

DEFENCE INNOVATION NETWORK PILOT PROJECT GRANT PROCEDURES

This document describes the DIN process for Pilot Project Grants.

Annexure A contains instructions to Member Institutions for selecting reviewers.

Annexure B sets out reviewer guidelines and time schedule.

Annexure C provides a set of criteria for assessing applications.

Annexure D is the reviewer template.

Annexure E is short-form application template

BACKGROUND

The DIN invests in high quality research that will deliver outcomes for the Australian defence sector. The DIN will fund Pilot Projects that involve collaborations between member universities on the basis of Defence impact and research track record. Pilot Projects should demonstrate high potential to satisfy an existing or emerging Defence capability need or an existing or emerging defence industry need. These needs will be expressed as problem statements sourced from industry- or defence end-users, and funding proposals for Pilot Projects may be developed in consultation with the defence or industry partners. Applicants will be expected to consult with the originator of the problem statement to ensure alignment with their identified needs. One university member should be identified as the lead for the Pilot Project.

The DIN has a Steering Committee with a membership that comprises an independent industry chair, representatives from the NSW Department of Industry and Office of the NSW Chief Scientist, DST, industry members and Member Universities. The Steering Committee (or a sub-committee) will make final decisions relating to funding of Projects, based on recommendations of the Technical Review Panel.

The Technical Review Panel comprises the DIN Directorate (Director and Associate Director) and one co-opted expert from DST Group, and is chaired by the DST Group Associate Director of the DIN. This purpose of this Panel is to weigh scores and assessments provided by the DST Group and academic peer reviewers.

PILOT PROJECT GRANTS

Pilot Projects will be subjected to the process shown on page 2. This process includes workshopping to scope the problem towards the call for proposals, and a competitive two-stage process of peer-review that provides a feedback loop to further improve proposals and encourage end-user engagement.

The Pilot Project granting process is initiated with themed Sandpit workshops that engage Defence and industry end-users to discuss needs or emerging disruptive technologies that can be shaped into relevant problem statements for university research. These problem statements provide the basis for a call-out to member universities to assemble teams for collaborative projects in priority research areas. Teams apply for Pilot Project grants using a "short-form" template designed to provide enough information for the reviewer to assess the proposal on impact and feasibility (e.g., do the proposed outcomes represent innovative

research by a competent team that meets Defence needs and has no immediate commercial equivalent?) and for the Steering Committee to consider against DIN objectives and available funding. The reviewer will complete what is nominally a one-page assessment that scores Defence need, impact and novelty (path to commercialisation), technical and scientific merit, and team composition and track record.

Upon short-listing, successful applicants will be requested to complete a full proposal incorporating feedback from the Stage 1 reviews. The full-proposal will involve using a “long-form” template requesting more detailed information on project management, team track records and outcomes. The short-listing also enables DIN university coordinators to organise an assessment panels for academic peer review.

In Stage 2 of the assessment process, the proposal is subject to peer review by both academic and Defence scientists. Academic assessors will be selected by DIN coordinators from their member universities on the basis of research proficiency and availability. The Stage 2 assessment uses the same template for Stage 1 assessment, but academic reviewers will not be required to assess Defence need. Reviewers will also assess the level of skills required for the project and supplied by the team, and the team’s track record.

The DIN will convene a second Technical Panel to review the full proposal and peer assessments, and to provide recommendations to the Steering Committee for approvals and funding. The Steering Committee will make the final decision on Pilot Project approvals and funding offers.

