



ADACS Merit Allocation Program

Policies and Guidelines

2024B Version

Overview	3
What is ADACS?	3
What is the ADACS Merit Allocation Program?	3
What resources are available?	4
What is the scope of this document?	4
Quick Start	5
Important Dates	6
The Proposal Process	7
Two Types of Support Available	7
The Proposal Process	7
Proposal Requirements	8
Phase 1: EoI Submission Requirements	8
Phase 2: Consultation Requirements	8
Phase 3: Formal Application Requirements	9
EoI Reminder and Deadline Announcements	10
Project Audits	11
The Proposal Portal	11
Project naming	11
The Assessment Process	12
Proposal Deadline	12
Declaration of Conflicts of Interest (Cols)	12
Proposal Assessment Form	12
Independent assessment of proposals by all committee members	13
Requested Resources	13
Program Fit	13
Return on Investment	14
Grading Bands	14
Time Allocation Committee (TAC) assessment meetings	15
Meeting Agendas	15
First meeting	15
Second Meeting	16
Compilation of applicant feedback	16
Release of assessment results (including feedback) to applicants	16
Assessment Retrospective	16
The Project Delivery Process	18
Project Delivery Teams	18
Agile Development	18
Project Kick-off meeting	19
Project Handover	19

Ongoing code maintenance and ownership	20
Guidelines for Effective Program Artefacts	20
Guidelines for Effective Proposals	20
Guidelines for Effective Resource Assessments	21
Guidelines for Effective Proposal Feedback	23
Roles and Responsibilities	24
Science Team Member Responsibilities	24
Principal Investigator	24
Co-Investigator	24
Domain Experts	25
ADACS Assessment Team Responsibilities	25
Assessment Team Lead	25
ADACS Time Allocation Committee Responsibilities	25
TAC Chair	26
ADACS Development Team Responsibilities	26
ADACS Secretary Responsibilities	27
FAQ	28
1. Who owns (or is responsible for ongoing maintenance of) code developed?	28
2. Can large projects be supported through this program?	28
3. What software technologies can be utilised?	28
4. Publication Acknowledgement Text	28
5. Reporting the value of ADACS projects	29

Overview

What is ADACS?

ADACS is a joint initiative of Swinburne University of Technology, Curtin University, Macquarie University and Astronomy Australia Ltd (AAL). It is principally funded through the Astronomy National Collaborative Research Infrastructure Strategy (NCRIS) Program.

ADACS provides astronomy-focused training, support and expertise to allow Australian astronomers to maximise the scientific return from data and computing infrastructure. Principal initiatives include:

- provision of astronomy-focused training in software development, data management, High Performance Computing (HPC) and advanced data analysis to Australian astronomers, in order to optimise the usage of, and increase value from, existing infrastructure;
- creation/enhancement of astronomy data portals to facilitate the management, sharing and reuse of data; and
- collaboration/partnering with national eResearch providers to help coordinate and maximise the computing and storage resources available to astronomers.

What is the ADACS Merit Allocation Program?

The ADACS Merit Allocation Program (MAP) aims to provide Australian astronomy researchers with access to diversely qualified teams of professional software engineers to aid in training and in the creation, feature extension, optimisation, or support of scientifically important software development projects.

As with all ADACS initiatives, the program works (as closely as possible) within the cultural norms of the astronomy community¹. As such, the ADACS MAP is designed to feel familiar to those who have submitted observing or computing time proposals. Specifically:

- the program is managed as 2 semesters (A & B) per year;
- applications have a similar structure;
- applications constitute a similar amount of effort to authors;
- application processing follows a similar trajectory: submission, assessment by an independent TAC, and feedback; and
- large long-term initiatives can be managed through repeated proposals.

¹ In setting the policies for the program, some inspiration has been taken from the AAL document "Australian Time Allocation Committee Policies and Procedures".

One notable difference between such programs and the ADACS MAP is that - unlike observing and computing proposals where researchers are expected to determine the resources required - it is unreasonable to expect researchers to accurately assess how much effort is required to implement a project. For this reason, the program is front-loaded with an Expression of Interest (EoI) & consultation phase whereby ADACS will iterate with researchers towards establishing the specific nature of the project. ADACS then assesses the resources required, which is communicated to applicants as text which they then cut-and-paste into their applications.

The allocation of all resources is based on scientific merit and impact, with the final evaluation performed by the Astronomy Data and Computing Services Time Allocation Committee (ADACS TAC; see the [AAL website](#) for current membership).

It is intended that the ADACS TAC will follow the cultural norms astronomers are accustomed to through their experience with observational or computing time allocation committees.

What resources are available?

The exact resources available will fluctuate from semester-to-semester depending on the normal course of funding cycles. Guaranteed time from related (but non-ADACS) AAL-funded programs (e.g. the Optical Data Centre, the Gravitational Wave Data Centre, etc.) is also frequently made available. Generally speaking: the resources made available have risen steadily with demand with an over subscription of approximately 1.5-to-2 maintained.

While demand for the program has steadily increased since 2018, the resources made available have also steadily increased (doubling from 64 weeks in 2018B to 125 weeks in 2022B). 139 weeks were allocated in the 2024A semester.

