



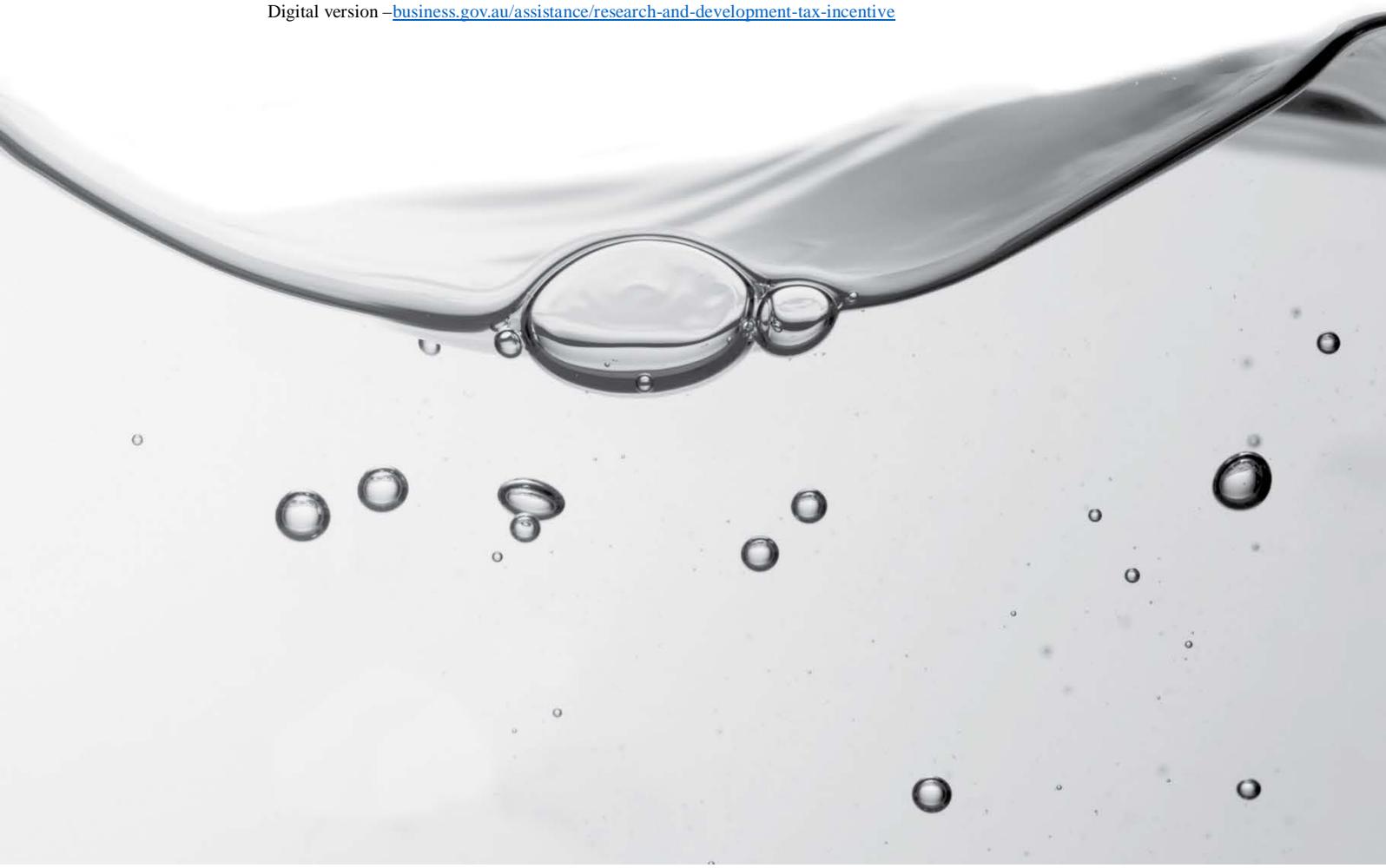
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Business
R&D Tax Incentive

Built Environment and the R&D Tax Incentive

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How to use this Guide

The R&D Tax Incentive programme provides an incentive for companies performing eligible research and development (R&D). The programme is legislated and the rules appear in the legislation¹.

What does this guide do?

As the market, both in Australia and internationally, continues to demand innovative new design, planning and construction of built environments the importance of the R&D Tax Incentive to local companies will only increase.

This guide helps clarify how to self-assess the eligibility of built environment related R&D activities.

A series of examples show how to identify what eligible R&D might be and how to register eligible R&D activities.

No single example (or set examples) can represent the multiple combinations of company structures, operations, management, record keeping systems and expenditure. However, the business scenarios chosen attempt to broadly examine some highlighted issues identified as facing the built environment industry and at various points in a business R&D cycle. These issues were identified during consultation with business, industry representatives and tax agents.

While they follow the same format, the focus of each example is different. Through this mix, the Department of Industry, Innovation and Science (the department) has aimed to illuminate the range of issues that arose during close consultation with the built environment sector.

In addition, the department provides information on the R&D Tax Incentive that highlights issues relevant to the build environment sector through business.gov.au and the *R&D Tax Incentive Information eBulletin*. This edition of the guide replaces the [2013] edition.

If your company is spending money to experimentally solve technical problems or experimentally develop new products or services, you may be undertaking some activities that qualify as R&D under the Incentive. The examples in the Guide² address key eligibility requirements such as:

- new knowledge,
- experimental process,
- core and supporting R&D activities,
- records management and compliance assurance,
- excluded activities, and

¹ See, division 355 of the *Income Tax Assessment Act 1997*. The definitions of eligible R&D activities are contained in sections 355-20, 25 and 30 of that Act.

² The examples used in this guidance are fictional examples created to illustrate application of the R&D Tax Incentive to hypothetical commercial enterprises. The examples reflect the department's experience with jointly administering the programme with the Australian Taxation Office. No similarity of the examples to existing enterprises or projects is intended.

- activities likely to be ineligible.³

These concepts are incorporated throughout the guide with clear examples to highlight the issues. Commentary is also provided at the end of each example to direct companies to the important linkages to other guidance that has already been published to assist companies to de-risk their participation in the programme and evaluate their own 'compliance readiness'.

This guidance should be used in conjunction with the R&D Tax Incentive: *A Guide to Interpretation* which is available on the business.gov.au website.

Why is it important to use this guide?

This guide will assist companies and tax advisors to understand the eligibility requirements that apply to activities that are supported under the R&D Tax Incentive. Following this guide will:

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

What is eligible R&D?

Eligible R&D is defined in the legislation. Companies self-assess whether their activities are eligible R&D activities before registering under the programme.

R&D Activities

Under the R&D Tax Incentive, R&D activities must either be:

- 1. Core R&D activities.** These are systematic, hypothesis-driven experimental activities with an unknown outcome and based on the principles of established science, undertaken to generate new knowledge (including new knowledge in the form of new or improved materials, products, devices, processes or services), or
- 2. Supporting R&D activities.** These are activities that are not part of the experimental activities, but directly support them.

Registration

The programme is accessed by registering self-assessed R&D activities with the department (this must be done within 10 months of the end of the company's income year) and claiming for eligible expenses relating to the registered activities in the company's tax return.⁴

Companies applying to register for the R&D Tax Incentive must self-assess their activities against the legislated eligibility criteria. When a registration is accepted this does not mean that the registered activities have been determined to be eligible. The

³ See page 8 for summaries of the examples that show these concepts.

⁴ Information on the benefits available through the programme and the registration application form are available on business.gov.au.

department routinely examines registrations in detail for compliance and may contact companies for further information.

The department applies the programme's legislative requirements during its registration and compliance processes and will do so as set out in its guidance. Registering companies must maintain adequate records that can allow self-assessment by substantiating the eligibility of R&D activities. Companies must ensure expenditure claimed for R&D activities is based on genuine financial records, as is the case for any element of their tax return.

