

## RP: Procedure - Research Project Formulation and Approval of Proposals

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### Purpose

- This procedure describes the actions required to submit, review and approve research project proposals for new SmartSat Cooperative Research Centre (SmartSat CRC) research projects.

### SCOPE

- This procedure applies to all project proposals within the SmartSat CRC.

### REFERENCES

- This policy should be read in conjunction with the following:
  - RP: Policy – Investment Criteria
  - RP: Template – Expression of Interest
  - RP: Template – Project Plan;
  - RP: Template – Project Details (Under Development); and
- CRC Funding Agreement between the Commonwealth of Australia and SmartSat Limited, executed on \*\*\* (“Commonwealth Agreement”)
- Participants Agreement SmartSat CRC, executed on \*\*\* (“Participants Agreement”)

### Applicability

- The procedure described herein applies when the cash request from the SmartSat CRC, or the total project budget (cash and in-kind), exceeds the levels specified in the SmartSat CRC delegation of financial authority. For proposals below these limits, the CEO will determine whether or not the proposal goes through this process or it is directly considered by the CRC Executive Management Team.

### Statement and guidance

- The SmartSat CRC has as a primary role to deliver the outputs and associated milestones set out in the Commonwealth Agreement (refer to Appendix A of this document for that list of outputs. Further details are available in Schedule 2 of the Commonwealth Agreement). Commonwealth outputs and milestones are principally achieved by Participants undertaking Projects, the outputs of which are aligned to one or more Commonwealth milestones.
- Projects are industry-led and the primary path to utilisation and impact of SmartSat research outcomes is by the Industry and end-user Participants. This document provides guidelines and principles in relation to project formation.
- The following core principles underpin SmartSat projects:
  - Projects must contribute to the achievement of Commonwealth Agreement outputs and milestones;
  - Projects must include a plan for usage and impact beyond project completion;

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- SmartSat CRC Ltd is an 'independent' partner and signatory to all Project Agreements. In addition, there would normally be at least one Industry end-user Partner and one Provider Partner;
- Project objectives and requirements are ultimately defined by Industry and end-user Partner(s);
- SmartSat CRC Ltd will assist to define a project plan, identify Provider(s) and resources, develop budgets, and maintain oversight of delivery of agreed milestones across projects.
- SmartSat CRC Ltd provides a number of management services and resources to assist in the process of project formation and project management. This may be effected using a combination of SmartSat CRC Ltd staff, SmartSat Participants and/or individuals or organisations external to SmartSat. The principles in relation to SmartSat CRC Ltd's roles are as follows:
  - SmartSat CRC Ltd has responsibility for ensuring that the requirements of the Commonwealth Agreements and Participant Agreements are met, and will be informed by these agreements in providing services and resources;
  - SmartSat CRC Ltd is responsible for reporting to the Commonwealth. Participants are required to provide information relating to project activity that is reasonably required to assist SmartSat in fulfilling those obligations;
  - SmartSat CRC Ltd is 'independent' and strives to offer neutral advice when assisting participants;
  - SmartSat CRC Ltd will assist, advise, facilitate and sometimes lead processes aimed to result in project formation;
  - Being industry-led, Industry and end-user Partner(s) have a key role in project definition. Note that all aspects of project definition and terms are the subject of a Project Agreement to be signed by all project parties before it can proceed;
  - SmartSat CRC Ltd will manage a centralised process to monitor overall project progress. Note that this is distinct from day-to-day project management that will be the responsibility of the other parties identified in the Project Agreement.

## Project Formulation

- Development of new projects is an organic process that may differ from one case to another. It usually involves substantial dialogue and negotiation between intending project parties and the SmartSat CRC Executive.
- The intention of this procedure is to set out a series of principles and guidelines aimed at the project formation process. They are intended to inform Participants of assumptions and practices that are relevant to defining a project, leading ultimately to a signed Agreement. A number of the points are captured in the Participants Agreement, Expression of Interest (EoI) Template, the Project Plan Template, and Project Details Template.
- The intention is that these principles provide sufficient background for Project formation discussions to progress.
- Participants should seek advice from the SmartSat CRC Research Program Leadership Group (RPLG) if there are any questions as follows:

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## Project Expressions of Interest

- The first step in the project formulation and approval process is for a proposer to submit an Expression of Interest (EoI) to the relevant Program Director. They will work with the Industry Director and other Program Directors/Managers, enabling an early review of the proposed project to ensure it meets Commonwealth Milestones, and/or Technology Road Map and a R&D Strategic Plan.
- EoIs may be received by the SmartSat CRC at any time.
- A suitably developed EoI will be provided by the Program Director to the SmartSat CRC Research Program Leadership Group (RPLG), who will meet regularly, to evaluate EoIs based on Investment Criteria and may provide further advice and suggestions on the development of an EoI.
- The evaluation of EoIs will be based on:
  - Strategic alignment – with reference to the SmartSat CRC Commonwealth Milestones and/or Technology Roadmap and/or R&D Strategic Plan;
  - Impacts – with reference to the SmartSat CRC Impact Tool and output milestones from the SmartSat CRC Commonwealth Agreement;

