



# The Innovation Hub

for Affordable Heating and Cooling

**Project Title: 2019/ARP024 - The Affordable Heating and Cooling Innovation Hub (i-Hub)**

**Report Title: i-Hub Lessons Learnt Report – Project Management**

**Project #2019/ARP024**

**Day Month, Year**

**AIRAH**



## About i-Hub

The Innovation Hub for Affordable Heating and Cooling (i-Hub) is an initiative led by the Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) in conjunction with CSIRO, Queensland University of Technology (QUT), the University of Melbourne and the University of Wollongong and supported by Australian Renewable Energy Agency (ARENA) to facilitate the heating, ventilation, air conditioning and refrigeration (HVAC&R) industry's transition to a low emissions future, stimulate jobs growth, and showcase HVAC&R innovation in buildings.

The objective of i-Hub is to support the broader HVAC&R industry with knowledge dissemination, skills-development and capacity-building. By facilitating a collaborative approach to innovation, i-Hub brings together leading universities, researchers, consultants, building owners and equipment manufacturers to create a connected research and development community in Australia.

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**ARENA**



Primary Project Partners  
**Commonwealth Scientific and Industrial Research Organisation (CSIRO)**

**Queensland University of Technology**

**University of Melbourne**

**University of Wollongong**

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## Lesson learnt #1 Developing multiple funding contracts

Category	Contract Management
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Describe what you learnt about this aspect of the Project.

i-Hub project managed the delivery of 32 individual sub-projects each had to be covered by an individual sub-project funding agreement. The sub-project funding agreement is a legal contract, signed by all parties, governing the delivery of the individual sub-project.

The approach i-Hub took to creating the individual sub-project funding agreements (project contracts) necessary to define and deliver each project was to first create a Master Agreement, which reflected the appropriate requirements and responsibilities of the head ARENA/AIRAH i-Hub funding agreement, and use that to create a Template on which to base all other agreements. A range of legal negotiations were conducted with the main partners of the three activity streams and initial sub-projects to ensure that the legal teams of all parties were comfortable with the terms of their Template agreement.

Many alterations and revisions to the legal terms and requirements were proposed for the first initial series of negotiations on project agreements. If the proposed alteration to the agreement terms did not contradict a requirement of the head ARENA/AIRAH i-Hub funding agreement, and did not increase risk to AIRAH, then it was generally accepted and incorporated where possible. Alterations that did conflict with the head agreement were not accepted. Following the first series of negotiations AIRAH had developed a number of standard responses to a range of items that were requested to be varied, which simplified the negotiations of the following agreements. Alterations that were agreed flowed through into the Master Template where appropriate, so that all sub-projects could benefit for the improved contract terms.

After the first 10-12 agreements had been negotiated and executed most of the legal queries had been answered. Although sub-project partner legal teams continued to raise questions during negotiations on the following sub-projects, AIRAH having a series of pre-prepared responses significantly sped up the process and the understanding of project partners as to what could and what could not be changed within the agreements.

Please describe what you would do differently next time and how this would help. What are the implications for future Projects?

Once a proposed project had been approved for funding by the i-Hub steering committee AIRAH would need to negotiate an individual sub-project funding agreement, to govern the delivery of the individual sub-project. The Master Template created for i-Hub sub-project agreements was a long a complicated legal agreement that reflected (back-to-back) most of the requirements of the head ARENA/AIRAH i-Hub funding agreement. As it turned out 'Legal review and contract negotiation' took the longest time and was the main area of delay with the negotiation process.

As a result of the time required for legal review and negotiation (particularly legal review) meant that most sub-projects were significantly delayed between 'project approval' and 'project execution'. This often impacted their

ability to deliver on their first scheduled milestone and their scheduled budget, creating minor variations and increasing the legal documentation burden.

It is possible that a simpler, plain-English type, agreement could have been developed that could have simplified legal review and hence shortened contract negotiation time.

If your Project learnings have identified any knowledge gaps that need to be filled, please state it below.

Using simple and clear Plain English when drafting contracts means that any normal person should be able to understand what the contract says. Is there potential for ARENA to review the Standard Funding agreement and create a simpler plain-English agreement that would meet the same functions and needs but be easier to understand and review?

Please include any other information you feel is relevant or helpful in sharing the knowledge you learnt through this stage of the Project. This may be qualitative or quantitative and may include a graph, chart, infographic or table as appropriate.

Plain-English legal agreements are not the norm in commercial industry, but there is an argument to suggest that plain-English agreements are easier to understand, easier to implement and apply, and they help to build trust between partners. Agreements get negotiated and executed much faster (which means projects start much faster). Plain English contracts save work for all users as it doesn't require lawyers to understand the contract.



## Lesson learnt #2 Standardised Reporting Templates and Timing

Category

Project Management

Describe what you learnt about this aspect of the Project.

The i-Hub project managed the delivery of 32 individual sub-projects under the i-Hub umbrella and each sub-project team was required to provide quarterly progress reporting and adhere to a fixed 6-monthly Milestone Reporting schedule. These reporting dates were written into the delivery agreements.

All i-Hub sub-projects were forced into a standard reporting cycle which was agreed at the start of i-Hub. All seven Milestones were fixed dates that sub-projects needed to incorporate into their project delivery schedule. Quarterly reports were fixed dates that sub-projects needed to comply with.

i-Hub created a series of Report Templates (and guidance documents) to facilitate the reporting requirements. This meant that all sub-projects were submitting reports on the same day/timeline and in the same format. This made it easier for Activity Leaders and i-Hub Project Management to track individual sub-project progress, identify emerging issues, and also assess the cumulative progress of sub-projects/activity streams.

