

Research and Development (R&D) Tax Credit

Part 29-02-03

This document should be read in conjunction with section 766, 766A, 766B, and 766C of the Taxes Consolidation Act 1997

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1. Introduction

Sections 766, 766A and 766B of the Taxes Consolidation Act (TCA) 1997 (the Act) and the [Taxes Consolidation Act \(Prescribed Research and Development Activities Regulations\) 2004 \(S.I No. 434/2004\)](#) provide for a tax credit for certain expenditure on research and development (R&D) activities, plant and machinery and buildings. Credit is given at 25% of allowable expenditure. For accounting periods commencing prior to 1/1/2015 the amount of qualifying expenditure is restricted to incremental expenditure over expenditure in a base year (2003) defined as the “threshold amount”.

The Finance Act of 2012 introduced an allowable amount to be excluded from the incremental basis of calculation. This allowed the first €100,000 of qualifying R&D expenditure to qualify for the credit, regardless of the base year (2003) expenditure. This amount was increased for 2013 and 2014.¹

Prior to 2012, the qualifying R&D expenditure was reduced in full by the base-year expenditure in calculating the relief.

For accounting periods beginning on or after 1 January 2015, the requirement to subtract base-year (2003) R&D expenditure was removed and all qualifying R&D expenditure is eligible for the 25% tax credit.²

¹ Section 766(1)(a) TCA 1997 – in the definition of “qualifying group expenditure on research and development”

² Section 766(1)(a) TCA 1997 – in the definition of “qualifying group expenditure on research and development”, as amended by Finance Act 2014

2. General Scheme

2.1 Basic requirements for qualification³

To qualify for the credit, the following must apply:

- the applicant must be a company.⁴
- the company must be within the charge to Irish tax.
- the company must undertake qualifying R&D activities within the European Economic Area (EEA).
- in the case of an Irish tax resident company, the expenditure must not qualify for a tax deduction under the law of another territory.

Qualifying activities must satisfy **all** of the following conditions⁵. They must—

1. be systematic, investigative or experimental activities;
2. be in a field of science or technology;
3. involve one or more of the following categories of R&D—
 - a. basic research,
 - b. applied research, **or**
 - c. experimental development.

In addition, they must:

4. seek to achieve scientific or technological advancement; **and**
5. involve the resolution of scientific or technological uncertainty.

The tax credit is calculated separately from the normal deduction of the R&D expenditure in computing the taxable profits of the company⁶. Companies claiming the R&D tax credit are not required to hold the intellectual property rights resulting from the R&D work. Equally, there is no requirement for the R&D work to be successful. The definition of qualifying R&D activity requires that a claimant company engage in systematic activity which seeks to achieve a scientific or technological advancement, and which involves the resolution of scientific or technological uncertainty.

All claims for R&D tax credit (under s.766) must be made within 12 months from the end of the accounting period in which the expenditure was incurred. Expenditure on buildings and structures to be used for R&D (s.766A), must be made within 12 months from the end of the accounting period in which the relevant expenditure was incurred (for more detail see Part 5 of these Guidelines.)

2.2 Base year requirement⁷

The R&D tax credit was originally designed to incentivise incremental R&D expenditure. 2003 was set as the base year for all accounting periods. This meant that if a company incurred

³Section 766(1)(a) TCA 1997 – in the definition of “qualified company”

⁴S.766 generally provides rules relating to groups of companies but provides that where a company is not part of a group the company shall be treated as a group comprising that one company. For ease of reading the singular term “company” is used throughout these guidelines. See also Section 7 of these Guidelines for further information with regard to groups.

⁵Section 766(1)(a) TCA 1997 – in the definition of “research and development activities”

⁶ Where the relevant accounting standard allows the company to recognise the value of the R&D credit in its financial statements any amount so included in the calculation of accounting profit/loss may be deducted in the calculation of taxable profit/loss.

⁷Section 766(1)(a) TCA 1997 – in the definition of “relevant period”

expenditure on R&D in 2003 the amount of that expenditure was to be subtracted from the current year expenditure when calculating a claim. This 2003 amount is referred to as the 'threshold amount'. From 2012 the formula to calculate the qualifying expenditure was amended to allow an amount to qualify for the R&D tax credit irrespective of 2003 expenditure – see table below.

The Finance Act 2014 removed the requirement to subtract base year expenditure in calculating claims for accounting periods commencing on or after 1 January 2015.

Accounting Period	Base year restriction
Up to and including 31 December 2011	Full base year (2003) expenditure (known as "threshold amount")
Accounting periods commencing on or after 1 January 2012	Threshold amount less €100,000
Accounting periods commencing on or after 1 January 2013	Threshold amount less €200,000
Accounting periods commencing on or after 1 January 2014	Threshold amount less €300,000
Accounting periods commencing on or after 1 January 2015	No threshold amount

2.3 Calculating the credit

For expenditure incurred in accounting periods commencing on or after 1 January 2009, the relief is calculated as 25% of qualifying expenditure. The credit is initially used to reduce the liability to Corporation Tax (CT) for that accounting period.

Example no. 1:

In the 12 months ended 31 December 2012 PQ Ltd incurred €500,000 R&D expenditure. In the 12 months ended 31 December 2003 it incurred €250,000 R&D expenditure.

The tax credit is calculated as follows:

Expenditure in relevant period ended 31/12/2012	€500,000
Less adjusted threshold amount (€250,000 - €100,000) (up to first €100,000 excluded from the threshold in 2012)	<u>€150,000</u>
Qualifying expenditure	€350,000
Tax Credit: €350,000 @25%	€87,500

Example no. 2:

In the 12 months ended 31 December 2013 CBA Ltd incurred €500,000 R&D expenditure. In the 12 months ended 31 December 2003 it incurred €35,000 R&D expenditure.

The tax credit for 2013 is calculated as follows:

Expenditure in relevant period ended 31/12/2013	€500,000
Less threshold amount (€35,000 ≤ €200,000) (up to first €200,000 excluded from threshold in 2013)	<u>€ 0,000</u>
Qualifying Expenditure	€500,000
Tax Credit: €500,000 @ 25%	€125,000

Example no. 3:

In the 12 months ended 31 December 2015 XYZ Ltd incurred €500,000 R&D expenditure. In the 12 months ended 31 December 2003 it incurred €150,000 R&D expenditure.

The tax credit for 2015 is calculated as follows:

Expenditure in relevant period ended 31/12/2015	€500,000
Less threshold amount (Not applicable)	€ 0,000
Qualifying Expenditure	€500,000
Tax Credit: €500,000 @ 25%	€125,000

Where a company has insufficient Corporation Tax against which to claim the R&D tax credit in a given accounting period, the tax credit may be credited against the Corporation Tax for the preceding period, may be carried forward indefinitely or, if the company is a member of a group, allocated to other group members. The R&D credit can also be claimed by the company as a payable credit.