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- The amount of additional investment made by project partners over and above that which comes from SmartSat
  - Utilisation – involvement of end-user and industry participants, and utilisation or commercialisation strategy;
  - Research – position with respect to relevant research activities, and probability of producing world class science outcomes; and
  - Project Management – rough order of magnitude estimates for duration, effort and costs.
- The SmartSat CRC will consult with technical advisors and the End-user Advisory Boards to assess the merits of the EoI.
  - The SmartSat CRC will communicate the decision (approved for project plan development, revise & resubmit, reject) to the Proposer.
  - Applicants who have an Expression of Interest approved will receive an invitation to submit a full Project Plan.
  - If approved for Project Plan development, the SmartSat CRC will assign the project to a Program Director for Project Plan development, and they may solicit additional interested project participants.

## Project Plan Development and Review

- The relevant Program Director will liaise with the project proposer to define the objectives of the project, and address any feedback on the EoI from the SmartSat CRC Research Program Leadership Group (RPLG)
- The nominated Project Leader, identified in the EoI, coordinates with project team members to prepare the draft Project Plan and submits to the Program Director. The Program Director works with the project team to finalise the Project Plan and submits to SmartSat CRC Research Program Leadership Group (RPLG).
- Project plans must be submitted using the SmartSat CRC: Template - Project Plan.
- The SmartSat CRC Research Program Leadership Group (RPLG) (comprised of Chief Executive Officer (CEO), Chief Research Officer (CRO), Research Program Directors (x3), Research Program Managers (x2), Chief Operations Officer (COO), Coordinator: Defence, and Director: Industry Cluster), will meet regularly to evaluate Project Plans based on the investment criteria applied to the concept review, with additional focus placed on:
  - Research outcomes – position with respect to relevant research activities, and probability of producing world class science outcomes;
  - Utilisation plan, and specifically pathway to end user utilisation or market;
  - Project management – budget claim, milestones, deliverables, risk and opportunity; and
  - Strategic alignment and contribution to Commonwealth Agreement deliverables
- As appropriate, the SmartSat CRC Research Program Leadership Group (RPLG) will consult with technical advisors to assess the merits of the project proposal. The SmartSat CRC will also consult with representatives from the SmartSat CRC End-user Advisory Program Boards.
- The SmartSat CRC communicates the decision (approved for Research Investment Committee and Board submission, revise & resubmit, reject) to the Proposer.

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## Research Investment Committee and Board review

- The SmartSat CRC will submit the Project Plan for consideration by the Research Investment Committee (RIC) which will review the proposal and subsequently makes a recommendation to the Board.
- The SmartSat CRC RIC will communicate the decision (approved for Board submission, revise & resubmit, reject) to the Proposer and Program Director.
- If approved for Board submission, the SmartSat CRC will prepare Board-ready version of the Project and present it to the Board for consideration. The Board will evaluate the project based on the Investment Criteria and RIC recommendation.
- The SmartSat CRC communicates the decision (approved, revise & resubmit, reject) to the Proposer, Program Director and other parties as needed.
- If the project plan is approved by the Board, the Project Leader will prepare a draft of the Project Details and submit it to the SmartSat CRC.
- The Project Details must be submitted using the SmartSat CRC RP: Template – Project Details.
- The SmartSat CRC will finalise the Project Details and distribute for execution.
- The project will not be initiated until the completed project details document is signed by all project participants.

## Project Agreements

- Projects are carried out under the terms of individual Project Agreements, and all terms and conditions, including entitlements to intellectual property are defined in each agreement;
- A Project Agreement is made in the form of the details form the Project Plan, and Terms and conditions outlined in the Project Details. These documents are provided by SmartSat to cater for many different project scenarios. Given that Participants will likely work with different partners throughout the CRC duration, project parties are requested to use the template, capturing any changes in the Special Conditions section;
- Projects would normally have a lead Project Participant from industry/government who would, as the name suggests, play a lead role in developing the project and the agreement. Typically that party would have principal carriage of utilisation and exploitation of the intellectual property outcomes from the project, but this will be as agreed between the parties and written in the Project Agreement;
- Each project has a project leader that is accountable for day to day project management responsibilities, including reporting on project status to SmartSat. Usually, it is expected that the project leader will be a lead researcher from SmartSat's research partners, although under some circumstances it may someone from our companies or another class of partner. Key responsible persons for each project party are also identified for each project;
- All projects are structured around a series of defined milestones and regular review.
- Completed milestones must be signed off by the project leader, industry leader(s), SmartSat and any others as per the Project Agreement following a quarterly review conducted by the project management group.

