

Part A – R&D Project

R&D Project Plan

Project Title	
Project Manager	
Date prepared/updated	

Objective

State: The Objective of the Project

*At the project level, the objectives may be described fairly broadly and can include both research and development and commercial aim. Your description should include sufficient and relevant detail so that AusIndustry can understand the purposes for conducting the project. **Include important details on how you will develop and commercialise the new product/process and how it will improve efficiency and / or reduce cost.***

Knowledge Gap

State: What is the New Knowledge?

- ★ *New knowledge: This refers to the new knowledge (e.g. the new facts or information) to be generated by conducting the project. This knowledge could be in the form of a technological advancement or development of new or improved materials, products, devices, processes or services.*
- ★ *This knowledge must be new to the world and not be available in the public arena on a reasonably accessible basis at the time the activities were conducted. Whether the knowledge is new to the world should be judged from the perspective of a competent professional in the field of the R&D.*
- ★ *The observations that will determine how to go about the research to be undertaken. What is the specific knowledge gap that the company research is undertaking to solve?*
- ★ *Detail research undertaken to ensure the companies planned research and development has not already been undertaken elsewhere to breach the defined knowledge gap.*
- ★ *Describe the new knowledge intended to be produced by the core activities (i.e. experiments) in the project. Explain how this is different from current knowledge.*

Outcome

Explain: Outcome of the Core Activities

Explain how the **outcome of the core activities** in this project could not have been known or determined in advance on the basis of current knowledge, information or experience.

R&D Activities – Core

No.	Activity Description	Start Date	Finish Date

R&D Activities – Supporting

No.	Activity Description	Start Date	Finish Date

No.	Activity Description	Start Date	Finish Date

No.	Activity Description	Start Date	Finish Date

R&D Activities – Core

No.	Activity Description	Start Date	Finish Date

R&D Activities – Supporting

No.	Activity Description	Start Date	Finish Date

No.	Activity Description	Start Date	Finish Date

No.	Activity Description	Start Date	Finish Date

R&D Activities – Core

No.	Activity Description	Start Date	Finish Date

R&D Activities – Supporting

No.	Activity Description	Start Date	Finish Date

No.	Activity Description	Start Date	Finish Date

No.	Activity Description	Start Date	Finish Date

INFORMATION REQUIREMENTS - CORE ACTIVITIES

Activities Project

In order for your claim to be eligible you need to be able to satisfy all of the following statements for each core activity.

Describe the experiment (or set of related experiments), how it/they were carried out for registered core activities -

In doing so please describe:

- 1. The technical aim / hypotheses and the experiments that were employed to test it;**
- 2. How the experiment/set of experiments were carried out; and**
- 3. The results of the experiments.**
- 4. The conclusions you reached.**

1) Aim / Hypothesis

Provide a clear statement of the technical objective of the R&D project.

State the question based on observations that will address the knowledge gap that the project is endeavoring to solve. The question must be about something that can be measured and tested.

Note. The technical objective should be specific, and identify the technical uncertainty and innovative concept of the project. The hypothesis provides a possible solution to the knowledge gap and states what the outcome is expected to be.

e.g. "The technical objective is to establish whether artificial propagation of 3 individual plant varieties is possible, and if so, to test and define the technique and protocol for each individual variety for commercially viable in vitro propagation".

The hypothesis states the Core Activity that is to be undertaken which must be based on established science and the outcome cannot be known in advance. The activity is conducted for the purpose of generating new knowledge including new or improved materials, products, devices, processes or services.

Examples of appropriate hypotheses:

- ★ Applying the Company's newly-developed data-processing algorithms to astronomical data sets of more than 1 terabyte in size to yield results appropriate for generating 3D visual depictions of areas of outer space in real time.
- ★ Combining a new polyurethane with metal flakes that have been coated with magnesium fluoride to a general water-based paint to produce a glossy, stable, two-coat, metallic paint without the need for a coat of clear lacquer.

In these examples, the hypotheses can clearly be tested by carrying out experiments and proven true or false. They also clearly set out to investigate the causal relationships between relevant variables. This is a key characteristic of an experimental process.

An example of an insufficient hypothesis

- ★ Whether particular computer software can be developed to include the latest research from the planning community.

In this example, there is no way to disprove the hypothesis through an experimental process. The hypothesis lacks detail and is unclear what is being tested and what any outcomes might be. It also does not describe or inform the design of a particular experiment.

Core Activity Outcome:

- ★ The expected outcome to be achieved and demonstrate through the tests to be undertaken how the hypothesis is expected to be valid.
- ★ Supporting activities that have a significant scientific link to and are directly related to core R&D activities should also be addressed.

2) Methodology / Experiments

- ★ **The aim/hypothesis or the goal of the experiment.**
- ★ **Experimentation/testing to be undertaken to test the hypothesis, this may be in a range of settings from laboratories to production environments and would involve systematic investigation.**

The knowledge being sought and tested must go beyond validating a simple progression from what is already known and be more than implementing existing knowledge in a different context or location.

3) Observation/ Result/ Evaluation

Observation, evaluation and result of all the significant processes must be recorded

4) Failures / Issues / Conclusion

Summarise and Analyse

- ★ The experiments results and detail how they match up to the hypothesis. Was the hypothesis True or False?
- ★ Explain reasons for errors or outcomes not being in line with what was predicted in the hypothesis.
- ★ Please explain how the new knowledge from registered core activities is more than a simple progression from what is already known or more than applying existing knowledge in a different context?
- ★ Comment on the technical gap that existed when registered core activity was undertaken.
- ★ Provide an activity title and a brief description of the activities undertaken during the income year
- ★ For Experimental Activity, please describe the activity as follows:

1) Aim / Hypothesis;

2) Methodology / Experiments;

3) Observation / Result / Evaluation;

4) Failures / Issues / Conclusion.

- ★ It is important that activities are not cast in a manner that is inappropriately broad but provide clarity to enable the main steps involved in undertaking them to be identified.