2.4 Payable credits⁸

Where a company has offset the credit against the Corporation Tax of the current and preceding accounting periods and an excess amount still remains, the company may make a claim to have the amount of that excess paid to it by Revenue in three instalments over a period of 33 months.

The first instalment to be paid will amount to 33% of the excess amount and becomes payable not earlier than the corporation tax pay and file date for the company's accounting period in which the R&D expenditure was incurred.

The remaining balance of the excess amount will then be used to reduce the company's Corporation Tax liability of the next accounting period (if it has not otherwise been discharged) and then if any of the excess amount still remains, a second instalment amounting to 50% of that amount remaining will become payable not earlier than 12 months after the corporation tax pay and file date for the accounting period in which the R&D expenditure was incurred.

Any part of the excess amount still remaining will then be used to reduce the company's Corporation Tax liability of the following accounting period (if it has not otherwise been discharged), and if any part of the excess amount still remains, that amount will become payable not earlier than 24 months after the corporation tax pay and file date for the accounting period in which the R&D expenditure was incurred.

Payable credits are claimed on the Corporation Tax Return (form CT1). No supporting documentation in relation to qualifying R&D activity is required at the point of filing the CT1.

⁸Section 766(4B) TCA 1997

Example no. 4:

In the accounting period ended 31 December 2015 PSR Ltd. incurred €400,000 qualifying expenditure (after deduction of the threshold amount) on R&D. The following shows the company's Corporation Tax liability:

<u>Accounting Period</u>	<u>Liability</u>
12 months ended 31 December 2014	€30,000
12 months ended 31 December 2015	€15,000
12 months ended 31 December 2016	€11,000
12 months ended 31 December 2017	€10,000

The tax credit due in respect of y/e 31 December 2015 is €100,000. (i.e. €400,000 @25%). The CT liability for 2015 is €15,000, which will be covered by this credit. The remaining tax credit of €85,000 may be carried forward and used to reduce the CT liability for the next and subsequent accounting periods.

Alternatively, the company may make a claim to:

1. Offset €30,000 of the remaining tax credit against the CT liability of the preceding period (y/e 31 December 2014). That liability will be reduced to nil; a refund of €30,000 will be due (assuming the liability for 2014 was previously paid and that a timely claim to repayment is made) and the excess credit remaining will be reduced to €55,000
2. Revenue will pay 33% of the remaining credit to the company as a first instalment. That payment of €18,150 (€55,000 @ 33%) will be paid not earlier than 21 September 2016. The excess credit remaining will be reduced to €36,850.
3. €11,000 of the unused credit will be offset against the CT liability for y/e 31 December 2016, leaving a balance of excess credit of €25,850.
4. Revenue will pay 50% of the remaining balance to the company as a second instalment. That payment of €12,925 (€25,850 @ 50%) will be paid not earlier than 21 September 2017.
5. €10,000 of the remaining unused credit will be offset against the CT liability for the y/e 31 December 2017, leaving a balance of unused credit of €2,925.
6. Revenue will pay the balance of €2,925 to the company as the third instalment, not earlier than 21 September 2018.

(Note: The current year R&D is always offset first, before any R&D credits carried forward are used – see Paragraph 2.9)

2.5 Limit on amount of payable credits⁹

The aggregate amount of payable credits in respect of R&D expenditure in an accounting period is subject to a limit that is the greater of—

- (i) the aggregate amount of Corporation Tax paid by the company for accounting periods ending in the ten years prior to the year preceding the accounting period concerned, reduced by any amounts of Payable R&D Credit claimed in respect of prior periods, OR
- (ii) the aggregate of payroll liabilities for the period concerned and the preceding accounting period (Payroll liabilities include amounts due to Revenue in respect of PAYE, PRSI and USC) reduced by the lesser of
 - a. any excess of aggregate payable R&D credit over aggregate payroll liabilities for all periods in respect of which a payable credit was claimed prior to the period in question; OR
 - b. the payroll liabilities for the preceding period.

This latter provision, (ii) above, applies to accounting periods commencing on or after 22 June 2011.

Example no. 5:

In the accounting period ended 31 December 2014 ABC Ltd incurred €500,000 of qualifying R&D expenditure. The company had payroll liabilities in both 2013 and 2014 of €50,000. The company first made a claim to payable R&D Credit in 2014.

R&D Tax credit: €500,000 @ 25%	€125,000
Aggregate Corporation Tax paid for the period 2004-2013	0
Aggregate Payroll Liability for 2013/2014	€100,000
Payroll Liability 2013	€ 50,000
Excess of prior period Payable Credit over Payroll Liability	NIL
Reduction to aggregate payroll limit for 2013/2014 (Lesser of Nil or €50,000)	NIL
Adjusted Payroll Liability Limit	€100,000
Maximum repayable in 2014 (Greater of aggregate CT or payroll)	€100,000
Carry forward Corporation Tax credit	€25,000

Example no. 6:

In the accounting period ended 31 December 2015 XYZ Ltd incurred €600,000 qualifying expenditure. The company had aggregate payroll liabilities in 2014 and 2015 amounting to €50,000. This is the company's first claim to a payable credit.

Tax credit: €600,000 @ 25%	€150,000
Payroll taxes 2014/2015	€50,000
or, Corporation Tax paid for the period 2005-2014	€60,000
Maximum repayable credit in 2015	€60,000
Carry forward of Corporation Tax credit	€90,000

⁹Section 766B(3) TCA 1997

Example no. 7:

LMN Ltd. commenced trading in 2015.

	2015	2016	2017	2018	2019
Corporation Tax Paid	€2,500	nil	nil	nil	nil
Payroll liabilities	nil	€500	€1,200	€900	€700
R&D credit	nil	nil	€5,000	€3,000	€2,000
Payable credit	N/A	nil	€2,500	€900	€700

Note: In 2017, the CT limit is €2,500 (i.e. aggregate of previous 10 years CT liability). This is higher than two year's payroll liability €1,700 (i.e. 2016 and 2017 payroll liabilities) . Therefore, the maximum that can be claimed as payable credit is €2,500 in 2017

For 2018 and 2019 the CT limit is €0 as LMN Ltd utilised the CT limit in 2017 (i.e. €2,500 - €2,500).

For 2018 the payroll liability limit of €2,100 (€1,200 + €900) is reduced by the lesser of either €2,100 or the payroll liability for the first year of the two-year period (€1,200). Therefore, the maximum that can be claimed as a payable credit is €900.