What is the scope of this document?

This document is intended for anyone participating in the program; either as an applicant, ADACS developer, or as a member of the ADACS Time Allocation Committee. It presents the roles, responsibilities and processes constituting the program.

In the sections which follow:

- important dates are given;
- operations of the program are described;
- roles and responsibilities of everyone involved listed; and
- frequently asked questions answered.

Quick Start

All participants in the program are responsible for knowing their role(s) (seek guidance from the Program Secretary if this is not clear to you) and associated responsibilities.

In particular, all participants should be familiar with [The Proposal Process](#) and ensure they understand the following additional sections of this document, if their role is as follows:

- **Applicant or Science Team Member:**
 - [The Project Delivery Process](#) (note especially: [Project Handover](#)), and
 - [Science Team Member Responsibilities](#);
- **TAC Member:**
 - [The Assessment Process](#), and
 - [ADACS Time Allocation Committee Responsibilities](#);
- **Assessment Team Member:**
 - [Phase 2: Consultation Requirements](#), and
 - [ADACS Assessment Team Responsibilities](#);
- **Development Team Member:**
 - [The Project Delivery Process](#) (note especially: [Project Handover](#)), and
 - [ADACS Development Team Responsibilities](#).

Important Dates

The following is a table listing important events during the ADACS MAP process, including estimates of dates for the A and B semesters. These are meant merely as guidelines, since adjustments may be necessary to accommodate public and school holidays, which can vary from year-to-year.

Important Dates for Applicants	Semester B	Semester A
EoI Deadline reminder circulated	1st Monday of April	2nd Monday of Sept
EoI Deadline	4th Friday after call announced	4th Friday after call announced
Proposal deadline	3rd Friday of May	1st Friday of November
Release of results	Last Friday of June	3rd Friday of December
Start of work on supported projects	First Monday of July	First Monday of January

Important Dates for Committee Members	Semester B	Semester A
Secretary establishes agreement on semester dates (including the assessment meeting date) with TAC members	Mid-March	Mid-August
Proposal deadline	3rd Friday of May	1st Friday of November
TAC assessment meeting	1st Week of June	Last week of November
TAC feedback deadline	Early last week of June	Early 3rd week of December
Release of results	Last Friday of June	3rd Friday of December

The Proposal Process

The allocation of all resources is based on **scientific merit** and **impact**, with the final evaluation performed by the Astronomy Data and Computing Services Time Allocation Committee (ADACS TAC; see [here](#) for current committee membership).

Two Types of Support Available

Two types of support are available through the ADACS MAP:

1. **Training Support:** members of the Australian astronomy community can apply for personalised/bespoke face-to-face or online ADACS training. This can include requests to re-run, refine, or expand existing ADACS training material/workshops.
2. **Software Support:** members of the Australian astronomy community can obtain access to the time and expertise of the ADACS team to design/start new software initiatives or to optimise/extend the capabilities of established projects.

Training can also be incorporated into Software Support projects. Examples of appropriate training in this circumstance includes (for example):

- proper use of newly developed tools/optimisations, etc. in HPC environments; or
- training in the use of technologies leveraged in the development cycle of the project (e.g. to enable science teams to conduct ongoing support, add further features, etc.)

The Proposal Process

To ensure effective and program-appropriate proposals, a three stage process is employed:

1. **Eol Submission:** all researchers are asked to submit – at any time – an expression of interest (Eol). We strongly encourage both successful and unsuccessful applicants from previous rounds to consider reapplying. An ADACS staff member will then be in touch to organise a formative discussion. This will be processed as soon as possible upon receipt, but must be received prior to the next semester's Eol deadline to be supportable during its period. See below for [Eol submission requirements](#).
2. **Consultation Phase:** ADACS will then interview the applicants and – in consultation with them – conduct a project audit. The objectives of this process are to:
 - retire risk (particularly those inherent in projects with limited previous ADACS engagement);
 - establish a reasonable scope; and
 - inform an assessment of required resources.

ADACS resources for this are allocated on a first-come-first-serve basis. These resources are limited, so ***we strongly advise submitting your Eol and engaging this***

process as early as possible. Projects doing so should benefit more from this process and naturally be in a better position to secure meaningful resources on shorter timescales. See below for [consultation requirements](#).

3. ***Formal Application:*** following this consultation, applicants will be invited to submit a formal application to be assessed by the ADACS TAC. Calls are announced in April (for B-semester projects starting early-July) and September (for A-semester projects starting early-January), with final proposal deadlines occurring roughly 5 weeks afterwards. See below for [application requirements](#).

When considering applications to the ADACS MAP, please consider that all ADACS development will be open-source and as such, made publicly available. In addition, resources generated for training projects will be kept inclusive, open and available to the broader community (space permitting). An opportunity to argue to the ADACS TAC against these policies is afforded to all applicants however.

Note that all applications – even for projects having seen significant past or ongoing ADACS engagement – must submit an EoI and participate in the consultation process for a final proposal to be considered valid.

Proposal Requirements

The following details the requirements that need to be met in each MAP phase.

