



Getting software development R&D Tax Incentive claims right

Specific Issue Guidance

What do companies and their tax advisers need to consider when self-assessing the eligibility of software development activities under the R&D Tax Incentive.

This Guidance should be read in conjunction with the [R&D Tax Incentive: A Guide to Interpretation](#). The *Guide to Interpretation* should be read before and during the assessment of the eligibility of activities.¹

The department publishes guidance on business.gov.au to assist companies and tax advisers understand the eligibility requirements that apply to activities that are supported under the *R&D Tax Incentive*. Key benefits of following the guidance are:

- enabling companies to self-assess and register eligible R&D from the beginning
- helping companies avoid compliance reviews, which may involve additional legal fees and tax agent fees, and
- helping companies avoid potential repayment of the tax benefit.

Introduction

The purpose of the *R&D Tax Incentive* is to encourage companies to conduct experimental R&D activities that might not otherwise be undertaken.

This guidance highlights key issues that companies and their tax advisors must consider when assessing the eligibility of specific software-related activities for registration under the *R&D Tax Incentive*. In particular, it highlights issues relating to:

- the registration of whole or large parts of software development projects
- the software development lifecycle and core R&D activities
- testing activities which are not core R&D activities
- a knowledge gap that requires an experiment to resolve, and
- other problem areas that companies and their R&D tax advisers most frequently get wrong.

¹ The department's guidance on the *R&D Tax Incentive*, including the *Guide to Interpretation*, are available on business.gov.au.

To apply to register R&D activities, a company needs to consider each of the activities it has conducted and assess which of them are:

- eligible core R&D activities²
- eligible supporting R&D activities,³ and
- ineligible activities that cannot be registered with the *R&D Tax Incentive*.

To self-assess the eligibility of their activities, companies must understand and apply the definition of eligible R&D activities under the *R&D Tax Incentive* to each of those activities.

Only activities that are self-assessed as eligible R&D activities can be registered with the Department of Industry, Innovation and Science (the department) under the *R&D Tax Incentive*.

Software development activities are subject to the same eligibility tests for the *R&D Tax Incentive* as non-software activities with the exception the development, modification or customisation of internal administration software⁴ under certain circumstances.

Summary

Companies must describe in writing their eligible core R&D in accordance with the definition of a core R&D activities listed in the *Income Tax Assessment Act 1997*. This may involve developing new ways to overcome specific technical or scientific challenges.

Eligible core R&D is not learning how to use existing products, technologies or techniques in the manner in which they

are designed to be used. Eligible R&D is not using such products, technologies or techniques in a specific application.

When companies choose to register R&D activities relating to software development, they must demonstrate for each core R&D activity they wish to register:

- how the experimental activity was carried out
- that the activity was conducted for a significant purpose of generating new knowledge
- how the activity applied a systematic progression of work, and
- that the outcomes could not be known or determined in advance on the basis of current knowledge, information or experience.

Companies must clearly explain the activities and support the explanation with evidence.

It will not be sufficient for a company claiming a core R&D activity to rely on propositions such as:

- a specific product or functionality has not been developed before
- activities are eligible because they were undertaken through a software development lifecycle
- all software development activities involve a regime of testing (e.g. bug testing, beta testing, user acceptance testing) and for this reason they are

² Under section 355-25(1) of the *Income Tax Assessment Act 1997*.

³ Under section 355-30 of the *Income Tax Assessment Act 1997*.

⁴ See section 355-25(2)(h) of the *Income Tax Assessment Act 1997*.

all experimental with an outcome that cannot be known in advance

- the 'Agile' methodology doesn't involve the production of supporting documentation
- the activities involve experiments but the records don't go to that level of detail
- there are existing ways that are known to work, but only one will be the most efficient and that can't be known without testing.

Activities that are eligible under the R&D Tax Incentive

Core R&D activities

Role of the experiment and hypothesis

Activities that are eligible for support under the *R&D Tax Incentive* fall into two categories; core R&D activities⁵ and supporting R&D activities.⁶

Core R&D activities are activities that involve an experiment that is conducted in a systematic and planned manner. They will be designed around a specifically targeted and developed problem statement—called a hypothesis—that proposes a relationship between variables which would be proven right or wrong by observing and evaluating the results after conducting the experiment.

The meaning of 'hypothesis' is explained on page 6 of the *R&D Tax Incentive: A Guide to Interpretation*:

A hypothesis is simply a statement that can be proven right or wrong by conducting an experiment.

⁵ For the words used in the legislation see section 355-25(1) of the *Income Tax Assessment Act 1997*.