Companies may choose to use an R&D tax advisor to help prepare applications and registrations. However, the use of an R&D tax advisor is not a requirement of entry into any departmental programme and using the services of an R&D tax advisor to assist with the preparation of a registration application and offset claim does not guarantee eligibility. Companies wishing to get an assurance whether particular activities they are currently conducting, or are intending to conduct, are eligible R&D activities may apply to the department for an Advance Finding.

Eligibility must be self-assessed for activities, not for whole projects.

Companies and advisors also need to be aware of expenditure that is ineligible under the R&D Tax Incentive. This includes:

- interest expenditure (within the meaning of interest in the withholding tax rules),
- expenditure that is not at risk,
- core technology expenditure, and
- expenditure included in the cost of a depreciating asset (decline in value notional deductions may apply however).

Note: Readers with questions about the eligibility of expenditure items on R&D activities registered under the R&D Tax Incentive should consult the ATO through its website at ato.gov.au/business/research-and-development-tax-incentive/, by phone on 13 28 66 (for businesses) or 13 72 86 (for tax agents).

Other relevant publications

[R&D Tax Incentive: A Guide to Interpretation](#) – this document provides companies with the government's interpretation of the legislative requirements of the programme, including a detailed overview of core and supporting R&D activities. In addition, there are checklists and examples of activities unlikely to meet the programme requirements.

[Getting building and construction R&D Tax Incentive claims right](#) – this document provides companies and tax advisors with guidance on areas they need to consider when self-assessing activities for eligibility under the R&D Tax Incentive. This document also discusses activities that do not meet the eligibility rules and highlights specific problem areas the department sees in incorrect claims.

Compliance Readiness

The department has released guidance to help companies that intend to register for the R&D Tax Incentive to ensure that they are ‘compliance ready’⁵. Compliance readiness means having in place the systems and processes to identify, evaluate and record eligible R&D activities and expenditure on those activities. First-time participants in the programme should seek assistance from the department to make sure they understand the programme’s requirements.

The following set of principles is suggested to assist companies in developing appropriate systems and processes to document their R&D activities and associated expenditure. It is important to note that the first step to ensuring compliance is reviewing and understanding the R&D Tax Incentive guidelines and requirements.

These principles have been informed by the department’s experience in conducting compliance assurance activities. The principles also take into account key Administrative Appeals Tribunal decisions, where failures in a company’s or tax agent’s assessment of eligible R&D activities resulted in tax claims for R&D being overturned.

Maintaining contemporaneous documentation that demonstrates eligibility under the programme is essential. Companies cannot establish eligibility without maintaining detailed documentation that records the process of each activity as it develops.

Principle 1

Ensure that internal processes and systems allow for documentation of how activities meet eligibility requirements as part of the overall project planning and management process.

Principle 2

Identify and document eligible R&D activities at the time they are conducted – this improves the potential to capture associated costs in real time.

Principle 3

Document methods for identifying eligible R&D activities and recording expenditure associated with eligible activities. This ensures that there is a clear understanding of how information has been derived and enables the process to be repeated in future years.

Principle 4

Forge strong connections between those responsible for preparing and maintaining R&D Tax Incentive records and staff who understand the technical aspects of activities to enable a shared understanding of programme requirements.

Principle 5

Ensure that strong links have been established between activity and expenditure records

⁵ *Compliance Readiness – Importance of Record Keeping and Compliance Readiness – Risk Review and Findings* are available on [business.gov.au](https://www.business.gov.au).

The Examples

Projects to develop new products or services undertaken by companies are generally comprised of activities. Eligibility under the R&D Tax Incentive cannot be self-assessed at the project level. The legislation governing the programme requires eligibility to be assessed at the level of the activities within the project.

The examples in this document illustrate the eligibility requirements of the programme in the context of activities being conducted in hypothetical business scenarios.

Table 1 provides the reader with an idea of the level of detail contained in the examples on particular concepts.

Example 1 - Design & Construct (page 10)

Scenario

Development of a new method of treating ground material containing hazardous material.

R&D Tax Incentive Principles

The example applies the key definitions of **core R&D activities** and *supporting R&D activities*. The eligibility of R&D activities and **record keeping** practices are also discussed.

Example 2 - Structural Scanning (page 15)

Scenario

Development of a new form of penetrative imaging technology that enables large structures to be scanned from distances.

R&D Tax Incentive Principles

The example examines the key definitions of **dominant purpose** and **who the R&D activities are conducted for** in relation to eligible supporting activities.

Example 3 - Enviroloo (page 20)

Scenario

Development of a non-water-flushing chemical toilet for medium density residential use.

R&D Tax Incentive Principles

The example illustrates the **scope of core R&D activities**, and how **aggregated turnover** and **company structure** affects eligibility and considerations relevant to the **feedstock** requirements.

Example 4 - Buildablock (page 26)

Scenario

Collaborative development of translucent concrete using plastic optical fibres.

R&D Tax Incentive Principles

The example explores how companies register activities that need to be **conducted overseas**. It also provides information to help companies determine **which company is entitled to claim** when working in collaboration with other companies.

Example 5 - ConstructaBuild (page 33)

Scenario

Example of ineligible activities and expenditure and an activity that is excluded from being a core R&D activity.

R&D Tax Incentive Principles

This example explores a company conducting activities that are not experimental which would be better described as **business as usual activities** that used **existing knowledge and expertise**. The example also explores the undertaking of **activities associated with regulatory compliance** which is excluded under the legislation from being a core R&D activity.

TABLE 1 - This table demonstrates a range of relevant issues for companies and their treatment in each of the examples

KEY CONCEPT	EXAMPLE 1 Design & Construct	EXAMPLE 2 Structural Scanning	EXAMPLE 3 Enviroloo	EXAMPLE 4 Buildablock	EXAMPLE 5 ConstructaBuild
Core activities	■	◆	◆	◆	◆
Supporting activities	■	◆	◆	◆	
Supporting activities – dominant purpose		■			
R&D in a production environment – dominant purpose		◆			
Record keeping	■	◆	◆	◆	
Advanced/Overseas Findings				■	
Core technology		●			
On whose behalf		■	●		
Feedstock adjustment			●		
Aggregated turnover			●		
Company structure			●		
Collaboration				◆	
Example of ineligible activities					■
Example of an excluded activity					●

- Concept explored in the example and an expanded explanation given in the commentary
- ◆ Concept explored in the example
- Concept explored in the commentary section

Note that the following issues are administered by the ATO:

- Feedstock adjustment
- Clawback adjustment

Example 1: Design & Construct

*This example looks at a company developing a new method of removing contaminants from ground material. The example applies the key definitions of **core R&D activities** and **supporting R&D activities** to a business scenario, and discusses the **eligibility of R&D activities** and the **types of records and record keeping practices** used to demonstrate eligibility under the programme.*

In this context, the example shows how by keeping good documentation throughout the project, Design & Construct:

- is better placed to provide clear and accurate descriptions of its activity in its registration application,
- reduces its compliance costs and risks, in preparation for a possible review in the future, and
- helps to ensure that its project is well managed, efficiently carried out and new knowledge is captured.

Business Scenario

Design & Construct (D&C) is a construction company that has been engaged to develop a new commercial centre. The contract requires D&C to undertake the civil works for the site. The site for the new commercial centre is in a relatively remote location where there has been limited development.

As part of the initial planning work, D&C subcontracted the geotechnical analysis work to a specialist company. It also reviewed the Environmental Impact Study (EIS) information previously prepared by the developer.

The geotechnical analysis highlighted issues with an unusually high level of hazardous material in the planned footprint of the commercial centre. Identified as a metalloids of medium-to-high toxicity and a potential airborne hazard, the contaminant poses a significant environmental concern and would need to be removed prior to the commencement of civil works. The standard method of treating ground material with hazardous heavy metals or metalloids involves excavation and onsite processing (and/or transfer to a specialist waste treatment facility) to remove the contaminant followed by backfilling the area. This would take a considerable amount of time and resources and could have severely affected the profitability of the project.