Phase 1: EoI Submission Requirements

The purpose of EoI submissions is to signal your intent to participate in the program and to form a basis for a subsequent first discussion with ADACS. It is not a commitment to submitting a final application.

An EoI should:

1. be informative but brief;
2. present a concise **description of the problem** you are seeking to address (note that we are not interested in proposed solutions or implementation details at this stage);
3. for training projects, fall within the ADACS remit of teaching coding and computational best practices.

Please submit EoIs via the ADACS EoI Submission Portal at <https://eoi.adacs.org.au>.

Enquiries (of any kind) regarding the ADACS Merit Allocation Program should be submitted via email to map@adacs.org.au.

Phase 2: Consultation Requirements

The purpose of this phase is to arrive at a mutually understood, well defined project with a scope appropriate for a single semester of work. The result is a resource assessment

(described in more detail below) that provides a brief breakdown of the work to be conducted and associated resources required to deliver the project. Some things to keep in mind during this phase:

1. try to keep the number of people involved as small as possible and focused on those whose input is absolutely required. The process of clearly and concisely defining the project tends to lose efficiency when too many voices are involved;
2. try to **focus first on a clear articulation of the problem** faced by the science team, rather than getting too involved at the start in solution or implementation details;
3. often one meeting plus subsequent follow up by email is sufficient for this process. For applicants who engage the program early or projects involving complex extant codebases or technically complex requirements, a more intensive collaborative effort may be possible. For this reason, applicants are encouraged to engage with the program as early as possible.

Development Team members should see below for [resource assessment guidelines](#).

Only Resource Assessments emailed to applicants by the Secretary (or someone specifically nominated by the Secretary) should be considered official. No others should communicate something presenting itself as a resource assessment to applicants.

Phase 3: Formal Application Requirements

Proposals submitted for consideration to the ADACS MAP must meet the following set of requirements:

- they must meet an acceptable threshold of scientific and technical merit. The committee can choose to reject any proposal that does not;
- only proposals which have properly followed the ADACS MAP application process shall be accepted. This includes:
 - submission of a written EoI to ADACS prior to the EoI deadline,
 - participation in a technical consultation with an ADACS Assessment Team in which proposal aims and scope are fully disclosed and discussed,
 - an accurate quote of the ADACS Resource Assessment is provided in the proposal,
 - the proposal remains faithful to any previous discussions with the ADACS team (i.e. the bases by which the ADACS team has established their resource assessment),
 - all AAL-funded projects that are related (either formally or informally) with this proposal must be declared, and

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- if the ADACS Secretary (who is in the best position to judge) deems that any of these points have been violated, they must inform the TAC who may choose to reject the proposal;
 - proposals will only be accepted via the ADACS Online Proposal System and must be submitted before the announced deadline. Applications received after the deadline will only be considered by the committee if the ADACS Secretary and TAC Chair judge that there are sufficient extenuating circumstances;
 - proposals must be directly compatible with one of the following ADACS Service Components:
 1. provision of astronomy focused expert training or support in software development, data management, HPC and advanced data analysis, in order to optimise the usage of, and increase value from existing infrastructure,
 2. collaboration with relevant astronomy experts to create/enhance astronomy data portals to facilitate the management, sharing and reuse of data, and/or
 3. collaboration with national eResearch providers to help coordinate and maximise the computing and storage resources available to astronomers;
 - only proposals led by Australian researchers shall be accepted.

Applicants and TAC members should see below for [effective proposal guidelines](#).

Eol Reminder and Deadline Announcements

While EoIs are accepted at all times, an **Eol Reminder Announcement** calling for EoIs will be communicated to the community approximately a month after the start of semester. This time gives the development teams time to organise and begin the delivery of a new semester's projects before starting to process new Eol submissions.

To be eligible for support in the next semester, EoIs must be received before the Eol deadline approximately 2 months prior. An official **Eol Deadline Announcement** will be made well in advance of the final Eol deadline, in time for meaningful consultations to be conducted for prompt Eol submissions. This announcement should:

- be short and concise;
- specify a deadline for Eol submissions;
- direct applicants to a page detailing how the program works and the requirements for Eol submissions (i.e. keep these details out of the email; they are an unnecessary distraction);
- make it clear that applicants must engage the Eol process for a final submission to be considered valid;
- detail any special-interest aspects of the call that you want to highlight (e.g. guaranteed time being offered by Data Centre programs); and

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- **not** provide details of the final application process - particularly the final submission deadline. The intention is to reduce unexpected submissions from applicants who have not engaged in the EoI process.

Project Audits

Occasionally, projects present to the program which require a significant amount of investigation, careful design effort or which carry substantial risk. In cases such as these, ADACS may recommend a Project Audit as a first step in working towards a fully realised project. Project Audits are modest allocations with the stated purpose of putting the Science Team in a position to subsequently lodge an informed and fully-formed proposal.

The Proposal Portal

All applications must be submitted via the ADACS proposal system. Applicants can access this system via their AAF credentials or can create an account attached to their email address. Please see the [system's documentation](#) for more details about the proposal system and its use.