The hypothesis reflects a particular technical or scientific idea and is commonly expressed as a relationship between variables (or technical features) which can be proven or disproven.

The hypothesis is the idea being investigated through the systematic progression of work. The hypothesis will generally direct the design and conduct of the experiment, observation and evaluation.

The term 'experiment' is explained on page 8 of the *R&D Tax Incentive: A Guide to Interpretation*:

The experiment is what you do to test the hypothesis.

The experiment is set up so that the relationship between relevant variables can be tested and the hypothesis proven right or wrong.

Experiments can take place in virtually any environment – from laboratories to manufacturing plants, to offices, farms and greenhouses. The details of an experiment can vary considerably between different industries and organisations.

1. Assuming activities that follow a software development lifecycle are automatically eligible core R&D activities

Software development activities can pose a challenge to the self-assessment of eligible activities because the process of developing, modifying or customising software is superficially similar to the eligibility requirements for core R&D activities under the *R&D Tax Incentive*. They are by definition systematic and can be iterative and cyclical, and almost always involve testing. However, they are

⁶ For the words used in the legislation see section 355-30 of the *Income Tax Assessment Act 1997*.

not necessarily experimental as required under the programme's legislation. The application of a software development lifecycle does not automatically mean that eligible experimental activities are taking place, nor that the outcome of any technical issues being solved are not using existing knowledge, information or expertise.

Some companies have mistakenly thought that following 'Agile' development methodologies automatically makes their development activities eligible as core R&D activities, without any actual consideration as to whether they meet the eligibility requirements. 'Sprints' do not necessarily include eligible experiments.

No specific software development methodology can be automatically considered to meet the requirements for a core R&D activity.

Software development activities may or may not be core R&D activities. The only way to determine this is to self-assess the activities against each of the legislated eligibility criteria.

Sometimes there is confusion about routine testing steps in software development projects. Many of these are tests for particular purposes that are not for the purpose of generating new knowledge, and are not hypothesis driven experiments. These tests tend to occur after the R&D experiments, and are addressing other project risks. Examples of the types of testing activities that are not eligible experiments⁷ include:

⁷ The tests in this list have been assessed by the department against the legislated eligibility criteria for core R&D activities and have been consistently found to fall short of meeting the requirements to be considered core R&D activities.

- bug testing
- beta testing
- user acceptance testing
- system testing
- requirements testing
- data mapping and data migration testing
- testing the efficiency of different algorithms that are already known to work
- testing websites in operation by measuring the number of hits.

When they are not core R&D activities, the activities listed above may be eligible as supporting R&D activities if they are directly related to core R&D activities.

Examples of where a core R&D activity⁸ may be identified in software development could include experiments necessary to develop and test new or improved algorithms such as those needed for:

- predictive modelling
- interrogating large data sets
- functionality in firmware.

2. *Specific problem areas*

Companies and their advisers often make incorrect claims where it is assumed that activities that follow a software development lifecycle are automatically eligible core R&D activities.

⁸ These examples are not prescriptive and are only offered for illustrative purposes. The full eligibility criteria must be considered for each activity that is being self-assessed for eligibility as a core R&D activity.

Generating new knowledge

Core R&D activities must be undertaken for at least a significant purpose of generating new knowledge about whether the hypothesis is right.

A competent professional in the relevant field must not be able to know or determine the outcome of a core R&D activity in advance with the current knowledge, information or experience reasonably available to them.

Using existing knowledge, information or experience to determine outcomes is not eligible.

1. Developing customised solutions from an existing commercial software package

Many companies purchase commercial software platforms that are then customised to meet the organisation's specific requirements and work processes. While there may be some challenges in the customisation process, the adaptation of existing platforms is essentially a business risk. In general, the solution can be developed with the appropriate technical and project management skills. Activities involved in the customisation and implementation of software projects are unlikely to be considered core R&D activities.

2. Failing to identify a specific technical knowledge gap

There are many categories of software. Each type of software interacts with other software to achieve an outcome (e.g. application software requiring the facilities provided by operating systems, network and data management software, integration of packages with legacy systems). The development of operating systems, data systems, network systems,

firmware, microcode, middleware, applications, and mobile applications software can be highly technical in nature and complex. While this complexity can pose technical challenges, most can be resolved with the right knowledge and expertise. Where this is the case the technical challenges do not reflect technical knowledge gaps that require the formulation of hypothesised solutions and experimental activities to test those solutions. In most cases, solutions can be seen to be possible from the outset with the appropriate technical skills and expertise in place, and by applying existing technical knowledge.

