



# Research and Development Grants

## A Guide to the Research and Development Definition

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## Introduction

Callaghan Innovation Research and Development Grants follow the Inland Revenue Research and Development Tax Incentive guidance when determining what constitutes Research and Development (R&D).

This is not a definitive guide, if you are unsure whether the work you are undertaking is Research and Development or not, please contact your Funding Engagement Specialist who will assist you.

## R&D activity

Just because it is called R&D does not mean it meets the definition of an eligible R&D activity. Our grants are to encourage development which goes beyond what is known can be achieved with existing knowledge. As well as creating something new or improved, your R&D must involve a plan to push beyond what is currently known.

R&D is distinguished from non-R&D by the presence or absence of an appreciable element of innovation. If the activity departs from routine and breaks new ground, it is normally R&D; if it follows an established pattern, it is normally not R&D.

R&D activities must:

- seek to solve scientific or technological uncertainty; and
- seek to create new knowledge, or new or improved processes, services or goods.

## Development based on existing knowledge

A critical part of the definition of an R&D activity is the requirement that it must seek to resolve scientific or technological uncertainty. You must be trying to do something that a competent professional in that field is uncertain can be done. If others have successfully done what you are trying to do, your work will not be eligible for a Callaghan Innovation R&D grant – unless the knowledge of ‘how’ to do it is still a trade secret. Showing scientific or technological uncertainty does not require you to undertake fundamental scientific research. It is enough to be trying to extend the practical application of such knowledge, in a way that could not be predicted in advance.

Technology is the application of scientific principles and knowledge for practical purposes. A technological uncertainty exists if there is uncertainty about whether existing technology can achieve your objective(s). The research and development tax credit is intended to encourage development which goes beyond what can be achieved with existing knowledge. This does not need to be a major or fundamental advance; it can be incremental.

The test is not merely that no-one in your business knows how to achieve your goal but that the knowledge to do so is not publicly available. You must be able to show that you searched for an existing solution before you can apply for a Callaghan Innovation R&D grant.

The development of a new product, system or process (even if that is novel and innovative) is ineligible if someone who knows how to do those sorts of things (a competent professional) could use existing knowledge to identify, in advance, an approach which can be used to successfully develop it. It is only where a competent professional is uncertain whether existing knowledge/technology can achieve the goal, and a systematic process must be undertaken to evaluate possible solution(s), that work can qualify for a R&D grant.

Supporting activities are also considered R&D **if they are required for, and integral to, undertaking the planned R&D activities**. Examples of supporting activities that may be eligible include the following:

- writing specialised software to monitor R&D results
- designing and producing equipment to be used in testing or analysis
- routine crop management of plants required for core R&D activity
- documenting the R&D results to meet an internal stage gate or approval process
- disassembling testing equipment or prototype and/or disposing of waste material

## Exclusions

The following activities are not usually considered R&D, **unless** they are required for, and integral to, undertaking the planned R&D activities:

- Market research, market testing, market development, or sales promotion
- Reproduction of a commercial product or process by a physical examination of an existing product or system, or from plans, blueprints, detailed specifications, or publicly available information
- Minor adaption of, or improvement to, existing processes, services, or goods
- Data mapping and data migration testing i.e. the process of creating data element mappings between 2 distinct data models
- Research in social sciences, arts and humanities (including classics, communication studies, education, finance, business studies, geography, languages, literature, music, philosophy, sociology, anthropology, psychology, history, religion, visual and performing arts)
- Making cosmetic or stylistic changes to processes, services, or goods.
- Bug testing, beta testing, system requirement testing, user acceptance testing, and data integrity testing.
- Testing or comparing the efficiency of algorithms that are already known to work.

- Testing security protocols or arrangements to reveal flaws in the security mechanisms of an information system.
- Converting existing systems to, or integrating existing systems with, new software platforms with the aim of extending the life of, improving or renewing a product or service by establishing it on a new software platform.
- Carrying out routine operations on data, including presentation of data.
- Writing test results, analysis, maintaining R&D documentation.

## Examples

### Example: A competent professional can deduce the solution (ineligible)

A client wishes to build a house on a challenging site with extensive glass. The structural engineer does not know, off the top of their head, the detail of the required structural elements but they know how to work the options out.

There are existing proven methodologies for the resolution of this type of question. In this situation a competent structural engineer could deduce the answer based on existing knowledge. There is no scientific or technological uncertainty that meets the requirement for the tax credit.

### Example: A competent professional cannot deduce the solution (eligible)

A construction business is developing a niche specialising in sustainable buildings with a low carbon footprint. It is interested in using wool composite panels as a construction material. A review of the international material science literature and conversations with the Wool Research Organisation indicates that wool is widely used as insulation and that there is some use of wool fibres as an addition to clay in

brick making. Although there are academic articles on the qualities of wool reinforced composites there is no publicly available information on the design or suitability of panels, made from biodegradable polymers reinforced with wool fibre, as a construction material.

The suitability of such materials for use in construction is not deducible by a competent professional with

knowledge of publicly available information. Work to systematically investigate and analyse the properties of wool composite construction panels is likely to be eligible for an R&D grant.

On the other hand, a competent professional may consider that there are relevant differences between the situation they are facing and the situations the standard approach is designed for and be unable to find publicly available information that resolves the issue. In this situation, a programme of testing an alternative approach or approaches is likely to be eligible for an R&D grant.

Although the competent professional test is an objective one it does not require the standard of a world leading expert. In a rapidly developing field, there may be very few people who understand the very latest research. In this context, if you are dealing with a question of what the technology can do, the test is whether an average and competent professional in that field would understand how existing knowledge is normally applied in the relevant area and would be able to access publicly available information.

The test does not require that you actually consult a competent professional. While you have no obligation to consult a competent professional in the relevant field, if we review or audit your claim under an R&D grant, the standard we will adopt is whether a competent professional would consider that there is uncertainty.

You may be a competent professional in the field in which you are considering undertaking R&D, or your business may employ them on its staff. The test does not require independence, but it does require an objective judgement.