



**CATALYST
FUND**
STRATEGIC

New Zealand MethaneSAT Atmospheric Science Research Programme

Expression of Interest

A Call for Interest
in the Position of Science Leader

9 April 2020



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

New Zealand Government

The Science Programme

The Ministry of Business, Innovation & Employment (MBIE) invites expressions of interest for position of Science Leader of the New Zealand MethaneSAT Atmospheric Science Research Programme.

MBIE is contributing \$26 million towards MethaneSAT, a state-of-the-art satellite mission that is being designed to detect global methane emissions with unprecedented accuracy. The mission is led by United States-based NGO Environmental Defense Fund (EDF) and its subsidiary MethaneSAT LLC, who have signed a partnership agreement with MBIE.

New Zealand's involvement in the MethaneSAT mission, which was initially targeted at oil and gas emissions, has provided the opportunity for research to investigate how the satellite could be used to better understand methane emissions from the agricultural sector. MBIE intends to invest **\$6 million over four years** for a Science Programme to lead this research and to investigate the applications for New Zealand of the data gathered by the satellite.

The overall \$26 million investment will also support the design, construction, and operation of a Mission Operations Control Centre (MOCC). The MOCC will provide a set of functional capabilities for the command, control and support of the satellite itself. More information on the investment process for the MOCC will be available on MBIE's website at a later date.

This Expression of Interest (EOI) will identify the Science Leader for the Science Programme (the Programme). The successful candidate will build a world-class research team from across New Zealand's atmospheric science sector and develop a funding proposal for the Programme through a negotiated process with MBIE.

What will the Science Programme Involve?

As the satellite is currently expected to be launched in Q4 2022, the Programme will effectively be divided into two main phases: pre and post-launch.

Pre-launch: This phase of the Programme will focus on developing the means for optimally using the satellite to measure agricultural methane emissions. This will include building New Zealand understanding of spectroscopy relevant to the MethaneSAT sensor, establishing detection limits for agricultural emissions, and building and collating baseline ground data sets.

Post-launch This phase will involve collaborating with the mission's Harvard University-led research team working on the oil and gas sector. The two teams will collaborate throughout the life of the mission on the underlying science and in coordinating data acquisition requirements.

The New Zealand science team will then use the data for research towards addressing the challenges New Zealand faces from methane emissions. This must include, but is not limited to, research into better understanding methane emissions from the agricultural sector.

The processed data gathered by MethaneSAT will be made publically available. A key role for the New Zealand science team throughout the Programme will be to develop methods for using the data so that future New Zealand research projects may also use and benefit from it.

Science Programme Investment Objectives

MBIE is seeking to fund a Science Programme that will:

1. develop excellent research, using the data gathered by MethaneSAT, for addressing the challenges that methane emissions pose for New Zealand
2. create new and world-leading methods for using satellite sensors to measure agricultural methane emissions
3. advance New Zealand's satellite-based atmospheric science capability, enabling future research projects to use the data gathered by MethaneSAT to build on the Programme's research outcomes
4. build successful collaboration models with the established US-based science team, as well as any other international research partners, to maximise domestic capability development, the potential for future research collaborations, and New Zealand's scientific reputation and credibility
5. effectively engage with potential end-users of MethaneSAT's data, ensuring that the Programme's research outcomes will have the greatest possible benefits in New Zealand and internationally.

The New Zealand Science Leader

To ensure that New Zealand receives the greatest benefits from the Science Programme and our participation in the MethaneSAT mission, MBIE intends to fund a multi-institution research team comprising New Zealand's strongest expertise in atmospheric science.

We will first identify the Programme's Science Leader through this competitive EOI. The Science Leader will then be responsible for championing the Science Programme, building a world-class research team from across both the New Zealand atmospheric science sector and the wider science community, and leading the research itself.

What Does the Science Leader's Role Involve?

We are looking for a Science Leader who is able to develop an excellent Science Programme that achieves MBIE's investment objectives.

There is significantly flexibility in how the role will operate to achieve these objectives, particularly after the early stages of the mission, and we encourage prospective candidates to be creative in their vision for the role. Given this flexibility, we have not set a minimum FTE (full time equivalent) requirement.

In the immediate term, the three key responsibilities of the Science Leader will be:

1. Engaging with the Harvard University-led research team

Once identified, the first key responsibility of the Science Leader will be to engage with the Harvard University-led research team to familiarise themselves with the overall MethaneSAT mission, build their understanding of the capabilities of the satellite's sensors, and to identify specific pre-launch requirements that will position the Programme to benefit from the satellite's data. This will include investigating the extent to which the Harvard team's work regarding the oil and gas sector could be applied to the New Zealand Programme.

2. Building the Science Programme's research team

The Science Leader's next responsibility will be to engage with the New Zealand sector to build the Programme's research team. There are no restrictions on the makeup of the research team, which may involve researchers from both public and private organisations with relevant expertise.

As part of the proposal process the Science Leader will be asked to provide a compelling rationale for why their proposed research team is the best possible team New Zealand has to offer. The research team should therefore involve strong and substantive partnerships between institutions. MBIE does not require the team to include researchers from all institutions with an interest in the mission. Researchers and institutions should only be included in the team if they will make a meaningful contribution to the Programme.

3. Developing the funding proposal for the Programme

MBIE will provide the Science Leader, once identified, with a proposal template and a letter of commission covering the assessment process for the Science Programme. The Science Leader will then be responsible for leading the development of a funding proposal for the Programme.

