Earth Observation for the Northern Territory (EO4NT): Program overview

1. Introduction

The Northern Territory Government has partnered with Geoscience Australia to deliver EO4NT, a

$200,000 Earth Observation (EO) demonstrator program.

The program will provide grant funding to support private sector companies in developing commercial applications derived from EO data that:

- Solve Territory business problems; and/or
- Enhance business performance and productivity.

The data will be drawn from Geoscience Australia's EO data platform, Digital Earth Australia (DEA), and/or EO data and products that are external to the DEA tool and product suite.

Proposals must focus on the Northern Territory, but the call will be made to all Australian technology businesses. The project supports the Northern Territory Government's objective to promote the use of EO technology in the Territory, and also DEA's objective of supporting the development of technology using satellite data by Australian technology businesses to enable industry and government use.

2. Program objectives

The objectives of the program are to:

- Spur solutions to challenges in local Northern Territory industries using earth observation data
- Grow awareness of and interest in EO-driven solutions in traditional Territory industries
- Build partnerships among tech solutions providers, and with end users of EO technology
- Support efforts to diversify the Territory economy
- Create value for the Northern Territory
- Align with recommendation SP4 in the Territory Economic Reconstruction Commission's Final Report: 'Leverage space technology for Territory industries'.

3. Target industries

The Program aims to target development of EO solutions to challenges faced across all industry sectors, as well as government services. Some examples of industry sectors that tech solutions providers could look at developing solutions for are listed below, however **applicants are strongly encouraged to apply regardless of whether or not their solution targets these sectors.**

Disaster response and environmental monitoring

The impact of climate change is increasingly being felt through the growing frequency and severity of natural disasters. In the Northern Territory, changes to the duration and intensity of fire seasons and more

extreme weather events have the potential to do significant damage. While EO technology already plays a pivotal role in the Territory, there is significant potential to expand the use of EO technology across the disaster management cycle of mitigation, preparedness, response and recovery. It also has potential to enhance environmental monitoring and the Territory's climate change response.

Mining

The Territory Economic Reconstruction Commission identified mining as one of five industries that were crucial to achieving the Territory's goal of becoming a $40 billion economy by 2030.But while mining is the Territory's largest industry, contributing approximately 29% of gross state product in 2019-20, the last time a new major greenfield mine commenced production was in 1995. EO solutions have the potential to enhance every stage of the mining lifecycle, from exploration to approvals, to rehabilitation and environmental monitoring.

Agribusiness and fisheries

A recent Cooperative Research Centre for Developing Northern Australia report identified the following across the Territory's agricultural sector:

- Businesses lack the knowledge and skills to identify and implement digital and ag-tech solutions
- Some farmers do not see the value in implementing new technologies when existing practices allow them to get by
- Some industry players are collecting more data on their operations and properties but do not have the tools required to analyse it to inform decision making and increase productivity.

A key conclusion reached by the report was that 'AgTech adoption will not happen by itself' – the industry requires support to encourage adoption of these technologies.

Government services

EO has enormous potential to reduce administrative costs and streamline processes for regulatory approvals, compliance monitoring and other services, such as bushfire management. There are already critical EO-powered service operating in the Territory, such as the North Australian Fire Information Service, which is critical for pastoralists, land managers and the carbon industry. EO solutions could also make a valuable contribution to the Territory government's economic reform agenda.

4. Digital Earth Australia (DEA) products and support

To ensure an appropriate understanding of DEA product uses and limitations, Geoscience Australia will provide to Grant recipients:

- a short training course once Funding Agreements have been executed
- an initial meeting to discuss each project and its technical components; and
- the equivalent of a 40 hours worth of technical support and guidance to each Grant recipient for the existing DEA product suite, to be used as needed over the six month duration of the project.

Data products currently available include:

Surface reflectance	Intertidal Elevation	Mangroves
Annual Geomedian	Intertidal Extents	Fractional Cover
Water Observations	HLTC Imagery	Hotspots
Coastlines	Waterbodies	Land Cover

Software:

Open Data Cube	DEA Notebooks	Sandbox

If additional software or data are publicly released ahead of the grant process, then they will also be considered in scope of this project.

Additionally, DEA will establish referral linkages with major cloud providers (Amazon Web Services, Azure, and Google) to support grant recipients who require help scaling up on High Performance Computing or cloud infrastructure to receive the support they need.

DEA will not engage in new product development, or provide scientific support to meet the needs of grant recipients.

Grant recipients wishing to incorporate use of external products alongside the existing DEA product suite may and are encouraged to do so, however Geoscience Australia will not be able to provide support for these products.

If you have any questions specific to DEA products, please contact Geoscience Australia at earth.observation@ga.gov.au.

5. Grant funding

The Northern Territory Government has made a total of $200,000 in grant funding available for this program.

Funding will be awarded at the Department's discretion following assessment by the Panel using a competitive process. The program has not set a minimum or maximum number of grant recipients, or minimum grant amount, but envisions somewhere between 1 to 4 successful grant applications.

6. How to apply and how applications are assessed

1. **Program Objective**

   The Earth Observation (EO) for the Northern Territory (EO4NT) program supports the Northern Territory Government's objective of promoting the use of EO technology in the Territory, and Geoscience Australia's objective of supporting the development of technology using satellite data by Australian technology businesses to enable industry and government use.

2. **The grant opportunity opens**

   We publish the grant terms and conditions on the GrantsNT website[1] .

3. **You complete and submit an application for funding via the GrantsNT website**

   You complete the grant application form, completing all fields in the application as required.

4. **We assess all applications**

   We review all proposals against the objectives of the grant program, with Geoscience Australia reviewing technical feasibility. The selection panel may request further information from grant applications at this point.

5. **We make grant recommendations**

   We provide a recommendation to the decision maker on the merits of each application.

6. **Grant decisions are made**

   The decision maker decides which applications are successful.

7. **We notify you of the outcome**

   We advise you of the outcome of your grant application. We may not notify unsuccessful applicants until grant agreements have been executed with successful applicants.

8. **We enter into a grant agreement(s)**

   We will enter into a grant agreement with successful applicants.

9. **Delivery of grant(s)**

   You undertake the grant activity as set out in your grant agreement. The Northern Territory Government manages the grant process, but Geoscience Australia will provide self-help documentation, technical support and initial training in DEA datasets and tools.

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[1] grantsnt.nt.gov.au/

10. **Evaluation of the Earth Observation for the Territory grant program**

We evaluate each successful grant activity and the program as a whole. We base this on information you and your partners provide to both Geoscience Australia and the Northern Territory Government and any other parties relevant to your project.