For the purpose of identifying a core R&D activity for the *R&D Tax Incentive*, one or more specific technical knowledge gaps must be identified that cannot be bridged through the application of the current knowledge, information and experience available to a competent professional in the relevant field. In other words, the technical knowledge gap can only be bridged by undertaking one or more targeted experiments.

It is essential that companies are able to identify the specific technical knowledge gap that a hypothesis-driven experiment is conducted to overcome.

3. Specific problem areas

Companies and their advisers often make incorrect claims where:

- customised solutions are developed from an existing commercial software package
- the registration fails to identify specific technical knowledge gaps
- activities that involve solving challenges by applying existing

knowledge and expertise without experiments are claimed to be experimental.

The test is not simply whether the staff in a company could know or determine the outcome without conducting an experiment. The *R&D Tax Incentive: A Guide to Interpretation* clarifies this on page 11:

Whether an outcome can be known or determined in advance without applying a relevant systematic progression of work is judged by:

- *whether a competent professional in the field knows or can determine the outcome (i.e. whether the hypothesis is true or false), without conducting an experiment as part of a systematic progression of work;*
- *on the basis of knowledge, information or experience that is publicly available or reasonably accessible, anywhere in the world.*

The test is an objective test that applies equally to all companies. The test is not solely whether you know the outcome or are able to determine the outcome in advance.

Projects are not eligible

1. Eligibility is based on activities, not projects

Eligible activities must be specific activities; eligibility does not apply to projects.

When conducting research and development, companies tend to think in terms of projects and project outcomes rather than in terms of the specific activities that the company conducts within and as a component of a project. However, the eligibility criteria under the *R&D Tax Incentive* require eligibility to be assessed at the level of specific activities.⁹

During the self-assessment process, companies must be careful to recognise that eligibility under the *R&D Tax Incentive* is based on identifying specific activities and not based on whole projects or large parts of projects.

It is very unlikely that all of the activities being conducted in a software development project would be eligible R&D activities. While companies may conduct some R&D activities as part of a project, that does not make the entire project an eligible R&D activity.

Self-assessment must identify specific experiments and separate any experimental activities and activities that directly support them from routine software design, coding and verification activities.

The hypothesis must be the focus of a specific experiment and not the project overall. Frequently, the hypothesis identified by companies for their registered core R&D activities is an overarching project objective, rather than a targeted hypothesis developed to guide a specific experiment and bridge a specific technical challenge. Often, these whole-of-project objectives, by their nature, cannot be proven wrong (that is, falsified) by undertaking an experiment or set of

activities are set out in sections 355-20 to 355-30 of the *Income Tax Assessment Act 1997*. Activities should be described in detail on the *R&D Tax Incentive* registration form.

⁹ The *R&D Tax Incentive* is governed by Division 355 of the *Income Tax Assessment Act 1997* and sections 26 to 32 of the *Industry Research and Development Act 1986*. The eligibility criteria for

related experiments. A hypothesis defines the focus of the specific experiment and must be formulated in such a way that it is falsifiable, that is, it contains variables and a relationship/s to be tested and can be shown to be correct or incorrect.

Most software development projects will have some uncertainty in their outcomes for a range of reasons. However, the uncertainty is not always due to specific technical risks that require experimentation to resolve. There may be challenges in designing and implementing a particular solution, but the outcome is known or able to be determined without conducting experiments. Such challenges may present a business risk to the organisation such as failure to deliver a solution that addresses a market need or an organisation's needs, and can also be closely related to available skills, capability and the management processes.

The identification of technical uncertainty in a project does not automatically identify a need for R&D. In many cases technical problems are resolved by applying the expertise and knowledge of the development staff or by selecting products that are available to solve the problem. Large projects may have more challenges and more delivery risks, but this should not be mistaken for R&D where this can be addressed using existing knowledge and expertise.

2. Specific problem areas

Companies and their advisers often make incorrect claims where:

- a whole software development project is registered without the eligibility requirements being applied to the activities in the project
- specific experimental and supporting activities are not identified or described
- eligibility requirements are not applied to specific activities to determine whether they are eligible.

If a self-assessment of a core R&D activity includes activities that do not form an integral part of an experimental process, with a hypothesis that cannot be falsified or does not have a clear statement of identified variables or unknowns, there is a high probability that those activities will not be eligible as core R&D activities.

Some activities are excluded

Some activities are excluded from being core R&D activities by the legislation.¹⁰ However, some excluded activities may still qualify as supporting R&D activities if they meet the relevant requirements and are also undertaken for the *dominant purpose*¹¹ of supporting a core R&D activity.