D&C's leading foreman believed that there may be a new way to treat ground material containing certain contaminants that could be more efficient and cost effective. D&C investigated different methods of stripping the metalloid contaminant out of the ground material onsite and localising it for easier removal. The foreman remembered reading a journal article about the nature and characteristics of similar contaminants. The article described research on the ability of certain metalloids and dense solvents to change from solid form to liquid form when mixed with a particular chemical.

The foreman's idea was to dig trenches two metres below ground surface just above rock, then use a high-pressure water system to saturate the surrounding ground with a mixture of water and the chemical at a ratio of 2:1. The foreman believed that this mixture might be able to chemically strip the contaminant from the ground material

into the water/chemical mixture allowing it to flow into the central trenches for safe removal and transportation to a specialist waste treatment plant.

D&C developed the hypothesis:

If a 2:1 ratio of water and a particular chemical are mixed together, then applied to ground material, the chemical mixture will convert the contaminant into a liquid and strip it from the ground material enabling it to be collected safely in a drainage system.

A small-scale trial was undertaken over two weeks on an area approximately one eighth of the entire site. Although promising, the trial was not completely successful as the mixture ratio was not fully effective in removing the contaminants from the ground material. The company analysed the results and modified its hypothesis accordingly and proposed another trial using an adjusted ratio of 1:1 water to chemical. This new ratio was thought likely to be more effective in stripping contaminants to ensure that no contaminant residue was left in the ground material. This second trial proceeded for a further two weeks on a different part of the site and the new mixture ratio was found to be successful. Following this, D&C applied the method to the remaining site area.

Core R&D Activity: *Trials of the new ground treatment method*

D&C used the department's *R&D Tax Incentive Snapshot*⁶ and self-assessed that the first and second trials using the new water and chemical mixture to strip out the contaminant were core R&D activities and therefore eligible for the R&D Tax Incentive.

In its self-assessment, D&C judged that the two trials were a set of related experiments whose outcomes could not be known or determined in advance on the basis of current knowledge; that proceeded from hypothesis to experiment, observation and evaluation and led to logical conclusions. The primary reasons for making this assessment was that D&C could find no evidence that suggested that this particular ground treatment method had ever been trialled and a solution could not be determined in advance by expert technical staff on the basis of current knowledge, information and experience. The company also self-assessed that it conducted the two trials for a substantial purpose of generating the new knowledge it needed.

D&C also considered the analysis of the results of the experiments, including observations in relation to the run-off water and the treated ground material, to be part of the core R&D activities.

D&C reasoned that the two trials, as a set of related experiments, could be grouped into a single core R&D activity. To demonstrate its reasoning, D&C prepared and retained a short statement outlining that the grouped activities addressed the same or similar objective and knowledge gap.

In respect to its self-assessment of activities with a direct and close relationship to the core R&D activity, D&C also registered the following supporting R&D activities.

Supporting R&D Activity: *Pre-experimental research and lead up preparations*

In planning for the trials D&C's foreman, supported by a colleague with chemical engineering qualifications, researched the relationships between the contaminant

⁶ The *R&D Tax Incentive Snapshot* is available from the business.gov.au website.

material and the stripping chemical and used this information as a basis for the calculation of their ratios. The company developed an activity plan⁷ and designed the methodology that would be used to test the new ground treatment method. This activity involved literature and internet research, experimental methodology and approval, minute preparation, setting up the equipment, water supply and digging the trench system for the trial pilots.

As these activities did not conduct experiments themselves, they were not eligible to be registered as core R&D activities. However, D&C assessed that because they were directly related to the core R&D activity they could be registered as supporting R&D activities.

Neither core nor supporting R&D activities

D&C recognised during its registration for the R&D Tax Incentive that not all activities undertaken in the context of or in close proximity to its R&D project were eligible core or supporting R&D activities. This included:

- **Original geotechnical analysis** – prior to this activity, D&C was not aware that the metalloid contaminant was present in the ground and would need to be removed. Although the findings of the geotechnical analysis was the reason for the Company's R&D, it was conducted for the purpose of the construction of the commercial centre, not for the purpose of supporting an experiment. In this regard, the activity was not directly related to the core R&D activity and therefore could not be retrospectively registered as an eligible supporting R&D activity.
- **Applying the treatment to the entire site** – because the new ground treatment method had been proven at the trial pilot stage, further treatment, testing and monitoring activities undertaken by D&C on the remainder of the site would not be conducted to discover new knowledge nor would they directly support the undertaking of an eligible core R&D activity.
- **Transportation of the wastewater from the remainder of the site to a specialist waste treatment plant** – this activity related to the application of the proven method to the remainder of the site and therefore was not directly related to the core R&D activities.

What documentation did D&C keep?

D&C reviewed the department's *Record Keeping and R&D Planning Information Sheet*⁸ and determined that the majority of the records it needed were produced and kept as part of its day to day business management. In addition, the Company kept contemporaneous records of its experimental activities.

However, the company conceded that some effort was needed to improve its filing system so that, if required, it would be a simple matter to demonstrate the eligibility of activities that were conducted and their related expenditures. D&C recognised that

⁷ Maintaining formal R&D plans is not compulsory under the R&D Tax Incentive; however evidence of good planning and governance processes form strong supporting evidence for compliance purposes. Information on record keeping is available on business.gov.au in the *Compliance Readiness – Importance of Record Keeping* guide and the *Record Keeping and R&D Planning Information Sheet*.

⁸ The *Record Keeping and R&D Planning Information Sheet* may be found on the business.gov.au website.

good records management relied on recording activities and expenditure at the time they were conducted.

As part of the R&D project D&C kept a written record of all work undertaken in relation to the two small test areas. These records included:

- the internal business case and its approval by management,
- data and research from the literature searches that the company conducted,
- correspondence with industry experts about the technology,
- the project objectives, the hypotheses, the aim of the experiments,
- the materials and equipment used,
- the procedures followed,
- the staff and their time involved, and
- the dates activities were conducted.

D&C also kept a record of the data collected (this included an analysis of the water mixture run off, and subsequent independent geotechnical analysis reports), and the conclusions in respect to the testing undertaken.

Where an R&D activity was undertaken by a contractor, D&C kept all documents relating to the contract, the R&D activities and invoices. D&C was also careful to maintain:

- the date the R&D activities were undertaken,
- consultant reports and minutes of meetings with consultants,
- sufficient detail to determine the amount of expenditure on the R&D activities, and
- a description of the activities performed by the contractor to link the costs with a particular R&D activity.

Commentary

Core R&D activities

One of the requirements for core R&D activities are that their outcomes cannot be known or determined in advance on the basis of current knowledge, information or experience, but can only be determined by applying a systematic progression of work that:

1. is based on the principles of established science; and
2. proceeds from hypothesis to experiment, observation and evaluation, and leads to logical conclusions.

When registering activities and ensuring they can demonstrate compliance, companies should focus on explaining how they determined that existing products, methodologies or technological information reasonably available on a world-wide basis could not predict the outcomes of their experimental activities. Participants usually demonstrate this through undertaking and recording analyses or searches outside the company regarding the current state of knowledge (or state of the art), highlighting how existing knowledge fails to provide a method for resolving the

problem. This can include a broad range of information from suppliers, research organisations, industry articles, blogs, wikis, etc. These analyses and searches are generally not directly related to a core R&D activity and will therefore be unlikely to be supporting R&D activities.

It is also a requirement of core R&D activities that the relevant activities are conducted for a significant purpose of generating new knowledge. Companies must be able to demonstrate this purpose through contemporaneous documentation.

Supporting R&D activities

Activities that do not form part of the core R&D activities may still be eligible as supporting R&D activities. Supporting R&D activities must be directly related to an eligible core R&D activity. To be 'directly related' an activity needs to have a direct, close and relatively immediate relationship with an eligible core R&D activity.

Dominant Purpose

For directly related activities that produce goods or services, to be eligible as supporting R&D activities they must also be undertaken for the dominant purpose of supporting an eligible core R&D activity.

