

## Media Release

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### Space Challenge winners announced in Adelaide

**Friday, 22 November 2019:** The six week GRAVITY Space Challenge 01 officially wrapped up on Thursday, with the challengers and innovators gathering in Adelaide to celebrate their success.

Winners were crowned across three award categories:

1. **Meteor Award for the most innovative use of space capability** – awarded to New South Wales-based **Spiral Blue** for its cloud-based data engine that forecasts fire risks along network infrastructure.
2. **Galaxy Award for the most innovative use of space data** – awarded to South Australia-based **Frazer-Nash Consultancy** for its cloud-based solution that will help NT Health identify mould and smoke hazards.
3. **Supernova Award for the greatest social impact** – awarded to Victoria-based **Aerospace Systems** for its Information-as-a-Service platform which gives farmers information about growth cycles, yield estimates and crop stress to enable efficient use of resources.

**Head of Innovation at Deloitte, Jason Bender**, said the challenge brought together a range of different sectors, creating an interesting range of problems to be solved.

“We had such a diverse range of challenges from industries including agriculture, transport, financial services, health and energy,” Mr Bender said.

“There were 12 challenges put forward, and 42 teams came together to try and solve them. We saw a wonderful amount of collaboration between the innovators and the challengers, with some teams meeting the challengers several times to understand the problem and tailor their solution.

“It often takes innovators and startups 18-24 months to find a large-scale customer ready and willing to pilot a solution, and then many months more to create the perfect product and market fit. GRAVITY Space Challenge brings to the innovation community sizeable market opportunity for problems with scale from corporate and government organisations willing to engage and trial viable offerings.

“Although the Challenge is only in its first year, we’ve already received international interest from global corporations, innovators and country space programs which is really exciting.”

**Simon Elisha, Head of Solution Architecture, Public Sector in Australia and New Zealand at Amazon Web Services (AWS)**, said initiatives such as the GRAVITY Space Challenge allow the industry to demonstrate how innovation and technology can help solve some of the community’s biggest issues.

“AWS is proud to be part of a program which has brought together an inspiring group of people to showcase the breadth of talent, knowledge, and skills in Australia. The accessibility of satellite data and cloud technology will be a significant driver of our future economy and has the potential to help improve social outcomes such as reducing wastage by helping farmers more efficiently manage their crops. We are seeing early signs of how space data can help organisations of all sizes, including startups, government agencies, and universities to develop innovative solutions by allowing them to ingest, process, and analyse large volumes of space data quickly and securely,” Mr Elisha said.

## More information on the winners and their solutions:

### **Meteor Award:** Most innovative use of space capability

#### **Winner: *Spiral Blue***

Challenge: SA Power Networks - An eye from the sky and powerlines

- Challenge description: Leverage dataset to accurately record, analyse and monitor electricity network assets in both static and real-time scenarios, improving network safety, reliability and customer experience.

Solution:

- Line of Insight provides daily forecasts on fire risks along network infrastructure by integrating near real-time high resolution data from:
  - Satellite-enabled Internet of Things (IoT) devices providing local meteorological and visible data on the ground;
  - Geospatial data from Synthetic Aperture Radar and Multispectral satellites;
  - Bureau of Meteorology data.
- These data sources will be processed by the cloud-based data fusion engine. This engine will use machine learning methods to augment existing fire suppression models and bushfire mitigation cost benefit analyses. This will help SA Power Networks determine when and where vegetation needs to be inspected and when and where fire protection measures need to be activated.

Judges' comments:

- "Spiral Blue stood out to the most technical judges as it ticked a lot of boxes. It was a strong proposal with a nice end-to-end solution – the correlations across the datasets was great."

### **Galaxy Award:** Most innovative use of space data

#### **Winner: *Frazer-Nash Consultancy***

Challenge: Northern Territory Health, NT Government – How can satellites improve the health of Territorians in the dry and wet seasons?

- Challenge description: Leverage dataset to develop and monitor environmental indicators for smoke and mould across the Northern Territory, accessibility of information for individuals in remote areas with limited internet and/or phone coverage.

Solution:

- This proposal provides a cloud-based solution to help NT Health identify areas where significant parts of the population could be adversely affected either by mould or by bushfire smoke inhalation.
- This information would then allow NT Health to take steps to mitigate the impact of the adverse conditions and direct resources and provide support to those areas likely to be affected.
- Such support should assist the reduction of costly hospital admissions around periods of significant mould growth or bushfire smoke.
- Ideally, the cloud-based solution would be supported by a network of satellite-connected ground stations in remote communities that would be able to provide the latest information on risks and mitigations in extreme weather or bushfire situations. The solution will also assist in evidence and knowledge-based management of health facilities to counter an otherwise undiagnosed increase in demand/burden for asthma support.

- This team also created an algorithm to predict mould before it can be seen by the naked eye.

Judges' comments:

- "This solution has the potential to not only have a positive impact on NT, but wider communities. The team's collaboration with the NT Government has been great, and they have demonstrated creative ways of using space data."

**Supernova Award:** Greatest social impact award

**Winner: Aerospace Systems (Data Dingoes)**

Challenge: Westpac - Helping our farmers prosper and grow

- Challenge description: We aim to leverage space data to help better inform our rural customers to make better decisions by helping in ways we'd never previously imagined.

Solution:

- This solution aims to unite both the financial and producing sides of agribusiness.
- Using new and emerging technologies, hyperspectral satellite imagery and environmental data, we can empower agribusiness decision makers to tackle immediate issues, inform long-term strategy and accelerate industry growth.
- The Information-as-a-Service platform measures changes imperceptible to the human eye using the cutting-edge analytics of satellite imagery.
- It provides both farmers and financial institutions information about growth cycles, yield estimates and the potential of the land to enable rapid and early responses to crop stress and enable efficient use of resources. The analytics platform enables regular insights into farm growth and change patterns, yield forecasting, climatic conditions, crop stress and health and much more to identify problems and generate predictive estimates on the paddock, state or continental scales.

Judges' comments:

- "There was a lot of value around how this solution used the data meaningfully - they went beyond showing what the data could do. This solution aggregates data into one user interface, exactly where the need is. It is easy to see how the solution could add value straight away and also be expanded to other industries."

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#### Media contacts:

**Deloitte** | Billy Briggs | 0474 697 235

**AWS** | Neritta Low | 0419 909 574

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