In 2014, the payroll liability limit is €1,600 (€900 + €700) is reduced by the lesser of either €1,600 or the payroll liability for the first year of the two-year period (€900). Therefore, the maximum that can be claimed as a payable credit is €700.

Example no. 8:

QVR Limited commenced trading in 2015. The company has been continually loss-making.

	2015	2016	2017	2018	2019
CT liability	nil	nil	nil	nil	nil
Payroll liability	nil	€500	€400	€800	€600
R&D credit	nil	€2,000	€3,000	€1,000	€2,000
Payable credit	nil	€500	€400	€800	€600

Note:

For 2016 the payable credit limit is the payroll liabilities as there is no CT paid in the previous 10 years and no payroll liabilities in previous periods. Therefore, payable credit is €500.

For 2017 the payable credit limit is calculated as follows: €900 (€500 + €400), reduced by the lesser of €500 (the previous year's payroll liabilities). Therefore, payable credit is €400.

For 2018 the payable credit limit is calculated as follows: €1,200 (€800 + €400), reduced by €400 (the previous year's payroll liabilities). Therefore, the payable credit is €800.

For 2019 the payable credit limit is calculated as follows: €1,400 (€600 + €800), reduced by €800 (the previous year's payroll liabilities). Therefore, the payable credit is €600.

Example no.9:

A company claims an R&D tax credit of €100,000 for 2015.

No CT has been paid in the relevant 10-year period. The payroll liabilities for 2015 are €50,000. Therefore, the aggregate of the 3 instalments cannot exceed €50,000.

The 1st instalment is €33,000 (i.e. €100,000 * 33%)

The 2nd instalment is €17,000. It is restricted from €33,500 (i.e. (€100,000 - €33,000)*50%) as the aggregate amount cannot exceed the payroll liabilities of €50,000.

As the payroll restriction under section 766B(3)(b) has been reached there is no 3rd instalment, instead the remaining excess is available for carry forward to be set against CT for future accounting periods.

2.6 How to treat grants received¹⁰

Any expenditure which is met directly or indirectly by any grant aid or assistance from

- the State, or
- a relevant Member State of the EU or EEA, or
- any board established by statute, or
- any public or local authority or any other agency of the State, or of another relevant Member State of the EU or EEA, or
- an institution, office, agency or other body of the European Union, or
- a state, other than the State or a Member State, and any board, authority, institution, office, agency or other body in such state,

will not qualify for relief.

Example no. 10:

If, in the case of PQ Ltd. (example no. 1, assuming the same expenditure in 2003), the company was entitled to a State grant of €20,000 in respect of R&D expenditure the tax credit for 2013 is calculated as follows:

Expenditure in relevant period ended 31/12/2013	€500,000
Less grant	<u>(€20,000)</u>
	€480,000
Less Threshold Amount (after first €200,000 excluded)	<u>(€50,000)</u>
Qualifying Expenditure	€430,000
Tax Credit calculation: €430,000 @ 25%	€107,500

¹⁰Section 766(1)(b)(v) TCA 1997 This section was amended by section 25(2)(a)(ii) to extend this definition to ensure grant funding from the European Commission and institutions of the Commission, and from non-European member states or bodies of such a state, is deducted from the qualifying expenditure on research and development activities.

2.7 The Science Test in micro or small enterprises which are supported by R&D grants

The process of examining an R&D tax credit claim may be considered by reference to two criteria:

- The Science Test: that the activities under review are consistent with the statutory definition of research and development activities.
- The Accounting Test: that the expenditure claimed as being laid out on qualifying research and development activities is correctly so claimed.

2.7.1 Interaction with IDA/Enterprise Ireland's/Horizon 2020 R&D grants

Enterprise Ireland's, Horizon 2020, and IDA's R&D grants in respect of research and experimental development projects within the meaning of the OECD's Frascati Manual, which states: "Research and experimental development comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge". While there are differences to the definition of R&D for the grants and the R&D tax credit, it is considered that the two definitions are very close. Therefore, with a view to minimising the burden of engaging experts to verify the science test in R&D tax credit claims, it has been decided that Revenue would not, as a rule, seek to challenge the science test in relation to a project where:

- an Enterprise Ireland, Horizon 2020, or IDA R&D grant has been approved in respect of the R&D project;
- the project is undertaken in a prescribed field of science or technology, as defined in regulations (S.I. No. 434 of 2004);
- the company is a micro or small enterprise within the meaning of the Annex to Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises¹¹; and
- the total R&D tax credit claimed by the company for an accounting period (of not less than 12 months) is €50,000 or less.

2.7.2 Limits to Practice

This treatment applies only to R&D grants and not any other grant, whether used for R&D or otherwise.

2.8 Time limit on claims and time frames for payable credits¹²

Any claim under s.766 must be made within 12 months of the end of the accounting period in which the expenditure on R&D giving rise to the claim is incurred.

¹¹ [OJ No. L124, 20.5.2003, P.36](#)

Any claim to offset unused credits against the Corporation Tax liability of the preceding accounting period and/or to have any excess paid by Revenue in three instalments may be made by completing the relevant section of the Form CT1. The three instalments of the excess can be paid not earlier than the 21st day of the 9th month following the end of the relevant period, and 12 months and 24 months respectively following that date.

While the claim for payment of the excess must be made within the one-year limit mentioned above, the subsequent instalments are not separately subject to this time limit. In the absence of a claim for payment the excess will be carried forward for offset against the company's Corporation Tax liability in the subsequent accounting period.

Note however that if a claim in respect of any given period is not made within the requisite 12-month period then no entitlement to any amount in respect of that period arises at any time.

2.9 Order of Offsets¹³

Credits arising from the relevant period (i.e. the year of assessment in which expenditure is incurred) must be claimed first. If there are remaining credits from the relevant period, the company can carry back these credits to the previous accounting period. If credits still remain, the company can elect to either carry these credits forward, or to receive a payable credit. Note that this order of offsets applies equally to group expenditure. (See also section 7 for further details on group claims.)

¹²Section 766 TCA 1997, Section 5

¹³Refer to [TDM Part 15-02a-06](#) for more details on order of offsets of reliefs, allowances and deductions

Example no. 11:

Company RST Limited makes the following claim:

R&D credit due for relevant period ending 31/12/18 in respect of expenditure incurred on or after 1 January 2018 is €9,000,000.

Unused credit carried forward from 31/12/2017 is	€4,000,000
CT liability for a/c period ending 31/12/18	€10,000,000
Less current year R&D credit	(€9,000,000)
Balance of liability	€1,000,000
Less unused credit from 2017	(€1,000,000)
Liability	Nil

Note: The tax credit in respect of expenditure incurred in 2018 is offset prior to any excess carried forward. The balance from 2017 is €3,000,000 (€4,000,000 - €1,000,000) and will be carried forward to be set against the CT liability for the succeeding relevant period.