MBIE will commission an independent review of the completed proposal, and may ask that a revised proposal be submitted based on reviewer feedback. The Science Programme will then be contracted and the Science Leader will transition to leading the full Programme.

Science Leader Selection Criteria

We are looking for someone who:

- > is a recognized expert in the New Zealand atmospheric science sector
- > has experience with remote sensing, spectrometry, and related technologies
- > is visionary and forward thinking, with a strategic and innovative approach to the Science Programme
- > has demonstrated their ability to bring together and lead a multi-institution and multi-disciplinary research team
- > is experienced at effectively engaging and collaborating with international research teams
- > has practical expertise in engaging with Māori and Vision Mātauranga
- > is an excellent communicator, able to encourage uptake of the MethaneSAT mission's outcomes across New Zealand.

The Application and Decision Process

Applicants must submit an Expression of Interest form via email to internationalscience@mbie.govt.nz. Based on the information provided, MBIE will internally review the submissions against the selection criteria to shortlist several top candidates. Applications will be scored against their overall fit to the selection criteria and may still be shortlisted if they do not have a strong expertise in particular criteria. Applicants will be notified of whether they have been shortlisted via email.

The shortlisted candidates will be invited to attend an interview panel made up of MBIE officials and a US-based representative from the MethaneSAT mission. We will provide the shortlisted candidates with additional information, including potential questions, to prepare for the interview panel.

The interview panel will provide MBIE's MethaneSAT Steering Group with its recommended candidate for the Science Leader at the conclusion of the interview process. The final decision on who will be selected as the New Zealand Science Leader will then be made by the General Manager of Science, Innovation and International.

MBIE will advise the interviewees of the decision via email. Following notification, the Government will publish its decision and announce it with a press release.

Contracting

MBIE will negotiate an establishment contract with the successful candidate's organisation to cover expenses incurred during the initial stages of the Science Leader's role. The Science Leader will not become an employee of MBIE and their organisation will be expected to provide administrative support for their activities in the role.

Funding from the establishment contract may be used to cover consumables, preliminary research expenses, contributions to pro-rated salaries, travel expenses, and overheads. Any unspent funding from the establishment contract will be carried over to the full Science Programme.

While travel is expected to be an integral part of the role, it is highly likely that any travel, especially overseas, will be delayed significantly due to the COVID-19 pandemic. The Science Leader's health is paramount, and any travel must be scheduled in accordance with the Ministry of Health's latest guidelines.

MBIE will separately contract the Science Programme, once completed and agreed with MBIE, through a Catalyst: Strategic funding contract.

Key Dates

Expression of Interest period	9 April – 11 May 2020
MBIE advises candidates of shortlist decisions	15 May 2020
Shortlisted candidates interviewed	Late May 2020
Science Leader announced	Early June 2020
Science Leader builds their research team and develops the Science Programme	2020 – 2021

These dates may be subject to change. We will notify you of any change via email or MBIE's [Alert](#) e-newsletter.

Submitting an Expression of Interest

Expressions of Interest in the position of Science Leader of the New Zealand MethaneSAT Atmospheric Science Research Programme **must**:

- > be submitted via email to internationalscience@mbie.govt.nz before **12:00 noon Monday 11 May 2020**. Late submissions will not be accepted.
- > be submitted by an authorised representative of the candidate's organisation (e.g., by their research office) and not by the candidate themselves. This is to ensure that the organisation endorses the candidate's expression of interest, as we will expect the successful candidate's organisation to provide administrative support for their activities in the role. A single institution may endorse **up to three** persons.
- > include (as email attachments):
 - A completed Expression of Interest form (see below), and
 - A short professional academic CV (no more than five pages). An optional template is available [here](#)

Science Leader of the New Zealand MethaneSAT Atmospheric Science Research Programme Expression of Interest Form

INFORMATION REQUIRED

WORD LIMIT

This is a guide and is not intended to constrain the information you provide. You may include any information you consider demonstrates your fit to the selection criteria

Candidate	Provide your name, job title, department (if applicable), organisation and contact details.	
Organisation Contact Person	Provide the name, phone number and e-mail address for a contact person from your organisation (i.e. your research office). They must have the mandate to discuss the submission with MBIE officials.	
Eligibility	<p>Confirm that:</p> <ul style="list-style-type: none"> > you are currently working (or have a background) as an atmospheric scientist > you are currently employed by a New Zealand-based research organisation with established internal research capability relevant to the Programme > this organisation endorses and supports your expression of interest > the organisation is not a department of the public service, as listed in Schedule 1 of the State Sector Act 1988. 	
Science Leadership	<p>Using specific examples, explain how your:</p> <ul style="list-style-type: none"> > skillset contributes towards achieving MBIE's objectives for the Programme > leadership experience demonstrates your ability to effectively engage with international research partners and to build and lead a cross-institution research team. 	500 Words
Strategic Vision	<p>Briefly outline your vision for the Programme, including:</p> <ul style="list-style-type: none"> > a short summary of your intended approach to the pre-launch phase of the Programme (developing the means to optimally use the satellite to measure agricultural methane emissions). > how you intend to incorporate expertise from both the New Zealand atmospheric science sector and the broader science community. > the research outcomes that you expect from the full Programme. 	500 Words

Further Information

Email: internationalscience@mbie.govt.nz

You can also [subscribe](#) to MBIE's Alert e-newsletter.

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The Ministry of Business, Innovation and Employment reserves the right to withdraw or amend, at any time, this Expression of Interest or any part of it.

All financial information in this document is indicative only and do not include GST.

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