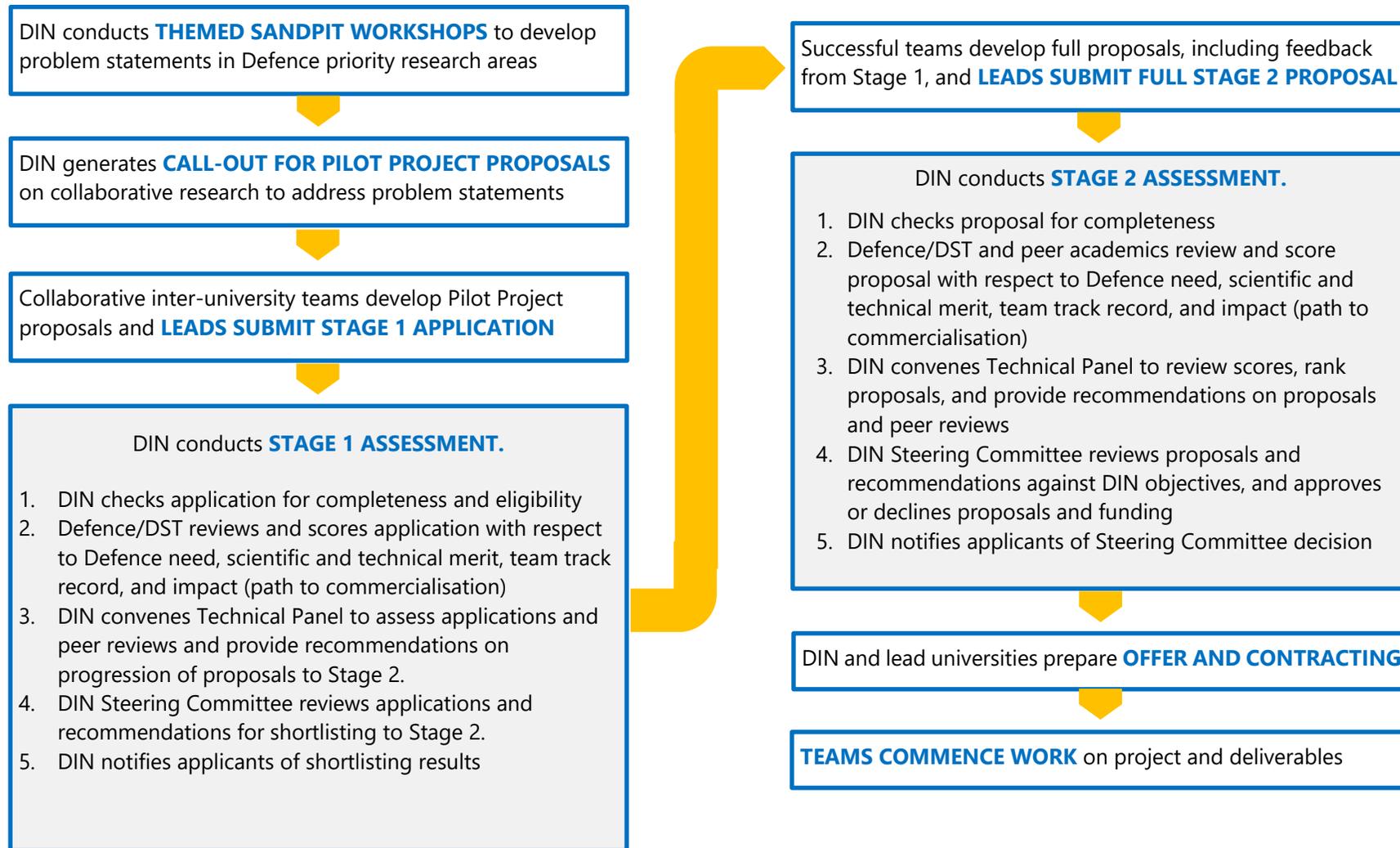
Teams will be notified of the Steering Committees decision. Upon acceptance of the funding offer, the DIN will initiate the contracting process with the lead research institution.

TIMELINE 2018/2019

This timeline is indicative only.

STAGE 1		STAGE 2	
8 NOVEMBER	Call out for Pilot Project proposals	22 MARCH	Due date for submission of full proposals
17 DECEMBER	Due date for submission of Proposals	27 MARCH	Completeness check and eligibility
19 DECEMBER	Completeness check and eligibility	3 MAY	Defence & academic reviews
18 JANUARY	Due date for Defence/ DST reviews	10 MAY	DIN Technical Panel to assess applications and peer reviews
25 JANUARY	DIN Technical Panel to assess applications and peer reviews	7 JUN	DIN steering committee shortlist and recommendation to stage 2
8 FEBRUARY	DIN steering committee shortlist and recommendation to stage 2	10 JUN	Stage 2 results
11 FEBRUARY	Stage 1 results	JUNE	Contracting & Project work commencement

Figure 1. Flow diagram of DIN process for Pilot Project Grant procedures.



ANNEXURE A: GUIDELINES TO MEMBER INSTITUTIONS FOR SELECTING REVIEWERS

Member Institutions should adhere to the following principles when nominating reviewers:

- Reviewers judge the technical merits of a proposal and should have the technical background and credentials to do so
- Reviewers should be committed to the review process within the schedule
- No individual should be asked to review an application to which they are a party
- No reviewer should be asked to review more than 2 applications in a given year
- Where an institution is unable to identify a suitable reviewer, the DIN should be notified to source an alternative
- DST Group reviewers should have the authority within DST Group to provide an informed opinion on Defence Relevance.