When self-assessing whether an activity satisfies the dominant purpose test, a company should weigh up the various reasons it has for conducting the activity and then determine which of those purposes was the dominant (i.e. the ruling, prevailing or most influential) purpose.⁹

In addition to production environments, the dominant purpose test also applies if the proposed supporting R&D activity is an activity that is excluded from being a core R&D activity. The Guide to Interpretation provides further information on the types of activities that are excluded from being a core R&D activity.

Grouping of activities

The decision whether or not to group activities in a registration for the R&D Tax Incentive is one for each company to determine. In this example, when registering its R&D activities with the department, D&C provided a statement and record of the reasoning behind the company's self-assessment decisions (that is, the steps it took in order to establish the eligibility of its claim) and in particular, its approach to grouping the core R&D activities together. The company provided this information in an attachment to its registration form.

Generally, grouping activities together may make sense where the sub-activities are substantially similar, testing the same hypothesis or progressively modified hypotheses and the same assessment of eligibility can therefore be made for them together.

⁹ To assist companies determine whether their activity has the necessary relationship with the core R&D activity, they should weigh up the factors under 'What is the meaning of dominant purpose?' in the *R&D Tax Incentive Customer Information Guide* available on business.gov.au. Additional information on dominant purpose is available on page 20 of the *R&D Tax Incentive: A Guide to Interpretation* which is available on business.gov.au.

Example 2: Structural Scanning

This example shows how the identification and management of eligible R&D activities in a production environment help to satisfy the dominant purpose requirement of the legislation.

In this context, the example looks at a mature industry that is applying new technologies to existing processes.

The key definitions of **dominant purpose** and **who the activities are conducted for** are also discussed.

This example also illustrates how by keeping good documentation throughout the project, the company was well placed to provide clear and accurate descriptions of its activity in its registration application and could reduce its compliance costs and risks if it were to be selected for a compliance review.

Business Scenario

Structural Scanning (StrucScan), which has an annual turnover of \$25 million, provides structural integrity analysis services to the building and construction industry. The company recently won a contract to provide integrity scanning of railway bridges and tunnels for a state government.

The company has significant expertise in conventional structural analysis and uses various radar and electromagnetic technologies to create 3D images of structures to identify potential structural defects.

The company's current process involves the use of contact probes, which is slow and produces variable image quality. The company has also found that the interpretation of the data can vary according to the skills and experience of the personnel involved.

One of StrucScan's engineers discovered that overseas research into composite imaging techniques has started to explore the potential for a new form of non-contact or 'standoff' penetrative imaging technology that enables large structures to be scanned from distances of up to 50 metres.

StrucScan decided to investigate whether it could use this technology to accurately scan railway bridges and tunnels and perhaps reduce the time taken to scan structures, in order to improve margins and obtain a competitive advantage over competitors.

StrucScan's initial research determined that although standoff scanning had been the subject of research in the aeronautical industry, there was no available information that identified how, or even if, the method could be applied to a range of different types of built environment structures, materials, distances, angles or depths. The company conducted additional research and discovered that the information that was available was not sufficient for a competent professional to be able to determine how the standoff scanning could be applied to the built environment.

Consequently, the company decided to initiate an R&D project to experimentally generate the new knowledge it needed with the intention of registering R&D activities

with the department under the R&D Tax Incentive and claiming the 38.5% tax offset on eligible expenditure (as its turnover is in excess of \$20 million p.a.¹⁰).

In order to achieve the project objective and to generate a 3-D image of sufficient quality for analysis, StrucScan decided three separate frequencies would be needed, which required purchasing and assembling three scanner sets capable of transmitting and receiving a range of frequencies at distances of up to 50 metres. It also purchased a ruggedized laptop running image analysis software.

StrucScan devised hypotheses and experiments that involved conducting a series of trials during which four bridges and seven tunnels were analysed, using both the regular method of contact probes at each location and the prototype standoff scanning. The bridges and tunnels selected for the experiment were all constructed using similar methods and materials.

The technical variables being investigated by the experiments included the distance of the scanner from the bridge, the impact of the varying signal angles resulting from scanner pivoting to perform the scans, the frequencies of the signals being emitted and the effect of these issues on the detection of structural features. StrucScan analysed the results from each of the locations in order to draw a conclusion about whether the experiments confirmed or rejected the hypotheses.

The scanning of bridges using the new standoff method was found to produce superior results and was able to identify features that the contact scanning did not reliably pick up because of the capacity for scanning at multiple frequencies. The standoff method also enabled bridges to be scanned in less than half the time.

However, the results also indicated that the scanning of tunnels using the new 'standoff' method required scans from many more locations to cater for the closer distances to the tunnel walls, the limitations caused by the signal angles as the scanner pivoted, the irregular shape of the tunnels and the variations in size and surrounding geological formations.

StrucScan concluded that while the method was not beneficial for tunnel maintenance, the new standoff method had the potential to direct maintenance towards areas of fatigue before deterioration progressed to a point where it was identifiable by traditional methods for bridge maintenance. However, due to the variety of construction methods used, the company was concerned that the results from the four bridges were too small a sample to definitively confirm the hypothesis. StrucScan decided to continue experimenting with the standoff analysis by scanning four further bridges that each used a different construction method or were comprised of different material. The company used the standard contact method on these bridges to act as controls.

Core R&D Activity: *Testing of standoff scanning on bridges and tunnels*

StrucScan used the department's online *R&D Tax Incentive Snapshot*¹¹ and determined that the testing of standoff scanning on bridges and tunnels was a core R&D activity.

The company self-assessed the activity would be an eligible core R&D activity because:

¹⁰ If StrucScan's aggregated group turnover was below \$20 million it would be eligible for the 43.5% offset under the programme.

¹¹ The department's *R&D Tax Incentive Snapshot* is available through the business.gov.au website.

- information on the development and application of standoff scanning analysis on bridge and tunnel infrastructure did not exist or was not publicly available, and
- in order to determine the efficacy of standoff scanning in relation to the built environment, a set of hypothesis-driven experiments needed to be conducted, as a competent professional in the field could not determine the information that was needed.

The core activity also included the additional bridge trials that were required and the unsuccessful tunnel trials.

Supporting R&D Activity: *Developing the experimental process*

Literature and internet research was conducted to identify the frequency bands to be tested, taking into account the materials, structures and depths that would be involved in the trials. This activity was considered a supporting R&D activity because it informed the design and methodology of the experimental activities.

Neither core nor supporting R&D activities

StrucScan realised that not all activities undertaken in relation to its R&D project were eligible as either core or supporting R&D activities.

When considering whether other activities in the project, including the regular 'contact scanning', travel to the sites at which the trials were conducted and all activities associated with conducting regular integrity testing of the bridges and tunnels (for example, using existing contact probes) would be eligible as a core or supporting R&D activity, StrucScan realised it would need to apply the dominant purpose test.

The dominant purpose test states that if an activity:

1. is an activity referred to in the core R&D activities exclusions list¹² or
2. produces goods or services or
3. is directly related to producing goods or services;

a directly related activity is a supporting R&D activity only if it is undertaken for the dominant purpose of supporting core R&D activities.

Whilst acknowledging that the results of the contact scanning were used to evaluate the effectiveness of the standoff scanners, StrucScan assessed that these activities were not eligible supporting R&D activities because the dominant purpose of conducting them was to produce goods or services, in the form of structural integrity testing services, for the client for whom StrucScan was under contract.

What documentation did StrucScan keep?

StrucScan recorded the equipment specially purchased, the dates on which the parallel testing activities took place, the procedure followed, the staff and their time involved, the data collected, the comparisons made and the conclusions in respect to the testing programme.

¹² The [Guide to Interpretation](#) explores the core R&D activity exclusions on pages 25-40. The Guide to Interpretation is available on business.gov.au.

Where appropriate, StrucScan kept invoices and supporting documentation with sufficient detail to determine the amount of expenditure on the R&D activities.

