NSW Node of SmartSat  
Open Call for Projects’ Expression of Interest

# Rationale

The NSW Node of SmartSat, in conjunction with NSW Government, is issuing this Open Call for projects’ Expressions of Interest (EOI) to foster the creation and commercialisation of space-related research and innovation in NSW. The Call aims at empowering the space-related industry ecosystem of NSW, creating State-based opportunities for industry-led R&D with SmartSat CRC’s current partner base and beyond.

This Rolling Open Call is seeking demonstrator projects relevant to **any SmartSat CRC Research Priority Areas**.

# Requirements

This EOI, and the selection of successful responses, is driven by the following requirements:

1. Project team composition & focus
   1. Project proposals to be developed, led and submitted by an industry project partner (i.e. with an ABN / ACN) based in NSW. The lead industry project partner does NOT have to be a member or partner of SmartSat CRC; however, collaborative projects involving one or more SmartSat industry partners are highly encouraged.
   2. Project team to be comprised of at least one industry and one research organisation. It is expected that at least one SmartSat research organisation/University will be a member of the project team.
   3. The research organisation and industry project partner to have established operations in NSW, and the project to be led by the NSW operations.
   4. Projects that include a clear end customer as part of the project team are encouraged
   5. The NSW Node is specifically looking to support demonstrator projects that will tangibly unlock research partner IP and capability to retire technical and/or market risks for the industry project partner, thereby improving technical and investment readiness levels.
2. Funding arrangements
3. Total project total budget should not exceed AUD$100,000 + GST
4. Industry partner(s) co-investment in the project is required in the form of cash. SmartSat CRC will match industry funding at a cash ratio of $1 Industry : $2 SmartSat Node funding
5. Project funds are expected to be allocated to the Research partner to undertake the research and innovation activities and/or project required activities.
6. In-kind contributions from all project parties are accepted and will be considered in the selection of project proposals.
7. Research Program topics:
   1. RP1: Advanced Communications, Connectivity & IoT Technologies  
      including technologies for creating commercial products and services for application areas such as:
      1. Laser communication
      2. Next Generation ground stations & terminals
      3. Mobile optical antennas
      4. Quantum cryptography
      5. Adaptive communication networks
      6. Spectrum sensing & Cognitive radio
      7. Next Generation IoT architectures
      8. Ad-hoc connectivity
      9. Satellite & terrestrial network integration.
   2. RP2: Advanced Satellite Systems, Sensors and Intelligence  
      including technologies for creating commercial products and services for application areas such as:
      1. MBSE & Digital twins of small satellite systems
      2. Autonomous, cooperative satellite formations
      3. Artificial Immune Systems in satellite swarms
      4. Trusted Autonomous Formations
      5. Self-healing satellite systems
      6. Agile & resilient satellites
      7. Satellite system & data security
      8. Advanced pointing & maneuvering
      9. On-board machine learning modules
      10. Advanced adaptable payloads
      11. HgCdTelR Optoelectronic sensors
      12. Quantum sensors.
   3. RP3: Next Generation Earth Observation Data Services  
      including EO-related analytics, sensor technologies, and other technologies related to creating commercial products and services for application areas, such as:
      1. Food & fiber supply chains (agriculture, aquaculture, farming)
      2. Mining and resources
      3. Defence and security
      4. Environment and infrastructure
      5. Transport and logistics
      6. Emergency Management and Disaster response.