Project naming

From the point at which an EoI is submitted, a unique project identifier is prescribed. These identifiers are constructed with the following format: **XXxxxxxxx_YYYYYz**

Where:

- **XXxxxxxxx** indicates the first initial (capitalised) and last name (capitalisation maintained but punctuation removed) of the project's PI
- **YYYYY** indicates the semester for which the project was selected (e.g. 2020A)
- **z** is an optional unique lowercase letter (assigned alphabetically) used to demark multiple projects submitted by the same PI within a given semester.

For example: JDoe_2020A; AEinstein_1905Aa, AEinstein_1905Ab, AEinstein_1905Ac and AEinstein_1905Ad; etc.

The Assessment Process

This section details the terms of reference for the ranking, acceptance and allocation of resources for proposals submitted for consideration in the ADACS MAP. In the subsections which follow, boundaries on what shall be deemed an acceptable proposal and how those proposals shall be ranked are detailed.

The process whereby the list of submitted proposals is converted into a list of supported projects (and allocated resources) is as follows:

Proposal Deadline

The call for proposals closes when the Proposal Deadline is reached. At this time, the secretary will:

1. notify the committee of this fact;
2. make available to them a PDF archive of all validly submitted proposals; and
3. communicate a link to a form through which Conflicts of Interest (ColS) and proposal assessments are to be submitted.

Declaration of Conflicts of Interest (ColS)

All committee members must declare any perceived conflicts of interest with any submitted proposals. They will be excused from any committee deliberations involving those proposals.

Committee members should use the same sort of Col guidelines they may have encountered elsewhere with Australian astronomy committees; essentially: an honour system. The Australian astronomy community is too small to support a strictly rigorous approach. It is up to each committee member to look at each project and ask themselves: can I be objective for this assessment?

The declaration of ColS is managed through the [Proposal Assessment Form](#), when assessors [submit their proposal assessments](#).

Proposal Assessment Form

Assessments are submitted via the Proposal Assessment Form. A link to this form will be emailed to the committee after the Proposal Deadline has passed. One submission should be made for each proposal, even for proposals for which assessors wish to declare a Conflict of Interest, for this is where those conflicts are declared.

Independent assessment of proposals by all committee members

All proposals must be independently summarised and scored by every non-conflicted member of the ADACS TAC prior to the assessment meeting. Scores should be assessed according to the following ranked priorities:

1. scientific merit;
2. impact (including, national benefit); and
3. technical merit.

Aside from these priorities, the committee is asked to consider the following guidelines on a few specific issues:

Requested Resources

It is common during assessment of telescope and computing time proposals for the committee to scrutinise the reported resource requirements for a proposal. For this program however, this is the responsibility of the assigned ADACS Assessment team and as such, should not be considered a reflection of the merit of the applicant's proposal. The committee may consider risk & technical feasibility in their assessment, but given the detailed vetting conducted by the ADACS team prior to proposal submission, deference should be paid to the assessment presented to the committee by the ADACS team. If a committee member remains concerned however, they can choose to advocate for an adjustment to the resources assigned to a successful project.

Program Fit

In early semesters of the program, assessors tended – in cases where they believed that a proposal was not a good fit to the program – to express their concerns with reduced grading. In cases where, after discussion, an assessor changed their position on this issue large modifications to grades resulted. This tended to confuse both the ranking process and committee discussions.

We now separate this issue out from the grading to help streamline deliberations. Assessors are now asked during each proposal's assessment:

"Please indicate whether you feel that this proposal is within scope of the ADACS Merit Allocation Program and is a valid/good fit to the program.

For software support proposals or stand-alone bespoke training, effort should align with the ADACS mandate of maximising the scientific return from Australian investment in data and computing infrastructure.

For training packaged with software support, effort within scope includes:

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- *proper use of newly developed tools/optimisations, etc. in HPC environments;*
 - *training in the use of technologies leveraged in the development cycle of the project (e.g. to enable science teams to conduct ongoing support, add further features, etc.)*

The committee can exercise their own discretion for projects that don't clearly lie within these bounds. The overriding principles at all times should be: is this proposal servicing the Australian community and making effective use of the unique capabilities of the ADACS nodes?"

After answering this question, the rest of the assessment should proceed under the assumption that the proposal is an appropriate fit and be graded purely against the three ranked priorities listed above.

Return on Investment

As part of the assessment of impact, consideration should be given to the return on investment of the project, including whether any expected outcomes of the project could find reuse within the community.

Grading Bands

The following system of four grading bands (A,B,C,D; with corresponding mark ranges) are used for grading proposals:

- A. Definitely support [marks of 8-10]: high quality case (compelling science, technical requirements clearly articulated), high impact expected (quantifiable improvements in code, training, research made possible), benefits to the Australian community explained (e.g. makes possible research otherwise not possible, use by students, sharing of data)
- B. Support if possible [marks of 5-7]: warrants support but does not hit the heights of the "Definitely support" case – most committee discussion will happen around these proposals.
- C. Support after revision [marks of 2-4]: does not warrant support in its current form, but a revised case that addresses shortcomings would/could be; most likely issues are technical requirements not clearly articulated, code improvements not discussed and/or properly quantified, impact and benefits not explained (or not explained well)
- D. Can not evaluate [mark of 1]: something about this proposal makes it impossible to imagine supporting, even in a revised form

Time Allocation Committee (TAC) assessment meetings

Deliberations to decide the final set of supported projects and their allocated resources are conducted over the course of **two 2-hr meetings** (scheduled on consecutive days, if possible).