ANNEXURE B: GUIDELINES FOR REVIEWERS

It is the responsibility of the Member University to ensure that grants for review are allocated to appropriate reviewers in a timely manner. Reviews are to be returned within two weeks of receipt by the reviewer to the Defence Innovation Network via email.

Reviewers will be asked to agree to confidentiality terms. Reviewers must not correspond with applicants or interested parties relating to the proposal during or after the review process.

DIN attempts to select reviewers with no conflict of interest. Where a reviewer believes he/she has a conflict of interest, no review is required but an explanation of the conflict of interest is requested. An alternate reviewer will be sourced by the DIN. Conflicts of interest may be:

- **Direct;** i.e. you are an interested party in a proposal;
- **Indirect;** i.e. you have an association with one or more of the institutions involved in the proposal;
- **Involvement in a competing proposal or business;** i.e. you have an involvement that is direct or indirect with a competing proposal or business activity.

You are asked to apply judgement when assessing science excellence and impact, relative to the stage of research and the area of impact. In principle, the DIN will co-fund research at any TRL, which can be thought of as generating new ideas, developing emerging ideas, and leveraging proven ideas. You should judge the proposal accordingly.

Reviewers should assess the proposal against the supplied criteria, and are expected to provide an objective appraisal of the proposal against these criteria, i.e. undertake your assessments in accordance with the guidance in these guidelines. An assessment template is provided and reviewers are asked to assess only against the specific criteria identified for their institutional type (DIN, DST Group or University). You should use information contained in the application and the supplied supporting documentation, and may in addition employ any other information of relevance to make the assessment. Your role as a reviewer ends once you have passed comments to the DIN.

You should provide explanatory text to support your assessment, which can include reference to supporting key evidence, such as scientific publications, strategic guidance documentation, patent information, etc. It is important that your comments support your score and fairly reflects the assessment, and is accurate, professional, and honest.

ANNEXURE C: ASSESSMENT CRITERIA

The following defines the criteria used for assessment of Projects. Reviewers will assess only those criteria allocated to them. If any clarification is required on criteria, please contact the Defence Innovation Network. There will be a strong preference for collaborative projects where at least two universities are involved in the project.

For Pilot Projects, the following criteria will apply, falling into IMPACT and EXCELLENCE

- Identified need in Defence (technology or capability)
- Potential for impact and implementation pathway
- Novelty and potential to become world leading
- Technical / Scientific Merits, Scientific and Technical Risk, Best Collaborative Team

NOVELTY AND POTENTIAL TO BECOME WORLD LEADING; TECHNICAL FEASIBILITY AND RISK; BEST COLLABORATIVE TEAM (EXPERT REVIEWERS)

What is the quality of the proposed research, science, or technology, or related activities?
You may wish to particularly consider:

- The novelty and originality of the proposal.** The idea itself does not have to be novel, but the sum of the idea and the application must be distinctive. We are looking for 'fresh thinking' rather than an obvious extension of existing research. If you are aware of similar work please provide a reference. Similar work will not necessarily disqualify a proposal.
- The scientific credibility of the idea and its logic.** Is the scientific basis for the idea established well in the proposal?
- The quality of the science, description of critical steps** (including go/no-go steps), and methodology. Is the proposed research fit for purpose for the proposed outcome and impact sought?
- The degree of scientific rigour**, e.g., the accuracy of the approach and hypothesis. Please provide advice on how either might be improved.
- The scientific risks and uncertainties identified in the proposal.** Any omissions and how they are managed. Are the timescales realistic? Is the size of risk, and plans to mitigate that risk, consistent with the stage of research?
- Team composition.** Does the team represent a collaborative effort between DIN member universities? Do the team members possess the necessary expertise consistent with the needs of the project? Does the team possess other useful expertise, like previous experience or engagement with Defence or industry partners? For stage 2: Does the team have the necessary level of skills and track record to deal with the project?

When reading the proposal it would be valuable if you can consider the following questions in your scoring and commentary:

- Comment on the strengths and highlights of the proposed research.
- Highlight the deficiencies or weaknesses of the proposed research.
- Were there any concerns or issues around the proposed research, relating to technical, team, prior events, existing technologies, existing knowledge/ research?