Example no. 12:

In the 12 months ended 31 December 2018 QPS Ltd incurred €2,000,000 qualifying R&D expenditure. It has outstanding instalments of payable credit in respect of the periods 2016(3rd instalment of €100,000) and 2017(2nd instalment of €200,000) and an amount of non-payable R&D credit carried forward from a period prior to 2008.

The tax credit may be applied as follows:

Corporation Tax Liability for 2018	€800,000
Less R&D Credit for 2012 (€2m * 25%)	(€500,000)
Pre 2008 Credit carried forward	(€300,000)
Corporation tax Liability Due	Nil
Payable Credit Due	€300,000

3. Qualifying Research and Development Activities¹⁴

Qualifying activities must satisfy all of the following conditions. They must be: Systematic, investigative or experimental activities, in a field of science or technology, encompassing one or more of the following categories of R&D:

- a. Basic research,
- b. Applied research,
- c. Experimental development.

In addition, they must seek to achieve scientific or technological advancement, and involve the resolution of scientific or technological uncertainty.

3.1 Systematic, Investigative or Experimental Activities

- It is expected that activities will be undertaken in a planned logical sequence – generally to a recognised methodology – with detailed records being maintained. It is important that the claimant is able to provide records and details of the activities carried on, not just the outcomes. It is necessary for companies to document and be in a position to present evidence of qualifying activities, including dated documents of the original scientific or technological goals of the activity; the progress of the work; how it was carried out, and any conclusions arrived at.
- Each project should be documented showing clearly why each major element is required and how it fits into the research activity as a whole. To build on the results of testing undertaken in a systematic way requires the organised documentation of work undertaken by way of experimentation or investigation.
- Relevant measures should be used to determine the scientific or technological properties of the R&D activity are met. Revenue expects to see documentation that charts the lifetime of the project from start to finish. Within these records there should be reference to milestones achieved. Where a particular path has not been successful and a different path required, then documentation to support these decisions should be available if needed.
- It is important that claimants realise the importance of **contemporaneous** and **relevant** documentation to support the claim. Failure to keep such documentation may result in the claim for the R&D tax credit being disallowed. In circumstances where a particular project within the claim fails to meet the requirement to have sufficient appropriate documentation available, but there are no concerns about the quality or lack of documentation for the rest of the claim, Revenue will only disallow that portion of the claim with insufficient documentation.

¹⁴ Section 766(1)(a) TCA 1997 – in the definition of “research and development activities”

3.2 Field of Science & Technology

The categories of activities that qualify for relief are set out in S.I. No. 434 of 2004, TCA 1997 (Prescribed Research and Development Activities) Regulations 2004. The categories are:

1. Natural Sciences
2. Engineering and Technology
3. Medical Sciences
4. Agricultural Sciences

The regulations list further sub-categories for each of the above. Further details are contained in [Appendix 1](#). Note in particular that Social Science Activities are excluded from the list. Excluded activities are set out in [Appendix 2](#).

3.3 Types of Research¹⁵

Basic Research means “experimental or theoretical work undertaken primarily to acquire new scientific or technical knowledge without a specific practical application in view”.

Applied Research means “work undertaken in order to gain scientific or technical knowledge and directed towards a specific practical application”. Applied research is usually undertaken either to determine possible uses for the findings of basic research or to determine new methods or ways of creating practical applications.

Experimental Development means “work undertaken which draws on scientific or technical knowledge or practical experience for the purpose of achieving technological advancement and which is directed at producing new, or improving existing, materials, products, devices, processes, systems or services including incremental improvements thereto”.

3.4 Scientific or Technological Advancement

An advance in science or technology means an advance in the overall knowledge or capability in the field of science or technology (**not an advance in the company’s own state of knowledge or capability alone**).

The test relates to knowledge or capability reasonably available to the company or a competent professional working in the field. Where knowledge of an advance in science or technology is not reasonably available, e.g. where it has not been published; is not in the public domain; or it is a trade secret of a competitor, companies may not be disqualified from claiming the credit where they undertake activities seeking to independently achieve the same scientific or technological advancement.

¹⁵ Section 766(1)(a) TCA 1997 – in the definition of “research and development activities”

Reasonably available scientific or technical knowledge or experience includes information that is reasonably available to a company from both internal and external sources.

A scientific or technological uncertainty may be addressed by one company, or a number of companies may be working to resolve the same scientific or technological uncertainty at the same time.

If the solution to a scientific or technological uncertainty is reasonably available to a competent professional working in the field, lack of knowledge by a company due to a lack of diligence in seeking that solution or lack of appropriate expertise within the company does not constitute scientific or technological uncertainty.

3.5 Scientific or Technological Uncertainty

This arises in two situations, viz.

- a. Uncertainty as to whether a particular goal can be achieved, or
- b. Uncertainty (from a scientific or technological perspective) in relation to alternative methods that will meet desired specifications such as cost, reliability or reproducibility.

If, on the basis of reasonably available scientific or technological knowledge or experience, such technological or scientific uncertainty exists, R&D activity would aim to remove that uncertainty through systematic, investigative or experimental activity.

Uncertainty as to whether new materials, products, devices, processes, systems or services will be commercially viable is **not** scientific or technological uncertainty. In commercial settings, however, a reasonable cost target is always an objective, and attempting to achieve a particular cost target can require the resolution of a scientific or technological uncertainty. Cost targets may require that scientifically or technologically uncertain alternative approaches, configurations etc. have to be attempted although more costly alternatives exist. **A scientific or technological advance will always involve the resolution of uncertainty.**

3.6 New materials / products / systems

Systematic, experimental or investigative activities directed at developing new or improved materials, products, devices, processes or services **may** qualify for the tax credit provided the activities seek to achieve the goals set out above. However, a process, material, device, product, service or system does not become an advance in science or technology simply because science or technology is used in its creation, in many cases these projects may be innovative¹⁶ rather than qualifying R&D.

¹⁶ Refer to the definition of “innovation” in section 488 TCA 1997.

Work which uses science or technology, but which does not advance scientific or technological capability or knowledge as a whole is not an advance in science or technology. Normal technology transfer or making improvements to materials, products devices, processes, systems or services through the purchase of rights or licence; or through the application of known principles or knowledge would not represent scientific or technological advancement. Neither does solving technical problems or troubleshooting using generally available scientific or technological knowledge or experience meet this test. In addition, work in the development of a new or improved product will not, of itself, constitute R&D activities. The work may, for example, entail the resolution of extensive design issues but may not involve a scientific advancement.