Once the committee's assessments have been submitted, the Secretary then uses these scores to rank the proposals, presenting the results early in the first meeting to provide a starting-point for subsequent discussion. They will also present a proposed list of Lead and Co-Assessors for each project, to be ratified by the committee.

The committee discusses each proposal in turn with a particular emphasis on reconciling the perspectives of assessors who submitted outlying assessment marks. Based on the content of this discussion, committee members may elect to amend their assessment.

Selection of supported projects will then be based on a joint consideration of:

1. these amended rankings;
2. the resources requested by each proposal; and
3. the resources available for the semester.

as the TAC sees fit.

During the discussion of each proposal, the committee should ensure that:

1. all conflicted assessors are excused;
2. a Lead Assessor is assigned, who is responsible for leading all discussions about the proposal and organising feedback to the applicant;
3. all (non-conflicted) committee members are given an opportunity to comment;
4. upon the conclusion of discussion, all committee members are given a chance to amend their assessment; and
5. finally, all excused conflicted assessors are invited to return.

Meeting Agendas

Typical meeting agendas would look something like the following:

First meeting

- Introductions, Q&A before we start (30 mins)
 - Secretary introduces any new committee members
 - Secretary summarises submitted proposals and resources available
 - Secretary presents proposed Lead Assessor allocations and committee ratifies

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- Secretary presents preliminary project rankings based on submitted grades
 - Chair adds their comments
 - Overview of assessments & initial discussion (30 mins)
 - triage proposals, identifying those that may need extra discussion or particular focus (usually: those close to the cut-off line or those showing signs of disagreement amongst the committee)
 - Break (15 mins)
 - Begin Individual Proposal Discussions* (45 mins)

Second Meeting

- Q&A before we start (15 mins)
- Individual Proposal Discussions (45 mins)
- Break (15 mins)
- Individual Proposal Discussions (30 mins)

With 2 hours available for Individual Project Discussions, the committee generally has 5-10 mins on average to discuss each proposal.

Compilation of applicant feedback

After the Assessment Meeting, the TAC will be given approximately 2 weeks to compile feedback for all applications (see below for [guidelines on effective assessment feedback](#)). This is an extremely important tool for the betterment of the program and should seek to enable both successful and unsuccessful applicants to prepare more effective proposals in subsequent rounds.

Initially, the Lead Assessor of each proposal should draft a response to the applicant, attempting to synthesise the (sometimes disparate) views of the committee, as discussed during the committee meeting. Comments from all other (non-conflicted) committee members should be sought before deeming this text final.

This process is managed through a cloud-shared document.

Release of assessment results (including feedback) to applicants

Once the deadline for feedback has passed, the ADACS Secretary will email all applicants notifying them whether their proposal was granted support (and if so, how much) or not. ADACS and ADACS TAC feedback will be included with this communication.

Assessment Retrospective

In the interest of continually improving the program, a *TAC Retrospective Meeting* will often be had in the months following the TAC Assessment Meetings. This is a chance for ADACS to get feedback from the TAC on matters including the efficacy of: the application template(s); ADACS resource assessments; Instructions to applicants; etc.

The Project Delivery Process

The following provides a brief overview of how the management of supported projects will be managed.

Project Delivery Teams

All projects are delivered as a collaboration between two Project Delivery Teams: a Science Team and a Development Team. The Science Team is responsible for validating and prioritising the efforts of the Development Team, who are responsible for implementing the project (note: this does not exclude implementation contributions by Science Team members, only that the Development Team is responsible for it).

The Science Team is led by the proposal applicant and can consist of other members whose technical expertise is required to meet the Science Team's oversight responsibilities.

The Development Team will consist of one-or-more ADACS developers, one of whom will be clearly identified as the Development Team lead.

A specific list of responsibilities for all Science and Delivery Team members can be found in the [Roles and Responsibilities section](#) below.

Agile Development

Development teams which contribute effort to the ADACS MAP may differ in detail in how they deliver projects, but all will generally follow some sort of Agile-like approach. For those unfamiliar with this language, this effectively means that:

- all projects are conducted as a tight collaboration between the Science Team and the Development team;
- an iterative approach is used, whereby the Development Team regularly consults with the Science Team (typically on a fortnightly basis) to ensure that requirements are being met and focus is kept on the highest-priority work; and
- effort is made – with each increment – to always be working on and delivering working code.

It is important to note that:

- this means that the Science Team must ensure that they are regularly available (through weekly or fortnightly meetings and more regularly, by email or Slack) for the communication requirements of this approach; and
- there is a clear and definite separation of responsibilities for the Science and Development teams, which may be an unfamiliar situation to some researchers who

are generally accustomed to a great deal of control over software development work.