POTENTIAL FOR IMPACT AND IMPLEMENTATION PATHWAY (STEERING COMMITTEE)

You may wish to consider:

- Has the applicant clearly articulated how this opportunity can be transformative for Defence or the defence industry / company in the future?
- Is the proposed implementation pathway credible relative to the proposed stage of research, bearing in mind the TRL or the research?
- Are the scale and breadth of proposed benefits credible given the area of impact and are these consistent with the outcomes of the proposal?

'Implementation pathways' are expected to demonstrate that the proposal has considered specifics or mechanisms by which outputs may eventually become implemented or commercialised.

The credibility of indicative implementation pathway(s) to deliver benefit to Australia will be assessed, and may not be not limited to a single industry partner or end user, and may be uncertain in nature. A 'credible' implementation pathway analysis will consider the characteristics of the end use area and is not a generic description.

The information sought is indicative only but should nonetheless impart confidence that the research team has considered this aspect, even though the information may be tentative and uncertain. It is recognised that early stage investigations are likely to have less concrete implementation pathways with higher level information at the generic beneficiary and end-user level, while more advanced (i.e. higher TRL, near-to-market) studies will present a clearer view of a pathway to impact and implementation.

'Impact' will be measured by one or more of scale, extent, and urgency of Defence need or transformative nature of the outputs (i.e. creating altogether new technologies or solutions).

'Scale' means the size, or how much, the outcomes will benefit Australia and Defence.

'Extent' means how widely the outcomes will benefit Australia or Defence.

For example, a given technology may require only five specimens in any given Defence Force. This will have small size (unless it is of very high value). If the technology is of such a nature that it is likely to be taken up by every Defence Force in which it is able to be implemented, then it will have a wide extent of coverage.

'Urgency of Defence need' can be measured against expressed priority areas, such as in the Defence Innovation Hub or via other mechanisms.

A proposal that demonstrates high impact would receive the following type of comment:

The potential benefits are extremely large and with impacts that are nationally significant across the whole of a sector or several sectors. The estimates of benefits are credible and clearly described. The proposed implementation pathways are of an extremely high standard, completely credible and the supporting information is satisfactory in scope.

RANKING SYSTEM

IMPACT

1. Identified Need in Defence¹

- **[0] None:** No obvious relationship to Defence S&T priorities
- **[1] Low:** Peripheral relationship to Defence S&T priorities (substantial modification would be required to apply the outputs to a Defence problem)
- **[2] Medium:** Research is closely related to a Defence problem or that is developing a technology of direct relevance to a Defence application. One industry partner is involved.
- **[3] High:** Working directly on a Defence problem in partnership with Defence. Two or more industry partners are involved.

2. Potential for impact and implementation pathway²

- **[0] None:** The proposal demonstrates low impact and/or a poorly articulated implementation pathway.
- **[1] Low:** The proposal shows some impact and/or a reasonably well-developed implementation plan.
- **[2] Good:** The impact is likely to be significant and the implementation plan credible.
- **[3] Outstanding:** There is likely to be high impact if successful and the implementation plan is clear, credible and contains specific and detailed end use information.

EXCELLENCE

3. Novelty and potential to become world leading^{2,3}

- **[0] None:** Is routine and presents little or no novelty.
- **[1] Low:** Displays some novelty but the outcomes are likely to be incremental.
- **[2] Medium:** Is differentiated, will lead to notably improved technology.
- **[3] High:** Distinctive approach that is highly likely to produce leading innovations or capability.

4. Technical/Scientific Merits; Scientific and technical risk (science component)^{2,3}

- **[0] Low:** The Proposal is uncompetitive and has significant weaknesses or flaws, such as a poorly developed or costed plan, no demonstrated ability that the investigators can deliver on the proposed research, or a lack of novelty or value. Risks are poorly articulated or are unmitigated.
- **[1] Moderate:** An interesting proposal. Developing expertise amongst investigators. Some concerns about either the resource estimate or the ability of the researchers to deliver based on their understanding of the state of the art or their track record. The proposal may lack a compelling element. Risks are partly identified or inadequately mitigated. Risks outweigh benefits.
- **[2] Good:** High quality research and a strongly competitive proposal. Investigators have provided evidence of previous ability to deliver. Risks have been well articulated and mitigated although some residual risks might remain. The potential benefits outweigh potential risks.
- **[3] Outstanding:** Of the highest quality and at the forefront of research in the field. Well budgeted for the proposed statement of work. Sound track record of investigators. Risks have been adequately identified and mitigated.