For example, the application of established management tools such as ‘*Lean*’ process improvement systems may increase efficiencies or increase productivity, or both, but does not constitute qualifying R&D

3.7 Software

The [OECD Frascati Manual](#) states “for software development to be classified as R&D its completion must be dependent on the development of a scientific and / or technical advance and the aim of the project must be resolution of a scientific and / or technical uncertainty on a systematic basis.”¹⁷

Software developments using known methodologies in standard development environments using the standard features and functions of existing tools would **not** typically advance technology and would not address or resolve technological uncertainty. Undertaking routine analysis, copying, upgrading or adaptation of an existing product, process, service or material would not be considered to be R&D activities. Therefore, much software development does not qualify as R&D activity.

Advances are typically made through innovation in software architectures, algorithms, techniques or constructs. It is important for claimant companies to identify not only those developments that result from qualifying activity but also the phases of the software development life cycle that are qualifying activity.

While software development methodologies continue to evolve, and are often highly iterative in nature, they continue to contain certain key elements such as design, build and test.

¹⁷ Section 2.4.1 of the OECD Frascati Manual ‘Proposed Standard Practice for Surveys on Research and Experimental Development

3.7.1 Qualifying Activity pertaining to Software

Systematic: Qualifying activity must be systematic in nature as well as achieving advances.

Agile development methodologies such as **Scrum** and similar techniques, while not exhibiting the linear nature of a traditional software life cycle, are systematic in nature.

Advances and Resolution of Uncertainty: Software development is no different from any other industry in that it is essential that claimant companies keep aware of developments in their field to ensure that activity for which the credit is claimed is directed at genuine advances. Subject to that caveat, scientific or technological uncertainty may arise at various points throughout a development life cycle including:

- Development of mathematical models or algorithms to achieve a desired functionality goal(s);
- Translating such models or algorithms into code and ensuring that the desired goal(s) can be achieved;
- Ensuring that the application/process/tool developed will continue to function in different scale environments;
- Ensuring that the application/process/tool developed will function across a range of platforms;
- Ensuring that the application/process/tool developed will integrate as intended with other applications/systems.

Within a typical software development cycle there will be also be features that do not constitute qualifying R&D activity such as:

- User acceptance testing designed to satisfy users as to the accuracy and completeness of the product rather than to test feasibility or capacity;
- Development work aimed at packaging a product for market where no scientific or technological uncertainty exists; or
- Inclusion of features or functionality where no scientific or technological uncertainty exists.

In large scale projects using formal project governance methodologies each phase in a project life cycle will have clear deliverables and associated resource assignments and therefore the tracking of qualifying expenditure should be a relatively straightforward exercise.

Smaller scale projects, although requiring appropriately defined project deliverables and expenditure tracking protocols may have less formal governance methodologies in place. In these circumstances, claimants must ensure that for those elements for which R&D credit is claimed, the qualifying element is properly recorded.

In agile development methodologies, qualifying and non-qualifying activity may take place simultaneously in a manner that makes them more difficult to separate. In these circumstances project managers should apportion the staffing and other costs associated

with each element of a development in a manner that appropriately reflects the balance of effort expended on qualifying and non-qualifying activity.

3.8 Success or Failure of R&D Activity¹⁸

The Act requires that the activity must **seek to achieve** (as opposed to succeed in achieving) **scientific or technological advancement**. Even if the advance in science or technology sought by a project is not achieved or not fully realised, R&D may still take place.

For example, a particular R&D activity may cease or radically change if the advance originally sought becomes available from a scientific journal or newly published patent. This does not undermine the validity of the activity from the perspective of this test. Equally, determining that a hypothesis is incorrect may advance scientific knowledge.

Similarly, in experimental development, discovering that a certain technological alternative does not work can advance the technological knowledge base. Such a result would not, of itself, preclude a valid claim being made for R&D credit.

Where an R&D activity is shown to be systematic, investigative, or experimental and is undertaken to resolve a clearly defined scientific or technological uncertainty, the requirements of attempting to achieve scientific or technological advancement will generally be met.

Work carried out in incremental stages; the aim of which is the achievement of scientific or technological advancement; and which involves resolution of scientific or technological uncertainty will qualify as R&D.

¹⁸ Section 766(1)(a) TCA 1997 – in the definition of “research and development activities”

4. Qualifying Expenditure¹⁹

4.1 Activities undertaken by the claimant company

The tax credit is available in respect of expenditure incurred wholly and exclusively—

1. **in the carrying on**
2. **by it (the company)**

of qualifying R&D activities.

The phrase “in the carrying on” must be distinguished from “for the purposes of” or “in connection with” used elsewhere in the Taxes Consolidation Act 1997. Additionally, it should not be confused with expenditure incurred to enable a company to carry on R&D. The phrase “in the carrying on” is narrower in scope.

Costs which are **not** wholly and exclusively incurred **in the carrying on** of the R&D activity, including indirect overheads such as recruitment fees, insurance, travel, equipment repairs or maintenance, shipping, business entertainment, telephone, bank charges and interest, **do not qualify** as relevant expenditure.

Rent is expenditure on a building or structure and is excluded from being expenditure on research and development by section 766(1)(a) TCA 1997.

Overheads which are wholly and exclusively incurred directly in the carrying on of the qualifying R&D activity, for example power consumed in the R&D process, qualify for the credit.

From 1/1/2020, capital expenditure on scientific research which qualifies for an allowance under section 765 TCA 1997, is no longer relevant expenditure on research and development.

4.2 Employee / Staff Costs

The eligibility of the cost of rewarding individuals will relate to the extent of their deployment to, and actual engagement in, qualifying R&D activities. In practice this means that where an employee spends an identified proportion of their time “in the carrying on” of qualifying activity, then that same proportion of their emoluments may be considered to be qualifying expenditure.

¹⁹ Section 766(1)(a) TCA 1997 – in the definition of “expenditure on research and development” Amended by section 25(2)(a)(i)(I) so that, from 1/1/2020, capital expenditure on scientific research which qualifies for an allowance under Section 765 TCA 1997, is no longer relevant expenditure on a building or structure.

The term 'emoluments' may be taken to include pension contributions, bonus payments, health insurance or other items included in the reward package paid to R&D employees²⁰. Emoluments also include holiday entitlement, public holidays etc. All expenses borne by the company in relation to the employment contract of the staff member which are operated through the PAYE/PREM payroll system should be considered to be emoluments, and apportioned.

Note that overheads associated with the employment of an individual e.g. HR costs, payroll team costs, canteen costs or similar are not considered to be eligible as these costs, while they may be incurred in connection with the qualifying activity, are not incurred **in the carrying on by it** of the activity.