Project Kick-off meeting

A Project Kick-off is a meeting involving the Project Development and Science Teams at the very beginning of the project's implementation. The aims of this meeting are to:

- clearly establish with the Science Team how the Project will be managed, including:
 - the roles and responsibilities for all Science Team Members,
 - how communication will be managed, including where all relevant team members can access project documentation (project backlogs, meeting minutes, etc.), and
 - establishment of a regular Project Update meeting time (if applicable; typically fortnightly but sometimes weekly at project start);
- establish agreement of the initial prioritised requirements for the project. This includes:
 - resolution of any confusions/ambiguities in what is presented in the Project Application, and
 - establishment of an initial prioritised project backlog.

Project Handover

All Projects will have a formal Handover process once the Development Team and Science Teams formally agree that the project has been completed and that the responsibilities of all involved parties have been met.

In addition to the expenditure of resources allocated to the Project, the following must be completed in the course of a Project Handover:

1. all code and documentation produced in the course of the project must be made available to the Science Team. They assume ownership of any new codebases at that point;
2. completion of two very short surveys by the Science Team (one *Program Survey* regarding their experiences of the MAP as a whole and one *Project Retrospective Survey* regarding their experiences of their specific project; required for reporting purposes);
3. completion of one *Project Retrospective Survey* by the Development Team;
4. completion of a *Project Story*. This is a brief description of what was achieved by the project. It is to be written in collaboration between the Science and Development Teams, potentially for publication on the ADACS homepage. A typical structure is as follows:

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- a paragraph of scientific background (usually this can be recycled from the proposal),
 - a paragraph explaining what was achieved by the project,
 - a paragraph explaining the impact of the work, and
 - a couple of images - one for a splash image for publication and - ideally - a plot or image illustrating results.

The *Project Retrospective Surveys* are meant to capture the understanding from both teams of what:

1. was achieved upon Project completion,
2. went well in the course of the project, and
3. could have been done better.

Note that as part of a proposal submission, all applicants will need to certify that they accept responsibility for ensuring that all Handover Requirements are met. Failure to do so may compromise future access to ADACS resources.

Ongoing code maintenance and ownership

All software projects have to carefully consider how ongoing maintenance and servicing will be managed and the ADACS MAP is no exception. Unfortunately, a policy whereby ADACS is responsible for the ongoing support of all code it develops would be unsustainable. For this reason, applicants must accept responsibility for the ongoing ownership of any code developed through the course of a project's delivery.

The issue is instead managed in the following way:

1. Wherever possible, ADACS is careful to stick to technologies that have found widespread use within the astronomy community;
2. When technologies unfamiliar to the Science Teams are employed, training can be requested to equip them with the knowledge needed to conduct simple ongoing support.
3. More challenging support - where the science team requires ADACS assistance and its merit can be successfully argued - can be managed through the ADACS MAP with proposals considered on an equal footing with development of new projects, addition of features to existing codebases, etc.

Guidelines for Effective Program Artefacts

Several artefacts are generated in the course of writing and assessing proposals for the ADACS MAP. The following are guidelines on how to ensure that they are effective.

Guidelines for Effective Proposals

Effective proposals should focus on the following:

- **Impact, Impact, Impact:** the ADACS TAC typically filters all proposals through the lens of this question: what tangible impact will this project have on the team/community's scientific output? Ensure that this is prominently communicated in your proposal
- **Metrics, wherever possible:** the best way to create an impression of impact is to use concrete metrics wherever possible. For example: if a project is seeking performance optimization, what sort of improvement is theoretically possible? What sort of impact is needed to drive meaningful change to the science program? If a project is a web application or a new codebase, what sort of user base is likely or possible beyond the applying science team? Etc.
- **Capacity vs. Capability:** The resources offered through the ADACS MAP are scarce, so proposals specifically seeking the *skills and capabilities* of ADACS developers – rather than their *time* – are given preference. Try not to think of ADACS developers as postdocs. When designing an ADACS project, ask yourself: why is ADACS particularly needed for this?
- *For web-based projects:* applicants should address the following:
 - What is the **expected user base**? How will this be cultivated, fostered and supported?
 - What are the Science Team's plans for **deployment and ongoing support**? (note that while ADACS may be able to help with the deployment of web assets, it can not furnish resources for deployment)
 - International Virtual Observatory Alliance (**IVOA**) **interoperability** (where applicable)
- *For training proposals:* applicants should address the following:
 - You should highlight why **existing training products** (either those previously produced by ADACS, or others freely available online) are not adequate for your needs.

Guidelines for Effective Resource Assessments

The Principal artefact produced by the Consultation Phase is a Resource Assessment. Any Development Team members involved in this exercise should follow these guidelines:

- make sure a member from any relevant Development team offering time within the program is included in this process;
- risk within the program is managed in part by assessing resources to compensate. If a project is identified as having a particular risk (eg. unusual codebases or technologies are involved; assignment of qualified developers can not be guaranteed; etc.), then resource estimates should be adjusted to try to absorb this risk;

