld, Earth Observation Australia (EOS)
 - Geoff Sawyer, European Association of Remote Sensing Companies (EARSC)
 - Steve Jacoby - Exec Director Land and Spatial Information, Queensland Dept. Natural Resources, Mines and Energy
 - Dr. Christine Williams, Queensland Chief Scientist
 - Deanna Hutchison - SIBA | GITA

➤ Short 5 minute company introductions

European Companies

- Airbus - Fabrice Triffaut
- e-geos - Frederica Mastracci
- EARSC - Geoff Sawyer
- earth-i - Peter Hausknecht
- Geospatial Enabling Technologies - Gabriel Mavrellis
- GMV - Antonia Tabasco Cabezas
- Planet - Shankar Sivaprakasam

Australian Companies

- Farm Map 4D - Phil Tickly
- OVASS - Dave Newman
- Dialog - Glenn Irvine
- Data Farming - Time Neale
- Pangaea.space - Nick Knowles
- QUT - Gavin Winter

➤ Horizon 2020 Session

➤ Networking Session

2.2 Canberra event - Day 2 – 6th March 2018

➤ Tour of Geoscience Australia

Geoscience Australia hosted the EU delegates at their premises in Canberra. A tour of Geosciences facilities and collections proved to be of significant interest. This was followed by two presentations:

- Dr Adam Lewis, Dr Trevor Dhu - Geosciences Australia - Digital Earth Australia
- Gerry Stanley PSMA - Geoscape Workshop

2.3 Canberra event - Day 3 – 8th March 2018



- 'Collaborating to grow the 'space economy' panel and workshop, with introductory remarks from EU Commissioner Elżbieta Bienkowska
 - Signing of MoU between EARSC and CRCSI
 - Panel members
 - Hon Kate Lundy
 - Andreas Veispak, Head of Space Data for Societal Challenges and Growth, European Commission
 - Geoff Sawyer - Secretary General, EARSC
 - Graeme Kernich - CEO, CRC for Spatial Information
 - Dr Adam Lewis - Chief Scientist Geoscience Australia
 - Dr David Williams - Group Executive, CSIRO
 - Open Questions Issues & Challenges - Commentary
 - Collaboration
 - Public Vs Industry delineation in EU
 - Question around commercial data service ~ 30 in EU
 - Business model - to start in government and move to public/private to create industry
 - Demonstrable demand from the public to release all the data as open data
 - Expecting an increasing shift to online services delivery
 - Moving from government value add to open data to increasing raw data release to public
 - Big opportunity in bringing EO data integrated with new datasets
 - Research is truly enabled by extensive access to open data
 - Opportunities Across Association of Southeast Asian Nations Region
 - Horizon 2020 Presentation and Questions
 - Business to Business Matchmaking
- Brief introduction presentations from each of the EU delegates
- Airbus
 - e-Geos
 - earth-i
 - GET
 - GMV
 - Planet

2.4 Sydney event - Day 4 - 9th March 2018

- Key Application Market Overview – 'Asking the right questions'
 - Banking & Finance - Phil Delaney
 - Insurance – IAG - Elise Mckenna
 - Agriculture – MLA Nick Sangster
 - Natural Resource Management – North Coast Land Service - Louise Orr - GM
 - Mining – MWIRA - Anil Subramanya
 - NSW Government - Office of Environment & Heritage - Jeremy Black



- Open Questions Issues & Challenges - Commentary
- Horizon 2020 Presentation and Questions
- Business to Business Matchmaking

2.5 Horizon 2020 Opportunity Summary

The European Union Horizon 2020 program is an €80 Billion fund for research and innovation from 2014 - 2020. H2020 now encourages industry and SMEs to participate, where previous investment programs were research focused. The program is very collaboration focused, and generally requires a minimum of 3 partners from 3 different EU countries to submit proposals. Australia is welcome to participate in all calls but generally organisations need to bring their own funding.

A specific Horizon 2020 Call announced last year, opening in October 2018, is for €5 million for Copernicus downstream applications. This call requires EU partners to partner with Copernicus international partners, which currently covers only Australia and the USA, and can fund Australian partners directly.

It is recommended to start collaboration discussions early, putting together a compelling bid requires time, effort, trust and significant effort. For the October 2018 call, organisations should start their partnership conversations now.

EU partners have strong experience leading and putting in successful H2020 proposals, and make logical bid leaders to maximise the potential to submit a winning bid in the competitive bid process.