Some examples of the type of the contemporaneous records the company kept were:

- Gantt charts,
- Staff time sheets,
- prototype run sheets,
- production sheets,
- photos/videos,
- project plan and R&D plan,
- board papers, and
- memos

Other records kept by StrucScan to demonstrate and evidence its R&D activities included research articles on the use of standoff scanners, and optimal/ tractable frequency bands and related benchmarking studies. The company also kept promotional and purchase enquiry correspondence concerning comparative photogrammetric and 3D scanning equipment.

Commentary

Dominant Purpose

When undertaking activities that are directly related to a core R&D activity and may produce goods or services it is important to demonstrate that the 'dominant purpose' is to support the core R&D activity. In determining the dominant purpose of an activity, consideration is given to the overall circumstances within which the activities are conducted.

This legislative requirement will commonly be applicable in the built environment sector, where activities are often conducted in commercial environments. Because of this, it is important that companies maintain production records in order to be compliance ready. This is not an onerous requirement – in many situations the records companies keep as part of the normal course of business will be sufficient and new records are not necessarily needed.

In this example, and as previously outlined, StrucScan's contact scanning activities were commercial in nature as the service was being supplied under contract to another organisation. Despite StrucScan using the results to help evaluate the effectiveness of standoff scanning, the dominant purpose for conducting the contact scanning was to provide the service to a client. However, if StrucScan had conducted the contact scanning for the sole reason of comparing the results obtained with the results of the standoff scanning, and the results were not used to provide its structural integrity service, then the activities associated with conducting the contact scanning could be considered eligible supporting R&D activities.

Who the R&D activities are conducted for

The major benefactor of expenditure on R&D activities is determined by examining the extent to which activities are conducted for the R&D entity compared to the extent to which they are conducted for any other entity. This is tested by weighing up three key criteria concerning who:

1. 'effectively owns' the newly developed know-how, resulting intellectual property or other results arising from the R&D entity's expenditure on the R&D activities
2. has appropriate control over the conduct of the R&D activities
3. bears the financial burden of carrying out the R&D activities.

In the example StrucScan initiated the first R&D project (the standoff scanning) and effectively took on the risk of the project and would receive the benefit/intellectual property arising from the R&D activities.

In most cases a company is only entitled to a tax offset for R&D activities conducted 'for' itself – when it is the major benefactor of expenditure on R&D activities¹³. This is determined by examining enabling agreements such as the licencing of the background intellectual property and any funding agreements which, in turn, control the extent to which R&D activities are conducted for the R&D entity compared to the extent to which they are conducted for any other entity. In the case of StrucScan, this would need to be taken into consideration before it entered into a funding agreement with the client

Expenditure on Core Technology

Under the *Income Tax Assessment Act 1997* an offset can't be claimed for 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 purpose of the R&D activities was or is:
 - to obtain new knowledge based on that technology; or
 - to create new or improved materials, products, devices, processes, techniques or services to be based on that technology; or
- the R&D activities were or are an extension, continuation, development or completion of the activities that produced that technology.

The company ensured that it kept records that enabled it to separate the cost of the stand-off equipment, which it considered was 'core technology', from the other costs of the activities.

¹³ More information on 'who the R&D activities are conducted for' is available from the [ATO website](#).

Example 3: Enviroloo

This example explores the nature of R&D activities conducted in a commercial environment.

In this context, the example presents a business scenario and commentary explaining the **scope of core R&D activities** and how **aggregated turnover** and **company structure** affects a company's eligibility for the R&D Tax Incentive and considerations relevant to the programme's **feedstock** requirements.

Business Scenario

Enviroloo has developed a non-toxic chemical toilet system for use in eco lodges and holiday houses, which does not need to be 'flushed' with water.

The company has an annual turnover of \$5 million and is pursuing growth opportunities both through export and through entering the residential market with a new design.

In relation to the latter, the company was approached by a property developer, GreenHaven, that was building a 'six star' eco-friendly development of single and attached dwellings adjoining a heritage listed national park in Northern NSW. GreenHaven offered to install 1000 of the new residential chemical toilets if they pass regulatory approval.

Enviroloo undertook internet and literature searches as well as consulted with industry experts and established that a non-flushing chemical toilet for use in medium density residential areas did not exist. The research combined with Enviroloo's own experience suggested the primary reason for this was although the ammonia-based chemicals in a typical non-flushing toilet break down the waste and make it odourless, the waste still needed to be hygienically transported away from the toilet so that it could be fully de-constituted and recycled safely.

The company believed that a possible solution to this problem was to modify the toilet lid to create an air seal and using a suction system to evacuate the chemical waste to an onsite processing unit.

Enviroloo commenced a programme of work which set out to build a scalable suction flushing system and onsite waste treatment processing unit for a chemical toilet that could be used in medium density developments.

Enviroloo's engineers developed and successfully tested a prototype of the new system, using a network of 10 interconnected toilets and a small scale pressure unit and waste processing plant. The company engaged independent environmental, health and hazardous waste assessors who found that the prototype as tested was safe for residential use.

Following a presentation of these findings to the municipal council responsible for the GreenHaven development, the council concluded that while the toilet appeared to be compliant, it would only give a final approval once a full scale operational system could be demonstrated. After further negotiations, it was agreed that this could be based on a network of 50 installed Enviroloos.

GreenHaven saw the Enviroloo as a key feature of its proposed 6-star development and committed to buy and install the new Enviroloos, which could be evaluated by the council once the first group of 50 houses were partly finished. Following Enviroloo's advice that 100 units was the minimum order quantity for a production run of the new toilet, including the full-scale pressure unit and waste processing plant, GreenHaven placed an initial order for 100 units and the ancillary equipment, with the intention that it could sell a number of the dwellings once approved by council.

The 100 new chemical toilets and the new pressure unit and waste processing plant were delivered and installed on schedule and passed the evaluation by the municipal council. GreenHaven then placed an order for the remaining 900 units, to complete the development.

Core R&D Activity: *Development and testing of new residential chemical toilet system*

Enviroloo considered the department's guidance products¹⁴ and determined that the development and testing of the 10 interconnected prototype toilets was an eligible core R&D activity because:

- The company could not find any information on the development of a non-water-based flushing system for use in a medium density development prior to the conduct of its experimental activities, and
- the outcome sought through conducting these activities could not be known or determined in advance on the basis of current knowledge, information or experience and that the company would need to conduct an experiment to test the feasibility of the new toilet system.

Enviroloo's self-assessment was based on the lack of available knowledge and uncertainty in respect of maintaining the static and active pressures required to supply a functioning 10 unit system. The series of systematic tests of the new chemical system using high use scenarios and failure pressure tests, therefore, met the requirements of a core R&D activity under the R&D Tax Incentive.

Enviroloo realised, however, that the subsequent production and commercial sale of 100 units to GreenHaven was not eligible to be included in the R&D Tax Incentive registration. This was because the experiment had been successfully completed which generated the new knowledge the company needed and the subsequent production was not for the purpose of creating new knowledge.

¹⁴ A suite of R&D Tax Incentive guidance products is available on the business.gov.au website.

Supporting R&D Activities: *Developing the experimental process*

Enviroloo identified parts of the R&D project that could be registered with the department as supporting R&D activities because they were directly related to the core R&D activity.

This included the modifications to the ten Enviroloos including connecting them to the pressure and waste units.

What documentation did Enviroloo keep?

Enviroloo kept a number of different contemporaneous records including:

- literature research that Enviroloo undertook to determine the project would generate new knowledge,
- dates of testing and procedures followed (demonstrating that a systematic approach had been applied in the experiments),
- data and results on optimal pressure testing and trials of various chemical/pressure ratios to maintain performance at scale,
- the staff involved,
- the data collected and the conclusions in respect to the hypotheses being tested,
- the equipment specially purchased,
- other costs involved in preparing the experiment,
- contractor invoices, and
- minutes of project meetings.

Enviroloo also clearly defined who owned the background intellectual property and resulting intellectual property in its agreement with GreenHaven.