-
- resource assessments should follow a similar format for all proposals in a given semester to avoid unfairly biasing the TAC;
 - for *development-only or training-only proposals*, the following format is suggested:
 - An opening sentence articulating who conducted the assessment, listing any expertise or experience they possess which is particularly relevant to the proposed project
 - Of-order 5-to-10 bullet points breaking down the effort of the project as a list of milestones, with FTE effort given in units of weeks in brackets at the end of each item
 - A sentence articulating any additional general overheads (project delivery meetings, documentation, etc) in units of weeks
 - A sentence summarising the total effort required, in units of weeks.
 - Any qualifying statements that may need to be made should be added at the end (eg. dependencies with other proposals, severe risks, etc)
 - For *proposals requesting both development and training*, a similar format is suggested:
 - An opening sentence articulating who conducted the assessment of the development effort required, listing any expertise or experience they possess which is particularly relevant to the proposed project
 - Of-order-5 bullet points breaking down the *development* effort of the project as a list of milestones, with FTE effort given in units of weeks in brackets at the end of each item
 - A sentence articulating any additional general overheads (project delivery meetings, documentation, etc) in units of weeks
 - Of-order-5 bullet points breaking down the *training* effort of the project as a list of milestones, with FTE effort given in units of weeks in brackets at the end of each item
 - A sentence summarising the total effort required, in units of weeks.
 - Any qualifying statements that may need to be made should be added at the end (eg. dependencies with other proposals, severe risks, etc)

Here's an example:

ADACS developers with such-and-such backgrounds have done such-and-such and report the following assessment of resources required to deliver this project:

```
Item 1 text [X_1 weeks];  
Item 2 text [X_2 weeks]; and  
Item 3 text [X_3 weeks].
```

Total development time: X weeks

ADACS notes that this proposal has significant overlap with the project submitted by J. Doe. Should both projects be supported, this project could be delivered with only $Y < X$ weeks of effort.

Only Resource Assessments emailed to applicants by the Secretary (or someone specifically nominated by the Secretary) should be considered official. No others should communicate something presenting itself as a resource assessment to applicants.

Guidelines for Effective Proposal Feedback

Whether a project is supported by the TAC or not, committee feedback is an incredibly valuable opportunity to maximise the productivity of the program (by ensuring that a tangible return is made for an applicant's effort - in the form of productive feedback - even for unsupported applications) and to grow the quality of proposals submitted in future rounds. In this spirit, feedback should:

- Be constructive;
- Clearly articulate (even for successful proposals) any improvements that - if implemented in subsequent rounds - would likely improve the committee's assessment of the proposal; and
- For successful proposals, articulate any special directions from the TAC. For example:
 - in the case of proposals receiving only partial support, which parts of the proposal should be descoped; and
 - whether there are any interactions between proposals that should be kept in mind.

Roles and Responsibilities

The following gives an account of all roles involved in the administration and execution of the ADACS MAP and the responsibilities attached to each.

All participants are expected to know their role(s) and associated responsibilities.

Science Team Member Responsibilities

The Science Team is responsible for:

- validating the work of the Development Team (who are responsible for the implementation of the project) and
- setting the priorities of the ongoing effort.

Science Teams are led by a Principal Investigator (PI) and consist of all Co-Investigators (CIs) listed on the proposal as well as any additional Domain Experts needed to meet these responsibilities. All members of the Science Team are responsible for the following:

- provide any relevant resources for existing projects prior to (or at) the kickoff meeting;
- attending project meetings and responding promptly to all email/Slack communication;
- staying informed regarding the project's progress (generally through communication with the PI and/or project meetings); and
- all elements of the project allocated to them, as defined in the submitted proposal.

Principal Investigator

The Principal Investigator (PI) is defined as the proposal applicant. They inherit the responsibilities above as well as the following:

- meeting all [application requirements](#) and securing resources for the project;
- ensuring the completion of all [Project Handover](#) requirements;
- ensuring that all Co-Investigators:
 - agree to the responsibilities assigned to them within the submitted proposal;
 - fulfil their commitments as defined in the project's submitted proposal; and
 - are kept informed regarding progress of the project.

Co-Investigator

Co-Investigators (CIs) are participants in the project who are explicitly named in the submitted proposal.

Domain Experts

Domain experts are people brought into the Science Team on an ad hoc basis to supply specific technical expertise. This is rarely necessary, since such requirements are usually known up-front, with needed personnel included as CIs.

ADACS Assessment Team Responsibilities

During EoI consultations, an ADACS Assessment Team consisting of the ADACS Secretary and one-or-more ADACS developers will be assigned to a project to aid in shaping the requirements and assessing the needed resources of a project. The responsibilities of Assessment Team members include:

- Iterating with applicants to arrive at a mutually agreed set of requirements which:
 - are technically achievable given the current capabilities of the team; and
 - have resource requirements which fit comfortably within the envelope of what can be delivered in a single semester.
- participating in discussions to determine the project's resource requirements;
- answering any questions;
- taking any opportunity presented during the consultation process to discuss software development best practices.

Assessment Team Lead

One member of the Assessment Team will be identified as the Assessment Team Lead. They inherit all responsibilities of the Assessment Team Member, as well as the responsibility for:

- Working with the ADACS Secretary to finalise the text to be included in the proposal articulating the project requirements and resource assessment of the project. See the [Assessment Guidelines](#) for more details.