Organisations such as EARSC, CRC-SI and SIBA | GITA can assist in introductions, coordination and management support for collaboration bids.

Australia have a National Contact Point (NCP) based in Brussels who can help with specific clarification if needed around calls and their requirements. Extensive video resources on Horizon 2020 are available online through video services like Youtube.

2.6 Follow up activities

This document and the associated slide packs comprise the end of the official follow up activities for this mission. However, there will be ad hoc activities across the coming months, including:

- Contact Phil Delaney or Paul Nugent to coordinate, link and discuss Horizon2020 partnership opportunities
- Potential trade missions to Thailand and Europe across 2018
- Attend Horizon2020 information sessions online and in person

3 Trade mission participants

3.1 EU delegates

Company Details	Brief Description about the Company
GMV	<p>GMV is privately owned technological business group with an international presence all over the world. Founded in Spain in 1984, GMV offers its solutions, services and products in very diverse sectors: Space, Aeronautics, Banking and Finances, Defense, Health, Cybersecurity, Intelligent Transportation Systems, Automotive, Telecommunications, and Information Technology for Public Administration and large corporations.</p>
Airbus	<p>Airbus has been delivering cutting-edge capabilities for over 50 years, leading the industry in development, design, and operation of major space systems for the leaders of commercial and government institutions. We provide the best in class space platforms for all your needs, as well as guarantee the best value in space, right here on Earth.</p> <p>Our customers not only receive their sophisticated Earth observation satellites faster than anyone else, they also benefit from having access to satellite images from the world's most comprehensive Earth observation constellation. Plus, with our lightweight silicon carbide construction, your satellite isn't just more advanced, it's also more affordable to launch.</p>
Planet	<p>Planet is a San Francisco based late stage start-up, founded in 2010, revolutionizing the space industry with agile aerospace methodology. It is currently operating the largest satellite constellation in human history. Planet designs, manufactures, and operates nano-satellites to image the earth daily and detect changes, together with microsatellites that are tasked for higher resolution. Planet is a leader in the geointelligence domain, where it is enabling and delivering analytics for the insights economy through machine learning/deep learning and indexation of the earth.</p>
Geospatial Enabling Technologies (GET)	<p>GEOSPATIAL ENABLING TECHNOLOGIES (GET) was founded in 2006 with headquarters in Athens and in Thessaloniki, active in Greece and abroad. Our team consists of professionals (Geo-informatics engineers and IT/Geo-ICT Experts) with high level of technical knowledge and experience in Geo-ICT, Open Data, Geo-BI and the Environment and Earth Observation.</p> <p>GET provides advanced services in:</p> <ul style="list-style-type: none">• Design and development of added value GIS/geospatial/Earth Observation solutions (software, applications, platforms, tools, systems)• Consulting in private and public sector nationally and globally for the best use of geospatial data as well as earth observation data and the production of solutions covering their technical and operational requirement• Technical support, maintenance, migration and training in order to achieve the sustainability for all geospatial solutions provided.



e-geos	<p>e-GEOS is a leading international player in the Earth Observation and Geo-Spatial Information business.</p> <p>e-GEOS offers a unique portfolio of application services, also thanks to the superior monitoring capabilities of COSMO-SkyMed constellation, and has acquired leading position within European Copernicus Program.</p>
earth-i	<p>When you're the first to clearly observe change in your world and to interpret what that change means for your organisation, you're better equipped to make critical decisions. EARTH-i believes that in the future the ability to plan, to react and to predict will require an assured and timely flow of geospatial data on a global basis. That is why we are building the world's first Earth Observation satellite constellation to offer full-colour video as well as still imagery.</p> <p>With rapid tasking, high spatial and temporal resolution, and multiple revisits every day to any location on Earth, the Vivid-i Constellation will transform geospatial intelligence and insights. With our service demonstrator satellite, VividX2, already in space, the first batch of constellation satellites will launch from 2019.</p>
EARSC	<p>EARSC, the European Association of Remote Sensing Companies is a membership-based non-profit organisation which coordinates and promotes activities of European companies engaged in delivering Earth Observation geo-information services. EARSC's key goal is to promote the industry and to help to develop the market for EO services. EARSC is representing EO providers of geo-information services in its broadest sense creating a network between industry, decision makers and users and covering the full EO value chain from data acquisition through processing, fusion, analysis to final geo-information products and services. EARSC currently has around 100 members and the network contains all the leading European suppliers of EO data and value-added products as well as many small and micro-enterprises.</p>
Sinergise	<p>Sinergise is a GIS company building large turn-key information systems primarily in the fields of agriculture and real-estate administration. We focus on advanced applications for distributed GIS editing.</p> <p>Sinergise's products can be divided into:</p> <ul style="list-style-type: none">• agriculture related systems covering Integrated Administration and Control System (IACS) legislation featuring a land parcel identification system, on-the-spot controls, controls with remote sensing, etc.• real-estate management including cadastre, land administration, computer aided mass appraisal (CAMA)• other general purpose GIS applications emerging from the needs of our customers and packed as off-the-shelf products <p>Earth observation data provided by the Sentinel satellites are revolutionizing the market of space applications. Sentinel-2A is producing thousands of high resolution scenes every day for almost a year now. These data are now openly accessible and Sinergise's Sentinel Hub service can provide you with high resolution imagery almost instantly after they are made available.</p>