As part of its record keeping process, Enviroloo developed project documentation including an R&D plan¹⁵ prior to investigating the possibilities of developing a chemical toilet for medium density housing. The company set out hypotheses and the processes of experimentation, observation and evaluation it would perform.

For new entrants to the programme, particularly SMEs, adopting a systematic R&D planning framework means that a firm becomes 'compliance ready' and is better able to register for and claim the R&D Tax Incentive.

¹⁵ Maintaining formal R&D plans is not compulsory under the R&D Tax Incentive; however evidence of good planning and governance processes form strong supporting evidence for compliance purposes. Information on record keeping is available on business.gov.au in the *Compliance Readiness – Importance of Record Keeping* guide and the *Record Keeping and R&D Planning* Information Sheet.

Commentary

Scope of core R&D activities

As this example shows, activities are only an eligible core R&D activity up to the point where their purpose (the generation of new knowledge) has been achieved. If the activity is continued after the new knowledge has been generated, it is no longer an eligible core R&D activity. When registering for the R&D Tax Incentive, therefore, companies need to consider how they will separate activities that were conducted as part of the experiment from those that were not.

Companies may need to identify the number of units to be produced as part of the experiment, or the time when the core R&D activity starts and ends. For example, it may be reasonable to develop and instigate a process on a small scale to test the feasibility of the new process but, once the effect of the new process is known, there is no longer a core R&D activity taking place.

In the Enviroloo example, the successful development of the 10 interconnected toilets and associated treatment system comprised the core R&D activities. The knowledge generated was then used to produce the 50 interconnected toilets and full scale treatment system. In developing the 50 toilet system the company had no reason or expectation that any issues could not be resolved based on its experience and knowledge. As there were no experimental activities required to test a hypothesis and generate new knowledge the development of the 50 toilet system was not considered an eligible core R&D activity.

When self-assessing R&D activities, a company must make an assessment of the amount of 'testing' that is required in order to obtain the new knowledge. A company's records should provide evidence that supports this assessment.

An activity does not fall within the scope of the core R&D activity merely because the core R&D activity cannot take place without it.

Who the R&D activities are conducted for

Enviroloo and GreenHaven entered into an agreement for the development and installation of the 50 toilet full scale system (to be increased to 100 toilets after council approval). Therefore, if further eligible R&D activities were required to overcome problems, Enviroloo may no longer have an eligible R&D Tax Incentive claim as it no longer carried the financial burden of carrying out the R&D activities. In other words, depending on the agreement between the two companies, the R&D may no longer be conducted 'for' Enviroloo; the R&D could now be considered to be 'for' the benefit of GreenHaven.

For example, if GreenHaven encountered an unexpected acoustic problem that was associated with the undulating terrain on which a toilet block was installed. It may need to conduct a series of hypothesis-driven experiments to identify the cause of that problem and to resolve the issue. In the absence of an agreement between Enviroloo and GreenHaven that covers this work, the prospective R&D will be conducted by GreenHaven and for the benefit of GreenHaven. When registering and then claiming the costs of this R&D, GreenHaven would need to carefully determine the scope of the new

activities which would be confined to overcoming the newly identified challenges, and not in proving the concept of the overall system.

The question of who the R&D activities are conducted 'for' is an important question for all companies to take into consideration.¹⁶ The structure of a commercial agreement involving intellectual property and funding arrangements may critically affect a company's eligibility to access the R&D Tax Incentive programme.

Feedstock

Companies may make the business decision to supply or use the immediate product of their eligible R&D activities (such as the 10 potentially saleable new chemical toilets produced for Enviroloo's trials). Companies that supply or use the product of their eligible R&D need to examine the feedstock rules (which are available at the ATO website¹⁷) and include the necessary feedstock adjustment amount in their income tax return.

Aggregated Turnover

An important dimension to note is the term 'aggregated turnover'. This plays a major role in determining the level of tax offset a company can receive when claiming the R&D Tax Incentive.

The R&D Tax Incentive benefits are split into two components:

- A 43.5% refundable tax offset for eligible entities with an aggregated turnover of less than \$20 million (unless they are controlled by tax exempt entities)
- A 38.5% non-refundable tax offset for all other eligible entities.¹⁸

Aggregated turnover is the sum of the annual turnovers of not only the company registering for the programme but also entities connected or affiliated with that company¹⁹.

For example, if Enviroloo was a subsidiary of a large Multi-National Enterprise (MNE), its aggregated turnover would include its annual turnover and the annual turnover of the MNE. If, as a result, Enviroloo's aggregated annual turnover was greater than \$20

¹⁶ The ATO provides guidance on *who the R&D activities are conducted for* and eligibility to claim expenditure under the R&D Tax Incentive at https://www.ato.gov.au/Business/Research-and-development-tax-incentive/In-detail/Guides--ATO/Research-and-development-tax-incentive---who-can-claim/?page=5#Who_R_amp_D_activities_are_conducted_for

¹⁷ Information on feedstock rules is available on the ATO website at: <https://www.ato.gov.au/Business/Research-and-development-tax-incentive/In-detail/Fact-sheets--ATO/Research-and-development-tax-incentive---feedstock-adjustments/>

¹⁸ These rates apply for activities conducted from 1 July 2016. For activities conducted in income years starting before 1 July 2016, the refundable offset rate is 45% and the non-refundable offset rate is 40%.

¹⁹ Information on aggregated turnover is available on the ATO website at: <https://www.ato.gov.au/Business/Research-and-development-tax-incentive/In-detail/Fact-sheets--ATO/Research-and-development-tax-incentive---grouping-for-aggregated-turnover-purposes/>

million, the company would be eligible for the 38.5% non-refundable offset instead of the 43.5% refundable offset.

Example 4: Buildablock

This example explores the process of lodging an Overseas Finding application and ensuring a company is 'compliance ready'.

It shows how by keeping good documentation throughout the project, the company:

- was better placed to provide a clear and accurate description and validation of its activities when lodging its overseas finding application,
- reduced its compliance costs and risks in preparation for a possible review in the future, and
- helped ensure its project was well managed, efficiently carried out and knowledge and intellectual property development was captured.

Business Scenario

Buildablock is a medium-sized Australian company that has grown its business by developing new materials for commercial buildings and residential housing. Despite a strong reputation, a review of the company's market performance showed a drop in profitability in its key product lines.

Recognising that continued innovation and product improvement was the key to restoring the company's fortunes, the management board decided to research and develop new products and materials.

Buildablock's engineers discovered an overseas university that had conducted early experiments using plastic optical fibres to produce translucent concrete.

With further research into the production and sale of translucent concrete, Buildablock discovered that existing products available on the market only used *glass* optical fibres. The company also determined that there were several potential advantages to using plastic optical fibres including high mechanical flexibility, low cost and the ability to monitor structural integrity in the concrete.

The company embarked on a programme of work to determine if it was possible to manufacture commercial scale construction quality translucent concrete slabs using plastic optical fibres.

As a first step, Buildablock entered into an agreement with the overseas university, where Buildablock would fund the R&D and own the resulting intellectual property (IP). Buildablock planned to use this IP as the basis for more R&D that it would conduct in Australia to develop a product ready for commercial sale.

Buildablock conducted various literature searches and consulted with industry experts and found that the expertise and research facilities required to conduct experiments to determine the feasibility of using plastic optical fibre did not exist in Australia. The company ensured that it maintained meeting minutes and records on the literature searches undertaken.

Core R&D Activity 1: *Overseas development of plastic optical fibre embedded concrete*

In order to receive benefits through the R&D Tax Incentive on activities that occur outside Australia, an overseas finding is required. Buildablock completed and submitted the department's *R&D Tax Incentive Application: Advance/ Overseas Finding*²⁰.

In its application form the company provided information to demonstrate that: the activity was an R&D activity; that it had a significant scientific link to an Australian core R&D activity; it was unable to be conducted in Australia, and in total, it was spending more on its Australian activities than its overseas activities.

Although the company was confident that the finding would be successful, it was prepared to proceed with the project regardless of the outcome of its Overseas Finding application and entered into a contract with the overseas university.