Expression of Interest

# Instructions

* + This project Expression of Interest (EOI) template is designed to capture the information for SmartSat to review and assess project proposals
  + It is generally expected that a lead industry partner will champion any proposal and be the party that submit it to SmartSat on behalf of the project team
  + The EOI will be assessed against the SmartSat Research Project Investment Criteria and Approval Policy.
  + Applicants are strongly encouraged to refer to the following documents (available at [smartsatcrc.com/research/resources/](file:///C:\Users\timparsons\Dropbox\bCREATE\04.SmartSatCRC\6.NSW%20Node\2021-02-17%20EOI\smartsatcrc.com\research\resources)) when developing their proposal:
    1. Research Project Investment Criteria and Approval Policy, and
    2. Project Costing Principles.
  + To assist in completing the project plan, some guidance information has been presented in the template. *All guidance is in red italic font*. It should be removed upon completion of the plan.
  + EOIs comprising Project Concept and Project Response should be submitted to [research.projects@smartsatcrc.com](mailto:research.projects@smartsatcrc.com)
  + SmartSat will only accept EOIs in this template.

# Streamlined Project Proposal Assessment and Approval Flow

Project Concept

# PROJECT SUMMARY

|  |  |
| --- | --- |
| Project Title | Enter project title |
| Summary | Short 1-2 paragraph description of the project summarising key aims, activities and expected outcomes/outputs. |

# PROJECT AIMS AND OBJECTIVES

|  |  |
| --- | --- |
| List specific aims and long-term objectives with a clear purpose. | *What are you looking to do?*  *What are the intended primary deliverables/outcome of the project?*  *Could outcomes inform a larger Phase 2 activity or should this phase lead to an output that can be readily commercialised / utilised?*  This section must not exceed one A4 page. |

# Problem Statement

|  |  |
| --- | --- |
| Briefly state the challenge this project will address | What is the State of the Art and limits of current practice?  What is the problem / gap / opportunity that this research project is intending to solve / fill / create?  *Who is the customer – who will benefit from solving this problem?*  Outline the preferred approach to implement/manage the project  This section must not exceed one A4 page. |

# Strategic Alignment

|  |  |
| --- | --- |
| Strategic Alignment | Briefly describe the relevance of the proposed demonstrator project to the research objectives of SmartSat CRC and the technology roadmap of the Industry Partner |

# Utilisation

|  |  |
| --- | --- |
| Utilisation Plan | Briefly describe how will the end user or industry partner exploit (utilise) the outcomes (deliverables) from this project? (pathway for adoption, utilisation and/or commercialisation approach) |

# Impact

|  |  |
| --- | --- |
| Description | Briefly describe how the project contributes to SmartSat CRC Impacts and the benefits of this project to the wider Australian space sector and/or to other industry sectors.  Briefly describe how the project will impact the customer and/or industry group who most experience the current problem. |

Response to Project Concept

# Project Team

|  |  |  |
| --- | --- | --- |
| Project Lead | Enter name, email and phone number. | |
| Estimated Start date | Provide a brief statement to indicate when you could commence the project. | |
| Project duration | (months) | |
| Participants | Organisation | Point of Contact |
| *Typically, participants on a Project Agreement receive some cash funding and/or are significantly involved in developing Project IP through contributing to research design, operationalisation, analysis and dissemination.* | List the organisations that will participate in this project. | Identify key points of contact for each participant – supply name, position, phone number and email |
| Project Team | Provide a brief statement to indicate why this team has the capability for undertaking the research.  *Provide any gaps in the project team where SmartSat can assist* | |
| Diversity and Inclusion | Provide a brief statement to indicate how you have considered Diversity and Inclusion in your team composition. | |

# Project Activities, Strategy and Methodology

|  |  |
| --- | --- |
| Project activities, strategy and methodology | *Outline the research plan in detail including, as appropriate, a description of the experimental design, techniques and methods to be used.*  *Demonstrate that the strategy is adequately developed, well integrated, feasible and appropriate to the aims of the project.*  This section must not exceed one A4 page. |