¹ Assessed by DST Group reviewer.

² Assessed by DIN Steering Committee.

³ Assessed by academic reviewer.

5. **Team Technical/Scientific Merits; Collaboration and Track Record^{2,3}**

- **[0] None:** The team consists of an individual lead researcher (with or without students, research associates) or has inadequate expertise to lead to a successful outcome.
- **[1] Low:** The team consists of two lead researchers from the same institution (with or without students, research associates)
- **[2] Good:** The team consists of two lead researchers from the different institutions (with or without students, research associates) with fit for purpose expertise.
- **[3] Excellent:** The team clearly has been assembled to encapsulate the best expertise from across the DIN.

ANNEXURE D: PROJECT ASSESSMENT

Pilot Projects are assessed as a two-stage process.

The Stage 1 “short-form” application is assessed by a Defence scientist primarily on the basis of Defence need and project feasibility. Stage 1 is primarily aimed to determine whether the proposal suffers from flaws – obvious to a Defence expert – that would prevent it from being used or endorsed by Defence.

- Does the proposal constitute new Defence research?
- Is there competing research or a commercial product available?
- Does the approach suffer fundamental flaws that will lead to failure in the field?
- Does the product require specialised testing and evaluation? Are these facilities accessible to Australia?
- Are there other (obvious) implications that need to be considered, such as national security or Defence Export controls?

Stage 1 can also provide feedback to teams on ways to improve proposals, including related research or publications, end-user endorsements, stakeholder interest, alternative funding opportunities, requisite testing and evaluation or certification, and integration or de-confliction issues with existing systems or methodologies.

The Stage 2 “long-form” full proposal is assessed by both Defence and academic peers, primarily on the basis of scientific and technical merit and innovation. At this stage, it is expected that research teams or their lead institutions have engaged with Defence or industry end-users to ensure interest in outcomes that - if successful - could lead to further research or fielded products.

The following pages are templates for assessment of Stage 1 (short-form) applications and Stage 2 (long-form) full proposals. The templates are intentionally short and similar to reduce reviewer workload and highlight changes in scores and/or commentary.

The DIN Steering Committee scores the proposals on impact and implementation:

Criterion 2 – **Potential for Impact and Implementation Pathway (Steering Committee only)**

Ranking (circle one): 0 1 2 3

Comments:

PILOT PROJECT STAGE 1 ASSESSMENT

Application Number: DINPP201x-xx

Title:

Reviewer Name: _____

Reviewer's Institution: _____

In your opinion, is there a reason why this proposal should not be approved?

YES

Comments: *e.g., proposal does not address problem statement; research outcomes are known and/or unfavourable; proposed product is fundamentally unworkable in a military context; similar commercially available products exist; team has repeatedly demonstrated poor scientific rigour or failure to deliver promised products or outcomes. Responses are treated as confidential.*

Criterion 1 – Identified Need in Defence

Ranking (circle one): 0 1 2 3

Comments: *(Please use as much space as required to justify the score. If there are ways to improve the score that are accessible to the researchers, please add them to the following page)*

Criterion 3 - Novelty and potential to become world leading

Ranking (circle one): 0 1 2 3

Comments: *(same as above)*

Criterion 4 – Technical and Scientific Merit/ Scientific and Technical Risk

Ranking (circle one): 0 1 2 3

Comments: *(same as above)*

Criterion 5 – Team Collaboration and Expertise

Ranking (circle one): 0 1 2 3

Comments: *(same as above)*

Comments and Feedback – If there are obvious ways to improve marginal scores for any of the criteria above, please add them on the next page. These will be provided as feedback to successful applicants to allow them the opportunity to improve their full Stage 2 proposals.

PILOT PROJECT STAGE 2 ASSESSMENT

Application Number: DINPP201x-xx

Title:

Reviewer Name: _____

Reviewer's Institution: _____

Criterion 1 – **Identified Need in Defence**

Ranking (circle one): 0 1 2 3

Comments:

Criterion 3 - **Novelty and potential to become world leading**

Ranking (circle one): 0 1 2 3

Comments:

Criterion 4 – **Technical and Scientific Merit/ Scientific and Technical Risk**

Ranking (circle one): 0 1 2 3

Comments:

Criterion 5 – **Team Collaboration and Expertise**

Ranking (circle one): 0 1 2 3

Comments:

ANNEXURE D: SHORT-FORM APPLICATION TEMPLATE

**STAGE 1 APPLICATION - SHORT FORM
FOR DIN PILOT PROJECT GRANT SCHEME**

This spreadsheet application is designed to provide a 'project-on-a-page' summary of your proposal (Section 1), but also allows you the opportunity to describe your research in more detail (Section 2). Please note that some cells in this spreadsheet are locked and will be filled automatically to ensure consistency, particularly with budget estimates. If you have any issues with formatting, please provide comments in your cover letter/email.