The company considered the department's online guidance²¹ and self-assessed that the overseas development and testing of the plastic optical fibre embedded concrete would be considered an eligible overseas core R&D activity because:

- information on the structural properties of plastic optical fibre in commercial scale translucent concrete did not exist,
- competent professionals in the relevant field would not be able to know or determine the information about the properties of the new translucent concrete on the basis of current knowledge, information or experience without conducting experiments,
- the required expertise to conduct the development of the plastic optical fibre embedded concrete was not available in Australia,
- the anticipated and actual expenditure on overseas activities would be less than the total anticipated and actual expenditure on the related Australian R&D activities in all income years, and
- the overseas activity had a significant scientific link to an Australian core activity²².

The overseas activity was found to be eligible by Innovation and Science Australia, and an *Overseas Finding Certificate* was issued to Buildablock.

The university conducted several small scale experiments based on specific and clearly articulated hypotheses to investigate the effects of optical fibre ratios and distribution on the physical properties of the translucent concrete. It was discovered that increasing the ratio of optical fibres provided greater light transmission but reduced the structural integrity of the concrete. Further evaluation concluded that the optimal fibre to concrete ratio was 30% which provided a modest increase in strength over conventional

²⁰ The application form for an Advance/Overseas Finding is available on the [business.gov.au](https://www.business.gov.au) website.

²¹ The company found the department's *R&D Tax Incentive: A Guide to Interpretation and When could scaling-up involve eligible R&D activities?* on the [business.gov.au](https://www.business.gov.au) website.

²² Further information on overseas requirements is explored in detailed within the commentary section below.

reinforced concrete blocks while still providing adequate light transmission and a reduction in weight.

The company realised however that further R&D was required to be able to produce the commercial scale product.

On the basis of these small scale findings, Buildablock began to design and develop a manufacturing process to produce commercial scale translucent concrete slabs using plastic optical fibres.

Core R&D Activity 2: *Development and testing of the manufacturing process*

Buildablock developed a pilot plant that enabled it to conduct experiments to develop a process to produce commercial scale slabs of the translucent concrete.

Buildablock investigated a variety of techniques to embed the fibres by experimenting with a variety of vibration methods based on specific and clearly articulated hypotheses. It was discovered that using a high frequency vibration provided better optical fibre distribution, however the frequency used distorted the concrete moulds. The company concluded that vibration alone was not enough to evenly distribute the fibres throughout the concrete mould due to the low density of the plastic optical fibre.

Further experiments were conducted and a mesh was developed to hold the plastic optical fibre in place whilst the concrete was poured. Once dried the protruding fibres were removed.

The company self-assessed this activity to be eligible as a core R&D activity on the basis that:

- despite the research and consultation with industry experts, the company was unable to find any publicly available knowledge that could be used to inform the development of a production process for commercial scale slabs of translucent concrete,
- Its research and consultation found that the view of competent and relevant professionals was that the information the company needed could not be worked out on the basis of current knowledge, information or experience, and
- Hypothesis-driven experiments needed to be conducted in order to generate new knowledge to develop an appropriate manufacturing process that would produce consistent plastic optical fibre translucent concrete in commercial scale slabs.

Supporting R&D Activity 1: *Testing the properties of the concrete*

To ensure the translucent concrete could be used commercially Buildablock contracted a company specialising in material quality assurance testing. Tests were carried out by this company on the successive concrete samples produced by the overseas university, as well as the initial slabs produced by the pilot plant, to evaluate the consistency of the samples' and slabs' abrasion resistance, hardness, weatherability and load capacity. These activities helped inform Buildablock's manufacturing process to maintain consistency between concrete pours.

Through these tests, Buildablock was able to determine that the manufacturing process was successful in producing consistent translucent concrete. Buildablock self-assessed the activity would be eligible as a supporting R&D activity on the basis that:

- the quality assurance of the concrete samples and slabs was required in order for the core R&D activities to take place. The quality assurance was not undertaken for normal operational reasons and the activity was deemed to have a direct, close and relatively immediate relationship with the core R&D activity.

What documentation did Buildablock keep?

As Buildablock had previously applied for the R&D Tax Incentive, the company was familiar with the documentation required to support its R&D claim.

It maintained a project plan which included the project objectives, experimental methodology and milestones. The company ensured that the literature searches and industry consultations were well documented. Buildablock was careful to keep documentation on its research and consultations that showed that the expertise and facilities needed in relation to using plastic optical fibre did not exist in Australia.

When conducting R&D activities, the company kept contemporaneous records that documented its hypotheses, methods, results, analysis and conclusions of the experiments.

For R&D activities undertaken by the university and contractor, Buildablock kept all documents relating to the agreement, the R&D activities, the project report and invoices. Buildablock was also careful to maintain:

- the date the R&D activities were undertaken,
- correspondence with the university which described the nature of the collaboration and the design of the experiment, including emails from the university research team suggesting the experiments that should be undertaken and their methodology,
- sufficient detail to determine the amount of expenditure on the R&D activities, and
- a description of the activities performed by the university to link the costs with a particular R&D activity.

Commentary

Overseas Findings

Overseas Findings are designed to provide certainty to companies about their entitlement to benefits under the R&D Tax Incentive. They provide a binding determination issued by Innovation and Science Australia as to whether certain activities are eligible overseas R&D activities.²³

Overseas work must satisfy four requirements in order to be eligible as an overseas R&D activity:

1. The activity must be an eligible R&D activity,
2. The overseas activity must have a significant scientific link to one or more core R&D activities conducted in Australia. Those activities must be registered with the department, or reasonably likely to be conducted and registered in the future,
3. The overseas activity must be unable to be conducted solely in Australia, and
4. The total amount (actual and reasonably anticipated) to be spent in all income years by the company and any other entities on the overseas activities is less than the total amount (actual and reasonably anticipated) to be spent in all income years on the related Australian core R&D activities and supporting R&D activities.

The overseas activity must be an eligible R&D activity

If a company seeks an Overseas Finding on either a core or a supporting R&D activity, it is required to demonstrate that the activity satisfies the definition of either a core or a supporting R&D activity (that is, subject to all the relevant eligibility criteria for either a core or a supporting R&D activity).

The overseas activity must have significant scientific link to one or more core R&D activities conducted in Australia

To be eligible for an Overseas Finding, it is important to demonstrate that the overseas activity has a significant scientific link to one or more registered Australian core R&D activities. It is important to note however, that (as in this example) the overseas activity may proceed before the Australian core R&D activity if the Australian core R&D activity is reasonably likely to be conducted and be registered under the R&D Tax Incentive.

An overseas activity has a significant scientific link to the Australian core R&D activities if the Australian core R&D activities cannot be completed without the overseas activity being conducted. AusIndustry will review the Australian core R&D activity, even if it is not requested that a finding be made on it, to ensure that the Australian activity also meets the requirements of being a core R&D activity.

In this example, Buildablock clearly showed the links between the planned overseas activity and the Australian core R&D activity that was planned to be conducted in the

²³ Additional guidance on Overseas Findings including *What does 'not available in Australia' mean?*, *Overseas Findings: How long does an overseas Finding Last?*, and the *Guide to Findings* may be found on business.gov.au.

future. It explained that without the experimental data from the overseas activity, the manufacturing process development of the translucent concrete could not have occurred.

The overseas activity must be unable to be conducted solely in Australia

To be eligible for the R&D Tax Incentive, R&D activities proposed to be conducted overseas must not be able to be conducted solely in Australia (or its external Territories) for one of four reasons:

1. conducting the R&D activities requires access to a facility, expertise or equipment not available in Australia or its external Territories,
2. conducting the R&D activities in Australia or its external Territories would contravene a law relating to quarantine,
3. conducting the R&D activities requires access to a population (of living things) not available in Australia or its external Territories, or
4. conducting the R&D activities requires access to a geographical or geological feature not available in Australia or its external Territories.