1. Internal Administration Exclusion

The *R&D Tax Incentive* excludes the development¹² of software for the dominant purpose of use by the developing entity¹³ for its internal administration purposes from being a core R&D activity.

¹⁰ See section 355-25(2) of the *Income Tax Assessment Act 1997* for the list of excluded activities.

¹¹ The meaning of 'dominant purpose' is explored more fully on page 20 of *the R&D Tax Incentive: A*

Guide to Interpretation which may be found on business.gov.au.

¹² Including the modification or customisation of software.

¹³ Including an affiliate or an entity with which the developing entity is connected.

Detailed guidance about the ‘internal administration’ exclusion is available in the department’s publication [R&D Tax Incentive: A Guide to Interpretation](#) which may be found on [business.gov.au](#).

2. Other Activity Exclusions

In addition to the ‘internal administration’ exclusion, there are other types of activities that are excluded from being core R&D activities by the legislation. This is the case even where they meet the other core R&D activity requirements. However, these types of activities may still qualify as supporting R&D activities if they meet the relevant eligibility criteria.

To be eligible as a supporting R&D activity, activities that are excluded from being a core R&D activity must be directly related to a core R&D activity **and** undertaken for the **dominant purpose** of supporting that core R&D activity. This means that the activity must be undertaken for the ‘ruling, prevailing, or most influential purpose’ of supporting the core R&D activity. Companies may have many reasons for undertaking an activity. The dominant purpose does not need to be more important than all of the other purposes combined, but it does need to be the most important of any of the purposes.¹⁴ If an excluded activity is not undertaken for the dominant purpose of supporting a core R&D activity it will not be eligible and must not be registered.

The legislated exclusions¹⁵ set out below are particularly relevant to software development activities:

- market research, market testing or market development or sales

promotion (including consumer surveys)

- commercial, legal or administrative aspects of patenting, licensing or other activities
- reproduction of a commercial product or process

Activities that seek to reproduce functionality from one operating system to another by examining the coding of the functionality to be reproduced, will fall under this exclusion.

Supporting R&D activities

Supporting R&D activities are activities that have a direct, close and relatively immediate relationship with a core R&D activity.

Activities that make a direct contribution to the conduct or evaluation of the experiment are likely to meet this requirement. Where an activity is:

- excluded from being a core R&D activity
- one that produces goods or services, or
- one that is directly related to producing goods or services

that activity will only be a supporting R&D activity if it is undertaken for the *dominant purpose* of supporting a core R&D activity. *Dominant purpose* means the ruling, prevailing or most influential purpose.

¹⁴ The *R&D Tax Incentive: A Guide to Interpretation*, p20.

¹⁵ Detailed guidance about the legislated exclusions is available in the department’s

publication [R&D Tax Incentive: A Guide to Interpretation](#) which may be found on [business.gov.au](#).

Activities subject to the 'internal administration exclusion' are not able to be core R&D activities or supporting R&D activities.

Examples of where a supporting R&D activity may be identified in software development could include:

- setting up test beds
- coding algorithms that will be used in an experiment
- collating a data sample that will be used in an experiment in a core R&D activity.¹⁶

Some activities are excluded from being core R&D activities by the legislation. However, some of these excluded activities may in fact be supporting R&D activities, but only in certain circumstances.

1. Directly related to a core R&D activity

Activities being claimed as supporting R&D activities must be directly related to the systematic progression of work in an eligible core R&D activity and not merely an activity within the same project. Conducting an eligible core R&D activity within a software development project does not automatically make the rest of the project eligible as supporting R&D activities.

For example, it will not be a sufficient relationship where a project includes an activity to experimentally develop algorithms to model sea-level rise (a

prospective core R&D activity) and needs a graphic user interface (the prospective supporting R&D activity) to complete the project as a commercial product. The focus of a prospective supporting R&D activity must be on supporting the conduct of the core R&D activity.

Similarly, if the company's commercial project involves experimentation in a physical field (e.g. chemical engineering, mining, manufacturing) and includes non-experimental software development, the software development activities are not automatically supporting R&D activities because they are in the same project. The requirement for the relevant activities to be directly related to the core R&D activity must be met.¹⁷

Activities that are likely to meet the directly-related requirement are those that play a significant role in the design or conduct of the systematic progression of work of the core R&D activity. Setting up test beds, coding algorithms that will be used in an experiment and collating a data sample that will be used to conduct a relevant experiment are examples of activities that may fulfil the directly-related requirement. Relevant changes to software that manages a production line to allow for core R&D activities to be conducted in the production line is another example where the requirement may be met.