- **Pension Costs**

If pension is a contracted part of the employees' emolument, that proportion of the pension costs which corresponds with the time spent on qualifying R&D is allowable.

- **Bonus Payments**

If an employee is working on qualifying R&D, that proportion of the bonus which corresponds with the time spent on qualifying R&D is allowable.

- **Health Insurance and other forms of emolument**

Similarly, where an employee is directly working on qualifying R&D, a proportion of any other emoluments corresponding to the amount of time spent on qualifying R&D is allowable. Note that benefits will not be allowable if they are paid by the company but not ultimately borne by the company.

Example no. 13:

60% of an employee's time is spent carrying out qualifying R&D. The employee's salary is €80,000.

Cost of employee salary	€80,000
Employer contributions (Pension, PRSI etc.)	€15,000
Health Insurance costs (for employee and spouse and/or children)	<u>€2,000</u>
Total cost of employment:	<u>€97,000</u>
Allowable costs for R&D credit (60% of €97,000)	€58,200

4.3 Agency staff

The use of agency staff is considered to be outsourcing for the purposes of computing the amount of qualifying activity and the related expenditure is, therefore, subject to the limitations on outsourcing set out in Section 6. This relates to any individual not remunerated directly by the company for their services.

²⁰ Note that in the case of proprietary directors or other persons with the capacity to directly control their own emoluments, payments to such controlling persons which are significantly out of step with the normal emolument practice of the company will generally not be regarded as eligible expenditure.

4.3.1 Individual consultants

Costs incurred related to individual consultants who are hired on a part time or short-term basis to undertake sub-contracted activity can be treated as part of the direct employee costs of the company and not as agency staff provided that the following conditions are met:

- The individual works under the company's control and direction.
- The individual works on the company's premises.
- The individual must be able to contribute specialist knowledge, which cannot be supplied by the in-house research team, to a specific R&D project being undertaken by this in-house team.
- The engagement period does not exceed 6 months.

4.4 Employee Secondment

Where an individual is seconded to a company undertaking R&D activities and the costs of that person's employment are borne by the company undertaking the R&D activities, they will be treated as direct employee costs, provided the following conditions are met:

- The individual undertakes their duties in Ireland, and
- The individual must contribute specialist knowledge, to a specific R&D project being undertaken by this in-house team.

4.5 Royalty Payments²¹

Expenditure on R&D shall not include a royalty or any other sum paid by a company to a connected person²² and which is, in the hands of the recipient, income from a qualifying asset for the purposes of the Knowledge Development Box (within the meaning of section 769G of the Taxes Consolidation Act 1997).

Royalty payments or other payments for the use of intellectual property not subject to the above exclusion may qualify provided they are incurred wholly and exclusively in the carrying on of qualifying R&D activities.

4.6 Pre-Trading Expenditure²³

Where expenditure has been incurred by a company in the carrying on of R&D activities before the company commenced to trade, a claim in respect of that expenditure must be made within 12 months from the end of the accounting period beginning at the date the company first carried on a trade.

²¹ Section 766(1)(a) TCA 1997, paragraph (iii) in the definition of "expenditure on research and development"

²² A connected person is generally a person (including a company) who can exercise control over the company as set out in section 10 TCA 1997

²³ Section 766(1)(b)(iv) TCA 1997

The amount of the credit due is the amount which the company would have been entitled to claim if it had been trading when the expenditure was incurred.

That amount may then be carried forward and used against the Corporation Tax liability of future periods.

4.7 Materials used in R&D Activities which may be subsequently sold²⁴

Materials used in qualifying research and development activities may be of further commercial value after their research use has concluded. In those cases, it must be determined if those materials were utilised wholly and exclusively in the carrying on by the company of qualifying research and development activities.

Where it is reasonable to consider that there will be a saleable product, then the lower of cost, or net realisable value of any materials or other saleable product which remain after the R&D activity should be deducted from the expenditure claimed.

Example no. 14:

Company A incurred expenditure on process R&D activities in the accounting period ended 31 December 2016 of €100,000.

The €100,000 includes the cost associated with running 1,000 items, costing €5 each, through the process. Based on the type of process R&D undertaken, it is reasonable to consider that the company knew the items would be saleable having passed through the process.

3 batches of 10 were retained for further research and could not be sold, while the remaining 970 items are available for sale. The cost of the 970 items sold was therefore not incurred wholly and exclusively in the carrying on of R&D activities.

The allowable expenditure for qualifying R&D activities is €150 (i.e. $3 \times 10 \times €5$) and the remainder, €4,850 (i.e. $970 \times €5$), should be deducted from the R&D expenditure to get the qualifying R&D expenditure

Total R&D expenditure	€100,000
Deduct: Batch for resale	<u>(€4,850)</u>
Qualifying R&D expenditure	€95,150

²⁴Section 766(1)(a) TCA 1997 – in the definition of “expenditure on research and development”

Example no. 15:

Biopharma Ltd is carrying out research into a new drug. Phase 2 trials were successfully completed. It incurred expenditure on R&D activities on Phase 3 trials in the accounting period ended 31 December 2016 of €5,000,000. The cost of the R&D activities includes the costs of the raw materials used in manufacturing the 3 full scale batches, as well as those involved in a number of unsuccessful attempts to scale production up to manufacturing scale.

Due to the nature of biopharma products, at the time of producing these batches there is a scientific uncertainty as to the viability of scaling and manufacturing the product and there is a scientific uncertainty if the product will maintain its specific compound and not deteriorate, in the test environment. Therefore, it would not be reasonable to consider at the time of carrying out the Phase 3 trials that the company will be able to sell the drugs, once approved by the relevant regulatory body.

The company has assessed that some aspects of the process are not “qualifying R&D” for the R&D tax credit.

The cost relating to those non-qualifying elements is €300,000, this will not be included in the R&D tax credit claim. Where the expenditure is incurred wholly and exclusively in the carrying on of R&D activities the cost is allowable as qualifying R&D.

Therefore, the calculation for expenditure on qualifying R&D activities as follows:

Total R&D expenditure	€5,000,000
Deduct: Non – qualifying R&D costs	<u>(€300,000)</u>
Qualifying R&D expenditure	€4,700,000

Example no. 16:

Generic Pharma Ltd incurred €500,000 on carrying out Phase 3 trials of a generic drug. Having regard to the relatively low failure rate of Phase 3 trials in relation to drugs of this kind, and the pre-existing knowledge from its patented predecessor, it is considered that there are no scientific uncertainties being resolved. The resolution to any uncertainties in relation to scaling production, for example, are available to a competent professional working in the field. In addition, it was reasonable to consider at the time of the Phase 3 trial that the 3 batches would be saleable, and any costs associated with manufacturing those batches. No R&D tax credit may be claimed.