# Milestones and Deliverables

*Describes the Project, i.e. what SmartSat will spend the Funds doing, and develop a timeline for the completion of Project milestones. It is important to include enough detail to allow SmartSat to understand what the project team is undertaking and whether the spending of the Funds falls within the approved scope*. *It is recommended that this be in the form of a one-paragraph description for each milestone. Milestone titles and start and end dates are to be included in the table below.*

| **No.** | **Milestones & Deliverables** | **Start Date** | **End Date** |
| --- | --- | --- | --- |
|  | Project Milestone Title |  |  |
|  |
| Description, Deliverables / Demonstration & Party Responsible |
|  |
|  | Project Milestone Title |  |  |
|  |
| Description, Deliverables / Demonstration & Party Responsible |
|  |
|  | Project Milestone Title |  |  |
|  |
| Description, Deliverables / Demonstration & Party Responsible |
|  |
|  | Project Milestone Title |  |  |
|  |
| Description, Deliverables / Demonstration & Party Responsible |
|  |

# Risks

Identify risks to project success and indicate relative degree of risk (high, medium, low). Risks to be considered include commercial, technical, political, strategic business direction, market forecasts or operations parameters. Include a statement of the impact should the risk eventuate, and the mitigation strategy to be employed to prevent the risk being realised.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Risk Description | Type | Rating | Impact | Mitigation Strategy |
| R1 | e.g. COVID-19 limiting access to teams and lab space | Operational | High | Impact the prototype fabrication. | Potential to re-schedule aspects of project. |
| R2 | e.g. Inability to gain access to third party IP | Commercial | Low | Component ZZ cannot be fully developed. | Use alternative open source component. |
| R3 |  |  |  |  |  |

# Intellectual Property

|  |  |
| --- | --- |
| Project Intellectual Property | *Please provide advice on any proposed Intellectual Property (IP) arrangements.*  ***Note****:*  *It is intended that the project parties will enter into a discussion with SmartSat on the ownership and utilisation of the Project IP prior to the project commencing.*  *Recognising that multi-party/collaborative projects are expected under this scheme, the discussion will take into consideration the needs of the project parties to support utilisation of the Project IP.  Other issues will also be considered as part of this discussion, including but not limited to: Start-ups (i.e. needing to own IP for VC fundraising); the Background IP that is brought to the project (i.e. a project that is improving Background IP); Defence and National Security requirements (if any).*  *As a general starting point for the discussion, SmartSat will propose that the intellectual property arising from the Project can be owned by SmartSat and licensed to the Industry partner(s), in their preferred field of use, to support utilisation. This is a starting point for the discussion only, and the final position will be agreed between SmartSat and the project parties and documented in the Project Agreement.*  *As a minimum, a license to the Project IP will be required for:*   1. *SmartSat to use, reproduce, adapt, modify and communicate the Project IP, including a right to sublicence rights to use, reproduce, adapt, modify and communicate to the NSW government and CRC Program (this expressly excludes any right to exploit Project IP for commercial purposes); and* 2. *other project team members, for use of Project IP for internal research and teaching.* |
| Background Intellectual Property | *Please provide advice on any background IP that may be provided by project participants and how it would be used in the project.* |

# Project Resources

*The figures supplied in the table below are approximate only – they will be further refined once the project proposal progresses to project planning stage.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Request** | | |  |
| **Type** | **Value** | | **Description** |
| Salary | $ | | a brief justification for the resources requested |
| Travel | $ | | a brief justification for the resources requested |
| Equipment | $ | | a brief justification for the resources requested |
| Other | $ | | a brief justification for the resources requested |
| Total Cash Budget | $ | | |
| Please describe the additional cash contributions from partners? | | | Note:  *Industry partner(s) co-investment in the project is required in the form of cash. SmartSat CRC will match industry funding at a cash ratio of $1 Industry : $2 SmartSat Node funding.*  Additional cash investment will be highly regarded during the proposal evaluation phase. This may include cash investment by non-SmartSat University partners involved in the project. |
| Participant Support | | In-kind (staff) | Number of Full Time Equivalent staff (FTE) |
| In-kind (non-staff) | $ value - description |
| Will there be any additional resources required? | | | Yes / No. If Yes, provide details. |