ADACS Time Allocation Committee Responsibilities

The membership of the ADACS Time Allocation Committee (TAC) is set and maintained by AAL. All members of the committee are responsible for the following:

- reading and abiding by the AAL policies for the ADACS TAC, as described in the [AAL ADACS TAC Operations Guide](#).
- attending meetings organised for the planning and execution of the ADACS MAP assessment process;
- declaring and describing Conflicts of Interest (ColIs) for any proposals submitted to the program for which they do not believe - for whatever reason - that they can

conduct an objective appraisal (see the [section about the Declaration of Col](#)s for more details);

- ensuring that the content of all submitted proposals and TAC deliberations are kept strictly confidential;
- reading, understanding and assessing all proposals submitted to the program for which they have not declared a Col;
- organising feedback to applicants for any proposal against which they have been nominated as Lead Assessor;
- completing any tasks assigned by the TAC Secretary or Chair.

TAC Chair

The ADACS TAC Chair inherits all responsibilities of a TAC Member, as well as the responsibility for:

- working with the ADACS Secretary to oversee policy matters relating to the ADACS TAC;
- working with the ADACS Secretary to oversee the assembly, finalisation and communication of feedback to all applicants;
- ensuring that the rules and guidelines detailed in this document are abided by all participants;
- conducting the business of all Assessment Meetings; and
- representing the TAC and the positions of its members during communications with ADACS and AAL.

ADACS Development Team Responsibilities

Development Teams are responsible for implementing the requirements of the project. Specific responsibilities include:

- ensuring that no more than the time allocated to the project by the TAC is actually expended;
- keeping the Science Team updated regarding the resources spent and resources remaining for the project;
- ensuring that the scope of the project remains faithful to that which was articulated in the project proposal and endorsed by the TAC;
- scheduling of meetings related to the project (including the creation of calendar invites, etc);
- working with the Science Team to ensure the completion of all [Project Handover requirements](#).

ADACS Secretary Responsibilities

The ADACS Secretary is a senior member of ADACS responsible for the coordination of the ADACS MAP. They are responsible for:

- organisation of project consultations;
- responding to all EoI submissions as follows:
 - Communicating receipt of the submission;
 - Ensuring the applicants are informed of (and answering any questions about) the program,
 - Assigning an Assessment Team and Assessment Team Lead, and
 - Scheduling an initial consultation meeting between the applicant and the Assessment Team;
- attending (or being fully informed of) all EoI consultations;
- validating that the content of all final applications conform with the content of their EoI consultations;
- resolving confusions and answering questions for the TAC during the assessment process;
- organising all program communications, including:
 - announcements of calls,
 - making submitted proposals available to AAL and the ADACS TAC as soon as possible following the proposal submission deadline,
 - organising the TAC assessment meetings, including:
 - Securing agreement with the committee on a date;
 - Provisioning resources (e.g. teleconferencing links, etc.) for the meeting;
 - Communication of available resources prior to the meeting;
 - Construction of the spreadsheet used to conduct committee deliberations,
 - organising assessment results into a format that facilitates deliberation during the assessment process,
 - sending results & feedback to applicants, and
 - maintaining this document and cultivating consensus across all stakeholders on its content
- Validating that all requirements are met for all Project Handovers.

FAQ

1. Who owns (or is responsible for ongoing maintenance of) code developed?

Ongoing support of code developed through the ADACS MAP is an important concern. Unfortunately, ADACS can not take responsibility for the ongoing ownership of any code developed through the course of a project's delivery; the Science Team must do this.

However, the ongoing maintenance of code is itself a valid subject for an ADACS MAP proposal. Please see the section titled [Ongoing code maintenance and ownership](#) for more details on this important issue.

2. Can large projects be supported through this program?

Yes. This program has been designed to support large ongoing engagements. While individual applications need to be scoped for a single semester of effort, multiple proposals for the same project - building one-upon-the-next - is encouraged. Subsequent proposals are inherently of lower risk (since they are being assessed by a Development Team with significant hands-on experience with the project), naturally increasing the competitiveness of follow-up proposals.

Properly managed software development programs should be able to argue the merit and set the priorities of ongoing effort on a 6-month basis, so the requirement to reapply on that cadence is generally a healthy exercise, rather than inhibiting.

3. What software technologies can be utilised?

Nearly any technology can be utilised within the delivery of projects however, uncommon technologies may incur resource overheads for our developers to acquaint themselves with. Technologies that are not sustainable, well documented or which the Science Teams are not comfortable supporting themselves will be avoided wherever possible.

In cases where technologies unfamiliar to the Science Team really must be adopted, it is recommended that applicants organise a training component for their proposal whereby ADACS will equip them with the knowledge and skills to understand (and to support) what is being delivered.

4. Publication Acknowledgement Text

For any publications benefiting directly from ADACS Merit Allocation Projects, we ask that the following text be added to the acknowledgements section:

"This work was supported by software support resources awarded under the Astronomy Data and Computing Services (ADACS) Merit Allocation Program. ADACS is funded from the Astronomy National Collaborative Research Infrastructure Strategy (NCRIS) allocation provided by the Australian Government and managed by Astronomy Australia Limited (AAL)."

5. Reporting the value of ADACS projects

ADACS time is a valuable commodity and successful applicants should take the opportunity to report this along with other grants.

Currently, we advise applicants to report an estimated value of \$3500 per week of time allocated.