4.8 R&D carried on as part of an Existing Trade

Expenditure which is incurred on qualifying R&D which is carried on as part of the trade activities of a company may qualify for the credit. In these circumstances the eligible expenditure is limited to additional expenditure that is incurred wholly and exclusively in the carrying on of the qualifying activity.

For example, where a company carries out qualifying R&D activity on a live production line while continuing to produce saleable product on the same line, costs such as increased unsaleable product and additional time costs which can be shown to have been incurred in the carrying on of the qualifying R&D activity may be eligible.

5. Capital Expenditure

5.1 Buildings and Structures used for Research & Development²⁵

Expenditure on the construction or refurbishment of a building for use for qualifying R&D activity, which does not qualify for an allowance under section 765, may qualify for an R&D tax credit under S.766A of the Act where such a building also qualifies for industrial buildings capital allowances (See Part 9 of the Act). The R&D tax credit is in addition to any capital allowances claimed. The credit is available for new expenditure on the construction, including refurbishment, of a building or structure where the R&D activities carried on by a company in that building or structure over a period of four years (referred to as the “specified relevant period”) represents at least 35% of all activities carried on in the building or structure.

Qualifying expenditure on the construction or refurbishment of a qualifying building may be treated as having been incurred either:

- (i) on the date it was actually incurred, or
- (ii) on the date the building was first brought into use for the purposes of a trade, or the refurbishment is completed as appropriate.

Expenditure may be incurred on the construction or refurbishment of a building which spans two or more accounting periods. Where this occurs, the aggregate expenditure may be treated as having been incurred on the date that it was actually incurred, or on the date the building is first brought into use. The 12- month claim period applies by reference to the date that the expenditure is treated as incurred.

The cost of acquiring the land on which the building or structure is erected does not qualify for the R&D credit.

The credit is calculated by reference only to that portion of the building or structure to be used for R&D activities²⁶.

Where a building is used for qualifying R&D and for other (non-R&D) purposes, for example in production, the cost of the construction or refurbishment should be apportioned on a just and reasonable basis. Records should be maintained to show the computation of any apportionment and the rationale for the use of such basis of apportionment.

If an apportionment that has already been made in this manner is later shown **not** to be “just and reasonable” a revised apportionment must be made.

²⁵ Section 766A(1)(a) TCA 1997 amended by section 25(3)(a) so that, from 1/1/2020, capital expenditure on scientific research which qualifies for an allowance under Section 765 TCA 1997, is no longer relevant expenditure on a building or structure.

²⁶ Section 766A(1)(b)(iii) TCA 1997

Any such expenditure which is met directly or indirectly by any grant aid or assistance from

- the State, or
- a relevant Member State of the EU or EEA, or
- any board established by statute, or
- any public or local authority or any other agency of the State, or of another relevant Member State of the EU or EEA, or
- an institution, office, agency or other body of the European Union, or
- a state, other than the State or a Member State, and any board, authority, institution, office, agency or other body in such state,

will not qualify for relief²⁷.

Example no. 17:

Company A incurred €1,000,000 of relevant construction expenditure in the accounting period ended 31 December 2018.

The qualifying R&D activities to be carried on by the company in that building over the specified relevant period (four years from the date of first use in 2018) represents 40% of all activities carried on. The tax credit under s766A is calculated as follows:

Specified relevant expenditure: 40 % of €1,000,000 = €400,000

Tax credit: €400,000 @ 25% = **€100,000**.

5.2 When a building / structure is sold, or ceases to be used for R&D

The credit is claimable as long as there is a minimum 35% usage of the building for R&D activity over a period of four years beginning on the date it is brought into use.²⁸ The tax credit is however clawed back if, within ten years of the accounting period for which a credit is claimed, the building or structure is sold, or is used for purposes other than either the carrying on of R&D activities or the same trade that was carried on by the company at the beginning of the specified relevant period and to which the R&D activity was related.²⁹ Revenue will claw back both the tax credit already used to reduce tax, and withdraw any unused tax credits.

²⁷ Section 766A(1)(b)(i) TCA 1997. This section was amended by section 25(3)(b) Finance Act 2019 to extend this definition to ensure grant funding from the European Commission and institutions of the Commission, and from non-European member states or bodies of such a state, is deducted from the qualifying expenditure on research and development activities..

²⁸ Section 766A(1)(a) TCA 1997

²⁹ Section 766A(3) TCA 1997

Example no. 18:

ABC Company incurred construction costs of €100,000 in 2017 on the construction of a building to be used wholly and exclusively for R&D activities. It received a tax credit of €25,000 in respect of that expenditure, which it offset against its CT liability for 2017. The building was sold in 2018.

For tax year 2017, the R&D credit granted to ABC Company in 2017 will be clawed back as Schedule D Case IV income as follows:

Total relief granted	€25,000
Sch. D Case IV income (€25,000 X 4)	€100,000
Tax Clawed Back @ 25% (€100,000 @ 25%)	€25,000

Example no. 19:

PSR Company incurred relevant R&D expenditure of €100,000 in 2016 on the construction of a building to be used wholly and exclusively for R&D activities. It received a tax credit of €25,000 in respect of that expenditure.

The building was sold in 2018. The company offset €12,000 against its CT liability for 2016 and carried forward the excess balance of €13,000.

It used €8,000 of this excess against its CT liability for 2017, leaving an excess of €5,000 still unused.

The tax credit claimed will be clawed back in 2018 as follows:

Unused credit of €5,000 <u>withdrawn</u>	
Total tax relief claimed (offset):	€20,000
(€12,000 for 2016 +€8,000 for 2017)	
Sch. D Case IV income (€20,000 X 4)	€80,000
Tax clawed back in 2018 (25% of €80,000)	€20,000

5.3 Plant and Machinery ³⁰

Expenditure on plant and machinery may qualify for the R&D tax credit where such expenditure also qualifies for capital allowances. However, where plant and machinery which is used for qualifying R&D and for other (non-R&D) purposes, for example in production, the cost of the plant and machinery should be apportioned on a just and reasonable basis over each relevant period of its useful economic life.

If an apportionment that has already been made in this manner is later shown **not** to be “just and reasonable” a revised apportionment must be made in respect of each relevant

³⁰ Section 766(1A) TCA 1997

accounting period and brought to account in the tax return for the period in which the adjustment is identified.

For the purposes of determining the amounts of expenditure on plant and machinery to be included in any computation of tax credit due under section 766 TCA, 1997, Revenue are prepared to accept that expenditure on plant and machinery may be treated as incurred on either (1) the date the plant and machinery is first brought into use for the purposes of a trade or (2) the date the expenditure becomes payable. This latter option is subject to a condition that the credit will be clawed back if the plant or machinery is not brought into use for the purpose of a trade within two years of the expenditure becoming payable.