It should be noted that companies will not be granted an Overseas Finding certificate for activities that take place overseas for purely financial reasons. Companies must ensure that they can demonstrate their investigation into conducting the activity in Australia.

Total expenditure on eligible overseas activities of the project must be less than the expenditure on the eligible Australian R&D activities

An important consideration for companies is the condition that the total actual and reasonably anticipated expenditure of any entity in all income years on:

- the overseas activities, and
- each other activity (if any) conducted wholly or partly outside Australia and the external Territories that has a significant scientific link to the Australian core activities;

is less than the total actual and reasonably anticipated expenditure of any entity in all income years on:

- the Australian core R&D activities with a significant scientific link with the overseas activities, and
- activities conducted within Australia and the external Territories that are supporting R&D activities in relation to those Australian core activities, or to the overseas activities.

If the expenditure on overseas activities (both stated in the application and reasonably anticipated in all income years) is greater than the expenditure on activities conducted in Australia, a company will not be eligible for an Overseas Finding for the overseas activities. However, R&D activities conducted within Australia could still be eligible for the R&D Tax Incentive.

In calculating the Australian expenditure on R&D activities, Buildablock included the expenditure on Australian supporting R&D activities and the expenditure on the Australian Core R&D Activity 2. As the total amount (actual and reasonably anticipated) to be spent in all income years by the company and any other entities on the overseas activity was less than the total amount (actual and reasonably anticipated) to be spent in all income years on Australian activities, Buildablock met this eligibility requirement.

Example 5: ConstructaBuild

This example shows ineligible activities where a company uses existing knowledge and expertise and conducts business as usual activities. The company in this example also undertakes testing activities for the purpose of regulatory compliance which is excluded from being a core R&D activity under the legislation.

The example shows how the company:

- **used existing expertise to solve problems**, including through the use of software modelling,
- **carried out activities to comply with regulatory requirements**, and
- incurred **expenditure on building construction**.

As a result, the activities conducted by this company were self-assessed as not eligible to be registered and claimed under the R&D Tax Incentive.

Business Scenario

ConstructaBuild is a busy Australian company designing and building medium sized commercial buildings. With decades of experience it is confident that it can meet any client's requirements for a commercial building.

The company won a contract to design and construct a four story building in a suburban centre for a software development company.

In keeping with its innovative corporate culture, the client wanted 'individuality', both externally and internally. It required that the facade had 'attention grabbing' elements, and that all internal services were 'invisible'.

The company presented a concept for irregularly shaped lightweight concrete facade elements that appeared to float in space, and an internal concept that hid all services behind gloss finished white floors, walls and ceilings. The client agreed to the concept, and signed the contracts.

While ConstructaBuild had significant experience in high quality buildings, it had not constructed facade elements like those in its concept, nor was it certain how the building would comply with the necessary fire safety standards with its internal proposal.

Activities

Fastening system for irregularly shaped lightweight concrete facade elements.

While expensive, it was straightforward to engage a specialist concrete company to cast the unique lightweight concrete facade panels. However, the translation of the 'floating in space' concept to reality was more of a challenge, as it had not attempted anything like it before.

The firm's chief architectural engineer considered that the most stable and cost effective approach was to install the panels on a lightweight grid of scaffolding fastened to the

front of the building structure, with additional cross bracing hidden behind the concrete panels where additional strength was required.

The firm prepared a number of designs using several commercially available types of stainless steel scaffold beams and cables. Using performance data from the potential suppliers, the firm's architectural engineer ran a number of simulations using engineering modelling software to predict which of the alternative designs would give the best strength, stability, and wind performance versus their visual appearance and cost.

The engineer was aware that the simulation software used engineering calculations that could be relied on as they were based on existing knowledge and expertise. He did not need to conduct any experiments to verify the results of the simulated performance. The firm selected a design and ordered the materials from the best priced supplier.

Developing novel interior to hide services but still meet fire safety standards.

While it would be relatively straightforward for the company to hide all services behind attractive interior wall and ceiling panelling, it was presented with the problem of meeting certain fire safety standards set by the local council that required that all fire systems such as smoke detectors, sprinklers and fire exit signs must be visible at all times.

The firm decided that it may be able to meet its client's expectations and the fire safety regulatory requirements at the same time if it could use a combination of translucent and semi-transparent plastic panels that gave a consistent finished impression, while allowing sufficient visibility of the services behind the semi-transparent panels.

However, the company found that semi-transparent panels of the same gloss finish to match the selected translucent panels were not commercially available. The company contracted and worked with a plastics company to develop a new surface coating for the panels, so that they visually integrated with the glossy translucent panels without losing transparency.

Before the council would sign off on compliance with its fire regulations, the company needed to conduct a series of tests that demonstrated that the new panel coating allowed the fire services to be visible under the range of lighting conditions specified in the regulations.

ConstructaBuild considered whether it could claim the R&D Tax incentive and claim its expenses for the design and development work on the facade and on the fire safety visibility panels it had developed.

The firm's tax manager and R&D consultant were excited that the company had developed new designs and solutions, and discussed what had been done with the firm's technical staff.

The chief architectural engineer explained to them that the modelling simulations used existing engineering knowledge and expertise to determine the outcome of the facade design, and that experiments had not been required.

The technical staff also explained that the purpose of the development and testing of the new 'visibility panels' was to achieve the building's compliance with regulations. The R&D consultant reviewed the department's [Guide to Interpretation](#) on [business.gov.au](#) to remind herself about the activities that were excluded from being core R&D activities. From this review she found the relevant exclusion which confirmed that activities associated with complying with statutory requirements or standards were excluded from being core R&D activities by the legislation.

The tax manager asked whether building the facade could be considered an experiment in that it proved that the fastening system worked as designed.

The technical staff explained that following the engineering simulations the level of uncertainty about performance was low. The chief engineer said 'it can never be zero, but we would never take the commercial risk to build the building if we thought there was significant risk that we had not determined that it would work.

The firm's R&D consultant was also aware that under the *Income Tax Assessment Act 1997*, any expenditure on constructing the building would not be able to be claimed.

Accordingly, the company self-assessed that it did not have any activities that could be assessed as core R&D activities. ConstructaBuild decided that its activities were best characterised as ordinary business and not research and development within the meaning of the legislation. The activities were not eligible to be claimed under the R&D Tax Incentive and the company did not register for the programme.

Commentary

To self-assess the eligibility of 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 under the R&D Tax Incentive.

Building costs are not eligible

Registrations of activities conducted by companies in the building and construction sector are subject to the same eligibility tests for the R&D Tax Incentive as activities conducted in any other sector. However, in claiming expenditure on any registered activities, companies must recognise that expenditure incurred on acquiring or constructing all or part of a building is specifically excluded.²⁴ More information on eligible expenditure may be found on the [ATO website](#)²⁵.

²⁴ This includes expenditure incurred on part of a building, extensions, alterations and improvements. The exclusion applies to all expenditure of their kind regardless of who incurs it even if it is incurred on R&D activities, and also regardless of any other details about the circumstances in which it is incurred. The exclusion is not limited to expenditure on capital account, or to expenditure incurred by the owner or purchase of the building. See section 355-225 of the *Income Tax Assessment Act 1997*.

²⁵ See <https://www.ato.gov.au/Business/Research-and-development-tax-incentive/In-detail/Guides--ATO/Research-and-development-tax-incentive---amounts-you-can-claim/>

Applying existing knowledge or expertise

The existence of a technical challenge in a project does not necessarily identify a need for R&D that meets the requirements of the legislation. In many cases technical challenges can be resolved by applying existing engineering or scientific knowledge and expertise (e.g. through activities of 'design', or 'predictive modelling', without conducting experiments). These cannot be core R&D activities.

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 different location.

When companies choose to register R&D activities relating to the building and construction industry, they must demonstrate for each core R&D activity they wish to register

Further information

See the department's guidance on [Getting building and construction R&D Tax Incentive claims right](#) for more information on self-assessing the eligibility of activities in the building and construction sector.

The R&D Tax Incentive • *Built Environment Guidance*
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