¹⁶ These examples are not prescriptive and are only offered for illustrative purposes. The full eligibility criteria must be considered for each activity that is being self-assessed for eligibility as a supporting R&D activity, including, where necessary, whether the dominant purpose test is satisfied.

¹⁷ Where a prospective supporting R&D activity produces goods or services or is directly related to the production of goods or services, the dominant purpose test will also have to be met for the activity to be a supporting R&D activity.

Expenditure that cannot be claimed

Under the *Income Tax Assessment Act 1997*, some expenditure cannot be claimed under the *R&D Tax Incentive*.

1. Core technology expenditure

Core technology expenditure can't be claimed. This is expenditure incurred in acquiring, or in acquiring the right to use, technology wholly or partly for the purposes of one or more R&D activities if:

- (a) a purpose of the R&D activities was or is:
 - (i) to obtain new knowledge based on that technology; or
 - (ii) to create new or improved materials, products, devices, processes, techniques or services to be based on that technology; or
- (b) the R&D activities were or are an extension, continuation, development or completion of the activities that produced that technology.

An example may be where a company licences a gaming app engine to develop an extension to that engine, which needs experimentation to develop. The expenditure on the licence would not be able to be claimed.

2. Expenditure not at risk

Expenditure on eligible R&D activities will not be claimable where the claimant is not bearing the expenditure risk:

- Activities for which programme applicants wish to claim expenditure must have been conducted for the applicant to be eligible for the offset. An entity cannot deduct its expenditure on R&D activities if it conducts those activities to a significant extent for another entity.

- Where activities are conducted by an entity under contract, expenditure that is not at risk (that is, expenditure for which the company is recompensed, or expected to be recompensed, regardless of the outcome of the activities in which the expenditure was incurred) will not attract an offset due to the operation of section 355-405 of the *Income Tax Assessment Act 1997*. Accordingly, companies considering the eligibility of activities carried out under contract are advised to consider the effect of s355-405 on their circumstances when self-assessing activities under the *R&D Tax Incentive*.

Contemporaneous documentation and record keeping

If a company does not have contemporaneous evidence that an activity was conducted to meet all the eligibility criteria, then that activity is not eligible. This is a basic step in any company's self-assessment of eligibility.

The Administrative Appeals Tribunal has consistently ruled that R&D activities claimed without evidence that substantiated eligibility are not eligible. For example, it has stated that an 'applicant cannot succeed in establishing [the eligibility] requirements in the absence of detailed documentation recording the process of each activity as it develops' ([Docklands Science Park Pty Ltd v Innovation Australia \[2015\] AATA 973 at 63](#)).

When a company is self-assessing whether activities are eligible R&D activities, it cannot simply assert or effectively argue that it thinks an activity was eligible if it does not have evidence to support its self-assessment. If it does not have evidence to substantiate eligibility of an activity, then it will not be reasonably

justifiable to register that activity or claim expenditure for it.

Documentation and records must demonstrate all eligibility requirements are met and particularly:

- show how the experiments were undertaken

Projects using methodologies which don't fully record steps need to maintain adequate records to evidence that experiments were undertaken, not just a record of the final source code. Using an 'Agile' methodology is not an excuse for failure to keep records to substantiate how activities were carried out in an eligible way.
- show how the company assessed that the outcome of the activities could not be known or determined in advance
- be sufficient to verify the:
 - amount of the expenditure incurred on the registered activities
 - relationship of the expenditure to the activities

- show how expenditure was apportioned between eligible R&D activities and non-R&D activities.

It is the company's responsibility to demonstrate that it has used reasonable methods to differentiate between expenditure on R&D activities and expenditure on non-R&D activities.

Further assistance

To assist companies to properly address their self-assessment obligations, both the department and the Australian Taxation Office provide detailed, plain English guidance about eligibility and record keeping requirements necessary to support eligibility:

- [R&D Tax Incentive: A Guide to Interpretation](#)
- [R&D Tax Incentive: Record-Keeping and R&D Planning](#)
- [Research and development tax incentive: keeping records and calculating your notional deductions](#)

Disclaimer

This guidance document is intended to provide useful information for companies considering accessing *the R&D Tax Incentive*. However, it is not exhaustive and it is not legal or financial advice. It is your responsibility, with the assistance of any advice you wish to seek, to satisfy yourself about the eligibility of your activities for the *R&D Tax Incentive* as set out in the *Income Tax Assessment Act 1997*. The Commonwealth disclaims all liability for any loss or damage arising from you or anyone else relying on this document or any statement contained in it.