Legislation:

(1) Core research and development activity—

(a) means an activity that—

(i) is conducted using a systematic approach; and

(ii) has a material purpose of creating new knowledge, or new or improved processes, services, or goods; and

(iii) has a material purpose of resolving scientific or technological uncertainty; but

(b) does not include an activity, if knowledge required to resolve the uncertainty, described in paragraph (a)(iii), is—

(i) publicly available:

(ii) deducible by a competent professional in the relevant scientific or technological field; …

What this document does

The R&D tax credit is intended to support and increase the amount of R&D being performed in NZ by providing a 15% tax credit on eligible activities and expenditure to reduce the cost of doing R&D.

R&D has a specific statutory definition for the purposes of tax credit which is not the same as the commercial, engineering or accounting definitions. The tax credit is not just for scientific research but also for development activity that meets the eligibility criteria.

This document introduces **core R&D activities**. If you have core R&D activities, you may also receive the tax credit for supporting R&D activities which are referenced later in the guidance.

What R&D activities are eligible?

An R&D activity is eligible for the tax credit if its purpose is to **resolve scientific or technological uncertainty**, unless the knowledge required to resolve the uncertainty is **publicly available**, or **deducible by a competent professional in the relevant field**.

To be eligible, an R&D activity must also be conducted using a **systematic approach**, and **have the main purpose of creating new knowledge, or new or improved processes, services, or goods.**

Where this is happening, the business has "core R&D activities". Core R&D activities should encompass all the activities in your planned approach which collectively serve to resolve the scientific or technological uncertainty – it could include a number of different sub-activities.

This document provides guidance on what these concepts mean and how to interpret them to determine whether an R&D activity is eligible for the tax credit.

To enable this, it is first necessary to understand what science and technology are.

What is science?

Science is the systematic study of the nature and behaviour of the physical and material universe. Work in the arts, humanities and social sciences, including economics, is not science for the purpose of the tax credit. Mathematics is the language of all sciences and can be both a science and method of applying the science.

What is technology?

Technology is the practical application of scientific principles and knowledge, where 'scientific' is based on the definition of science above. Examples of technology include the application of:

- Physics in engineering, product development and manufacturing process improvement
- Chemistry and biology in medical or food industries
- Computer science in information technology including software development, software engineering and hardware development

Resolving scientific or technological uncertainty

Scientific or technological uncertainty exists when knowledge of whether something is scientifically possible or technologically feasible, or how to achieve it in practice, is not publicly available or deducible by a competent professional working in the field.

Scientific or technological uncertainty includes the following:

— A problem of a scientific or technological nature, whether an objective is scientifically or technologically possible or how it can be achieved.

— An uncertainty of a scientific or technological nature using the adaptation of knowledge or capability:

  — within the same field of science or technology; or

  — from another field of science or technology.

— Where limitations in the current state of technology hinder the development of a new or improved capability.

— A technological constraint that needs to be overcome, uncertainty arising in relation to:

  — Whether the output will meet desired specifications such as response time, reliability or cost; or

  — How the desired specifications can be achieved amongst possible alternative methodologies or solutions.

— The use of known processes, technologies and methodologies where the result or outcome is unknown.

— system uncertainty, wherein the components of a system and their interactions are known, but the outcome/result of the system cannot be deduced from the outset.

— Technological uncertainty may also arise where something has already been shown to be possible but needs further work to make the technology more cost-effective, reliable or reproducible.

An uncertainty may be encountered during the course of ordinary work. For example, ordinary design and prototyping for the purpose of product development may encounter an unanticipated technological uncertainty. In this case, a systematic approach to resolve the identified technological uncertainty may be eligible, but the ordinary work that preceded this is not.

In product development, there will be times when a solution needs to meet commercial constraints. Commercial constraints do not themselves create scientific or technological uncertainty, but trying to meet them might. For example, commercial constraints may require that technologically uncertain paths be attempted, although proven alternatives exist.

Even if the resolution of the scientific or technological uncertainty sought by an activity is not achieved or not fully realised, R&D may still take place.

Activities that are on the list of **excluded core R&D activities** are not eligible for the tax credit.

Qualifying your Scientific or technological uncertainty

When considering the benchmark of a scientific or technological uncertainty you must consider whether the knowledge required to resolve the uncertainty is publicly available, or deducible by a competent professional in the relevant field.

The ‘knowledge required to resolve the uncertainty’ essentially means the solution to the problem. If this knowledge is publicly available or deducible by a competent professional in the relevant field, then this is not an eligible scientific or technological uncertainty.

Publicly available

Knowledge that resolves the uncertainty is considered publicly available if it is reasonably accessible.. This may include knowledge published in professional journals, on the internet, or in published patents.

Reasonably accessible does not mean the knowledge must be available for free. Knowledge that is reasonably accessible on commercial terms is considered publicly available.

Some knowledge may not be reasonably accessible through commercial means. For example, knowledge may be disclosed in a granted patent, but cannot be licenced from the patent owner on reasonable terms.

Deducible by a competent professional in the relevant field

The competent professional is a hypothetical person with ordinary knowledge and experience in the relevant scientific or technological field. The competent

professional possesses relevant skills and experience and/or relevant qualifications, and understands common practices for solving common problems in the field.

'Deducible by a competent professional' means that a competent professional, faced with the scientific or technological uncertainty in question, could resolve the uncertainty without undertaking a systematic course of investigation. They do not have to be able to resolve the uncertainty off the top of their head, but can use their knowledge and abilities to resolve the uncertainty without undertaking a systematic course of investigation.

Conversely, an uncertainty is considered not deducible by a competent professional if the competent professional would need to undertake a systematic course of investigation to resolve the uncertainty (having identified the scientific or technological uncertainty).

The competent professional may be confident they can resolve the uncertainty, and may even see a number of options to do so, however the question is not one of confidence. The question is whether they can in fact resolve the uncertainty without undertaking a systematic course of investigation.

Systematic approach

A systematic approach involves a planned, logical investigation to solve the problem. A systematic approach can be flexible and adaptive, changing in response to results, but the approach remains logical and focused on solving the problem.

Random or unplanned trial and error is not a systematic approach, regardless of whether this produced something useful.

An accidental discovery is not disqualified from meeting this test provided it was produced while undertaking a systematic approach.

Purpose of creating new knowledge, or new or improved processes, services, or goods

This test is intended to identify "why" you are undertaking your R&D activities.

The R&D must have a material (important or significant) purpose of seeking to create new knowledge, or to create new or improved processes, services or goods.

New or improved processes, services or goods are created when something is changed or adapted to the point where it is "better" than the original.

Supporting R&D activity

If you have core R&D activity there may be related activities which, although do not meet the definition of core R&D activity are directly related to it and are required for the conduct of the core R&D activity. These activities are known as "supporting R&D activities".

Supporting R&D activities may be eligible for the tax credit.

Supporting activities must only be performed for the relevant core activity or must have supporting the core activity as its main purpose.

Activities that are on the list of excluded supporting R&D activities are not eligible for the tax credit and can be found at

ird.govt.nz/research-and-development/tax-incentive/eligibility/eligible-activities/ineligible-activities