3.2 Australian delegates

There were 64 organisations from Australia in attendance across one or more of the cities, including:

- Acil Allen
- ACT Government
- Aerometrix
- Arlula
- ASG Group
- AUSPACELAUNCH
- Australian Cyber Institute
- Australian Defence Forces Australia
- Australian National University
- Autodesk
- Central Queensland University
- Cerestag
- Chinese Academy of Sciences
- CLSOCEANIA
- Cohga
- CRCSI/FrontierSI
- CSIRO
- Data Farming
- Dept Communication and Arts
- Dept Defence
- Dept Justice
- Dept Natural Resources and Mines
- Dialog GE
- Digitalglobe
- Earth Observation Australia
- Farmmap4d
- Fleet
- Flurosat
- GEOPLEX
- Geoscience Australia
- Geospatial Intelligence
- GHD
- Gilmour space corp
- IAG Insurance
- Innovate Canberra
- Innovation Venture
- Int Spec
- Jacobs
- Land Equity
- Maitec
- Meat and Livestock Australia
- Minerals Research Institute of WA
- National Australia Bank
- NGIS
- Orbit Aus
- Ovass
- Pangaea
- PDN Ventures
- PSMA
- Queensland University of Technology
- Regional Development Australia
- Septentrio
- SIBA|GITA
- Smart Urban Villages
- Space Industry Association
- SSSI
- Tech Rage
- University of Newcastle
- University of NSW
- University of Queensland
- University of Technology Sydney
- University of Twente
- Virtual GIS

4 Recommendations and key learnings

The following key recommendations and key learnings and actions have been collated from feedback, information sessions, questions and insights gained during and after the trade mission week.

- Horizon2020 partnership discussions need to start immediately, partnerships need to be formed by the October 2018 opening of the call for projects to have the best success;
- The CRCSI and EARSC MOU need to make sure the MOU leads to concrete action, partnerships and future activities;
- Organisations who want to collaborate, but do not currently have concrete proposal ideas and/or an EU or Australian partnership base can contact Phil Delaney (pdelaney@crcsi.com.au), Paul Nugent (pdnventures@gmail.com), Deanna Hutchinson (dhutchinson@spatialbusiness.org), or Geoff Sawyer (geoff.sawyer@earsc.org);
- Government can play a market education role with respect to promoting the commercial potential of open data, particularly for SMEs;



- International collaboration does not just have to be between businesses, ideally government, research and private organisations from both Australia and Europe should be part of collaboration and export efforts;
- Different space silos (Earth Observation, Positioning, Communications) should work together to share lessons, developments and advocacy to grow the whole space market;
- “Space” and “Spatial” markets in Australia should be more integrated and collaborative to ensure the best technology is created to serve end user markets;
- Australian organisations should participate in more international trade missions to explore export and collaboration opportunities;
- Many government departments want their business processes to be disrupted by new spatial technologies and services so they can better allocate their resources, however to invest private business needs to fully understand the drivers and opportunities for disruption before pitching products and solutions;
- With the MoU now in place there will be increasing opportunity for Australian organisations to learn from and innovate with EARSC and related global industry organisations to grow the EO market visibility and opportunity that should be actively pursued.;
- Future trade mission may benefit from an additional allocation of time for active networking, the market information sharing was very well received and there was a request for more formal matchmaking, particularly from the visiting delegation;
- It was recommended that future formal trade mission events coming from Australian may benefit from linking into and around international EO and Spatial Conference and trade show events where many more potential partners may be encouraged to engage with the trade mission.