For more information and instructions on the process of application, please refer to the Pilot Project Grant Procedures document.

CONTACT:

Helen Dorsett

Associate Director, Defence Innovation Network

+61 490 121 085

info@defenceinnovationnetwork.com

Project Number

Project Name	<input type="text"/>		
Lead Organisation	<input type="text" value="Lead organisation"/>		
Contact person/CI	<input type="text" value="Contact Person"/>		
Contact email	<input type="text" value="Contact.person@[organisation].[org].au"/>	Phone	<input type="text" value="02 1234 5678"/>
Project Dates	<input type="text" value="6"/> Duration (months)	Commence <input type="text" value="1-Aug-19"/>	Complete <input type="text" value="28-Jan-20"/>
Project Contribution	DIN cash (\$k) <input type="text" value="\$ 136,430"/>	In-kind (\$k) <input type="text" value="\$ -"/>	

Project Aim
(30 words max)

Need and Relevance to Research Priority Areas
(80 words max)

Which problem statement are you addressing? How will the project contribute to a Defence or Industry capability or need? Who are the likely or intended end-users or platforms, or what are likely paths to commercialisation?*

1. PROJECT SUMMARY (less than 700 words)

Objectives Consider the duration and scope of the project - what sort of deliverables can be accomplished within these constraints?

Objectives Consider the duration and scope of the project - what sort of deliverables can be accomplished within these constraints?

Hypothesis or Research Questions *These should help provide a basis for rapid go/no-go decision-making on feasibility, scaling up research, follow-up testing and evaluation, and paths to commercialisation.*

Methodology /Approach *This should provide enough detail to assess skills, expertise, application and feasibility - and to distinguish new research - noting that you have another two pages to provide more detail on instrumentation, facilities, track record and support.*

Anticipated Outcomes *Briefly summarise impact, benefits and pathway to implementation or commercialisation.*

2. PROJECT DETAILS (add pages if required)

2a. Project Participants, Project Shares*

Project Participant	IP (Y/N)	Indicative IP share (%)
Lead Investigator, organisation	Y	50%
Investigator 1, organisation 1	Y	20%
Investigator 2, organisation 1	Y	
Investigator 3, organisation 2	N	
Investigator 4, organisation 3	Y	10%
Investigator 5, organisation 3	Y	10%
Investigator 6, organisation 4	N	10%
Total	5	100%

Indicative requested DIN central funds cash contribution (\$k)

2b. Project Objectives (1 paragraph)

2c. Potential Outcomes and Impact (< 1 page)

2d. Methodology (< 2 pages)

2e. Team (< 1 page)

2f. Budget

PARTICIPANT							
SALARY EXPENSES	Details	Base salary %	FTE %	On cost %	Total FY \$	In-kind \$	DIN Cash \$
Investigator 1	<i>Position, Level</i>	\$ 100,000	100%	26.43%	\$ 126,430		\$ 126,430
Investigator 2					\$ -		\$ -
Investigator 3					\$ -		\$ -
Investigator 4					\$ -		\$ -
Investigator 5					\$ -		\$ -
Investigator 6					\$ -		\$ -
PROJECT OPERATING EXPENSES	Details				Total FY \$	In-kind \$	DIN Cash \$
Equipment	<i>e.g. Laptops</i>				\$ 10,000		\$ 10,000
Material & Consumables	<i>e.g. Chemicals, lab supplies</i>						\$ -
Software & licences							\$ -
Travel	<i>e.g. Flights, local travel, meals</i>						\$ -
Workshops	<i>e.g. Catering</i>						\$ -
Other							\$ -
TOTAL					\$ 136,430	\$ -	\$ 136,430

2g. Contributions from Defence/DST Group

Include a brief description of how you engaged with the originator of the problem statement during the drafting of this proposal to ensure that there is alignment with the end user.

2h. Analysis of Risks to Project Achievement; potential to be surpassed by events (< 1/2 page)

2i. What appropriate approvals (ethics, access to Defence facilities, security clearances) are required for this project and how will they be obtained?