Using standardised reporting templates and fixed reporting dates is considered essential for managing multi-project initiatives.

Please describe what you would do differently next time and how this would help. What are the implications for future Projects?

It should be relatively easy to host standard reporting templates on an online platform (as opposed to a Word/PDF document). Next time we would look at using an online survey platform for project reporting and submission of deliverables.

The contents of the reporting template should be based on what needs to be reported not what can be reported. In an online platform a particular aspect or criteria would need to only be reported (input) in one place and would automatically update across the platform.

If your Project learnings have identified any knowledge gaps that need to be filled, please state it below.

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### Lesson learnt #3 Project Management – Outcome evaluation and KPIs

Category Project Management

Describe what you learnt about this aspect of the Project.

Identifying Key Performance Indicators (KPIs) that are meaningful and measurable is an essential step in any measurement and verification plan.

All i-Hub sub-projects were assigned agreed KPIs, based on the declared target outcomes. The KPI would help project teams assess project progress toward meeting the target outcome.

The art is in identifying KPIs that are both measurable and meaningful. During sub-project negotiations, sub-project teams had difficulty separating outcomes and KPIs from specific project tasks or deliverables.

Please describe what you would do differently next time and how this would help. What are the implications for future Projects?

KPIs should be better defined by:

- What is the KPI
- How is it measured.
- What does achievement of this KPI mean

If your Project learnings have identified any knowledge gaps that need to be filled, please state it below.

Perhaps a guidance document could be developed explaining how projects should select their KPIs to reflect progress towards meeting their outcomes.

Please include any other information you feel is relevant or helpful in sharing the knowledge you learnt through this stage of the Project. This may be qualitative or quantitative and may include a graph, chart, infographic or table as appropriate.



## Lesson learnt #4 Dealing with Covid 19 impacts

Category

Project Management

Describe what you learnt about this aspect of the Project.

The i-Hub project commenced in November 2019 and was supported by a comprehensive Risk Management and Work Health and Safety assessment and Plan. At no point prior to the project was a Global Pandemic and the associated societal impacts identified as a potential risk.

As it turned out the Covid-19 Pandemic raised a number of significant challenges for project delivery teams particularly those associated with health care, aged care and educational sites. In addition, as Australian workers generally started worked from home, the occupation/energy use profile of commercial and educational buildings was significantly different from a baseline normal, during a large part of the i-Hub project delivery period

In March 2020 once a Global Pandemic had been declared and lockdowns commenced, AIRAH immediately conducted a Covid-19 based risk assessment and worked with each individual sub-project team to identify risks and work to put in place mitigation strategies where possible. Sub-project teams worked both individually and collaboratively to develop solutions to covid barriers to access, collaboration and logistics.

Please describe what you would do differently next time and how this would help. What are the implications for future Projects?

Project teams need to be responsive to any emerging risks. A collaborative meeting between all sub-project teams would have helped share thinking and learnings regarding potential solutions.

It is possible that Global Pandemics will become more common so some of the tools and lessons developed for Covid could be documented and implemented more generally

If your Project learnings have identified any knowledge gaps that need to be filled, please state it below.

The following responses were made in response to the impacts from Covid-19

1. All face-to-face meetings, interactions, workshops and forums were moved online.
2. Covid-safe work plans were developed by all teams to cover project activity
3. Alternative procedures and tasks were developed between delivery partners to work-around site access restrictions.
4. Sub-project teams that were impacted by global logistics/transport/delivery delays were provided more time to deliver where possible.
5. A new legal clause was agreed and included in sub-project agreement to cover uncontrollable delays due to covid 19 (clarify force majeure) for projects created after April 2020.



## Lesson learnt #5 Risk Management – Large single or multiple small projects?

Category

Project management

Choose from:

Technical

Commercial

Social

Regulatory

Logistical

Other (specify)

Describe what you learnt about this aspect of the Project.

The approach to the delivery of the i-Hub project was to break the activities down into 32 separate smaller projects, to help quarantine sub-project activities from each other. This reduced the risks in the project delivery because it meant that the failure of one individual sub-project or activity would not mean the failure of the overall i-Hub project.

For example the Living Laboratory activity was broken down into 8 separate projects rather than one single activity so that if one or other of the labs had not proceeded as planned the other projects could still work to achieve the i-Hub target outcomes. Similarly the Data Clearing House activities were broken down into 10 separate sub-projects and the integrated design studios broken down into 15 separate sub-projects.

Please describe what you would do differently next time and how this would help. What are the implications for future Projects?

The issue with creating multiple small projects was that the project management monitoring and reporting requirements of the head funding agreement remained the same, and reporting became quite a burden to manage efficiently when reflected onto the 32 sub-projects. Next time we would negotiate to rationalise the project management monitoring and reporting requirements for sub-projects to better reflect their smaller scope and risk.

If your Project learnings have identified any knowledge gaps that need to be filled, please state it below.

Perhaps a way to scale the project monitoring and reporting requirements to reflect the scale and risks of the sub-project.

Please include any other information you feel is relevant or helpful in sharing the knowledge you learnt through this stage of the Project. This may be qualitative or quantitative and may include a graph, chart, infographic or table as appropriate.