## Project Funding

- The Project parties should identify the total resources required to undertake a project as part of the Project Plan. This includes both in-kind inputs made available by Participants, as well as

# SMARTSATCRC

budget for cash resources proposed to be funded by the SmartSat CRC;

- Once the required Project Cash is agreed with SmartSat, and subject always to funding availability, that budget would normally be funded in full by the SmartSat CRC. Where there are multiple Industry or Provider Participants providing additional cash, the proportions will be as agreed between the parties;
- Participants have an agreed schedule of cash payments to SmartSat for the duration of their participation in the SmartSat CRC. These funds will largely be used by SmartSat for Projects. Costs associated with managing the CRC, will also be drawn down from Commonwealth and Participant cash contributions;
- In general, Project Cash may be used to fund direct project expenses such as salaries (at rates agreed within SmartSat and as changed from time to time), travel, equipment, and other reasonable direct project costs;
- Project Cash may not be used to fund indirect costs, institutional overheads, in-kind costs or to fund Industry Partner indirect costs on the project;
- The purchase of capital items/assets (valued at over \$20,000) will not normally be supported under the standard funding model unless there is a compelling case that demonstrates that it is critical for the work to be undertaken, available for use extensively (commensurate with the amount spent), and represents value for money;
- There is a large and diverse cohort of Provider Participants. Cash funded project activity will normally be undertaken by Research Provider Participants. New Research Provider Participants may only be funded using CRC funds where the following conditions are met:
  - There is a demonstrated need;
  - The necessary expertise does not exist within the existing Provider Participants (as reasonably determined by SmartSat);
  - The cash spend represents value for money;
  - An appropriate justification and/or process has been put into place to select the individual or organisation to undertake the task (as reasonably determined by SmartSat).
- The SmartSat CRC will work with project Participants during the life of the project to support the monitoring of projects, including the Quarterly Status Reports, and Quarterly invoicing, that will generally be paid in arrears and based on actual expenses.

## APPENDIX A: SMARTSAT CRC COMMONWEALTH MILESTONES

The following are a list of Outputs contained in the Commonwealth Agreement. Further details, including milestones, are in Schedule 2 of that Agreement.

### Research Program 1: Advanced communications, connectivity and IoT applications

- Output 1.1 - High data rate solutions for satellite-to-ground and satellite-to-satellite communications; and next generation optical ground stations
- Output 1.2 - New and enhanced algorithms and technologies suited for remote monitoring and control
- Output 1.3 - Secure communications networks for satellite-to-ground and satellite-to-satellite communications, and resilient fault-tolerant routing algorithms for satellite networks
- Output 1.4 - Novel and enhanced technology that makes opportunistic use of available spectrum, and technology that allows monitoring of spectrum use
- Output 1.5 - Algorithms and routing protocols that make use of best available paths for communication needs and approaches for augmentation of terrestrial systems by satellite capabilities

### Research Program 2: Intelligent Satellite Systems (including Artificial Intelligence)

- Output 2.1 - State-of-the-art design approaches for advanced satellite system development, and demonstrated concepts and technologies for distributed satellite systems to meet agile/resilient dual use communications and EO needs
- Output 2.2 - Advanced technologies for establishing and controlling distributed satellite systems to meet agile/resilient dual use communications and EO needs
- Output 2.3 - New optical and radiofrequency (RF) sensors, including reconfigurable and disaggregated sensor systems, to support dual use applications: Earth Observation; Position, Navigation and Timing; and Space Situational Awareness
- Output 2.4 - Advanced on-board processing and machine learning technologies and approaches that support the sensors and communication technologies and enable actionable information delivery direct to the user, with demonstrated utility for both civilian and defence applications

### Research Program 3: Next Generation, Real-time Earth Observation Analytics

- Output 3.1 - Earth Observation Analytic Solutions as products and services, which will be linked to specific industry, government and defence needs and will include a process to access the growing range of national and international EO data storage, processing and delivery infrastructure
- Output 3.2 - Commercially viable set of EO products and services able to be produced and delivered by current and next generation Australian companies domestically and globally for the Agriculture/ Horticulture/ Aquaculture, Forestry, Mining and Resources, and Transport and Logistics markets
- Output 3.3 - Design specifications and improved domestic capabilities to enable construction of next generation satellites and sensor systems by Australian and global satellite manufacturing companies to meet established industry needs
- Output 3.4 - Sovereign EO capability for Australia and significant dual use activities, enabling world leading sensor design and pre-operational testing across multiple environments to deliver industry, government and defence specific products and services that are benchmarked against known standards
- Output 3.5 - Flight tested and demonstrated advanced sensor and on-board processing systems that enable collection, extraction and delivery of actionable information to defence and civilian operational users.