Example no. 20:

Company A incurred expenditure on plant or machinery of €100,000 in both accounting period ending 31/12/2016 and 31/12/2017. This machinery was used for both R&D activities and production processing. Company A analysed the plant and machinery usage on a “machine hour basis”.

During A/P ending 31/12/2016 during a typical week, the machine was used for 25 hours of R&D and 30 hours of product production. During A/P ending 31/12/2017 during a typical week, the machine was used for 10 hours of R&D and 45 hours of product production. Therefore, Company A should apportion the cost of the plant or machinery as follows:

Accounting period ending	2016	2017
Annual cost of machinery or plant	€100,000	€100,000
Cost relevant to R&D	€ 45,455	€18,182
	[€100,000 X (25/55)]	[€100,000 X (10/55)]
R&D tax credit due (@ 25%)	€ 11,364	€4,546

6. Subcontracting R&D Activity

6.1 When R&D is sub-contracted out, when is the credit allowable?

The requirement in the definition of qualifying R&D activity that it be carried on “by it” (i.e. the company) denotes that the activities must be carried on **by the claimant company** and not by another person. There are two situations where relief is available to a company that has not carried out all of the qualifying R&D itself:

1. A company which incurs expenditure in the carrying on by it of qualifying R&D and pays a sum to a **university or institute of higher education** to carry out qualifying R&D activities in a relevant Member State can claim relief. Relief will be restricted to 15% of the expenditure incurred by the company itself on R&D activities or €100,000, whichever is the greater, subject to the company incurring at least the same level of expenditure on qualifying activity which it carries out itself. For accounting periods ending before 22 December 2019 this relief is restricted to 5%.³¹
2. A company which incurs expenditure in the carrying on by it of qualifying R&D and pays a sum to another person (**not to a university or institute**) who is not a connected person³², in order for that person to carry out qualifying R&D activities for the company, can claim relief. Relief will be restricted to 15% of the expenditure incurred by the company itself on qualifying R&D activities or €100,000, whichever is the greater, subject to the company incurring at least the same level of expenditure on qualifying activity which it carries out itself. This provision applies to accounting periods commencing on or after 1 January 2014, for accounting periods ending prior to this date, this relief is restricted to 10% of the expenditure incurred by the company in the carrying on by it of qualifying R&D activity.³³

The limits set out in 1 and 2 above (to pay a university or institute of higher education and to pay a sub-contractor) are applied separately, these amounts are limited by reference to the company incurring at least the same level of expenditure on qualifying activities.

It is important to note that the outsourced activity must constitute qualifying R&D activity of the company which appointed the sub-contractor, and not necessarily R&D of the sub-contractor.

In order to claim the credit for these costs, the company must notify the sub-contracting party in writing that they may not make a claim for the R&D credit for these purposes. From 22/12/2019 this notification must be in advance of making the payment or on the date the payment is made.³⁴ Where the outsourced activity is undertaken by a person who could

³¹ Section 766(1)(b)(vii) TCA 1997.

³² A connected person is generally a person (including a company) who can exercise control over the company as set out in section 10 TCA 1997

³³ Section 766(1)(b)(viii) TCA 1997

³⁴ Section 766(1)(b)(viii) TCA 1997 as amended by section 25(2)(a)(ii)(III) Finance Act 2019

not claim the R&D tax credit (for example an individual, or by a non-resident 3rd party which does not have a branch in the State) then Revenue will accept that a notification is not required in these cases.

The following table illustrates these situations:

	University or Institute of higher education	<u>Paid to another person (not to a university or institute)</u>
Accounting periods ending up to and including 31/12/11	5% of qualifying expenditure	10% of qualifying expenditure
Accounting periods commencing on or after 1/1/12	The greater of 5% of qualifying expenditure or up to €100,000	The greater of 10% of qualifying expenditure or up to €100,000
Accounting periods commencing on or after 1/1/14	the greater of 5% of qualifying expenditure or up to €100,000	The greater of 15% of qualifying expenditure or up to €100,000
Accounting periods commencing on or after 22/12/2019	the greater of 15% of qualifying expenditure or up to €100,000	The greater of 15% of qualifying expenditure or up to €100,000

Example no. 21:

Company A incurred €250,000 expenditure in the carrying on by it of R&D activities in the period ended 31 December 2014. In addition, it paid €20,000 to a university and €300,000 to an unconnected third party, Company Z, to carry out R&D activities on its behalf.

In relation to the **€20,000** paid to the **University**, Company A may claim the full amount paid, subject to whichever is the greater of either the higher of 5%³⁵ of its direct expenditure on R&D (5%³⁶ of €250,000): €12,500, or up to €100,000 of direct expenditure. Therefore, it may claim the full amount paid to the University, €20,000.

In relation to the **€300,000** paid to **Company Z**, Company A may claim the full amount paid, subject to whichever is the greater of either the higher of 15% of its direct expenditure on R&D (15% of €250,000): €37,500, or up to €100,000 of direct expenditure. Therefore, it may claim €100,000, as this is the maximum allowable.

Company A's claim for the year ended 31 December 2014 will be made up as follows:

Company A's own expenditure	€250,000
Allowable amount paid to university	+ €20,000
Allowable amount paid to Company Z	+ <u>€100,000</u>
Total Company A qualifying expenditure	€370,000
Tax credit due (€370,000 @ 25%)	€92,500

³⁵ 15% for accounting period commencing on or after 22/12/2019.

³⁶ 15% for accounting period commencing on or after 22/12/2019.

Example no. 22:

Company A incurred €2,500,000 expenditure in the carrying on by it of R&D activities in the period ended 31 December 2020. In addition, it paid €120,000 to a University and €300,000 to an unconnected third party, Company Z, to carry out R&D activities on its behalf.

In relation to the **€120,000** paid to the **University**, Company A may claim the higher of 15% of its own expenditure on R&D, which equates to €375,000 (€2,500,000 @ 15%) or up to €100,000 of direct expenditure, whichever is the greater. Therefore, it can claim the full amount of €120,000 paid to the University, as this is less than the maximum allowable.

In relation to the **€300,000** paid to **Company Z**, Company A may claim the higher of 15% of its own expenditure on R&D, which equates to €375,000 (€2,500,000 @ 15%) or up to €100,000 of direct expenditure, whichever is the greater. Therefore, it can claim the full amount of the €300,000 paid to Company Z, as this is less than the maximum allowable.

Company A's claim for the year ended 31 December 2020 will be made up as follows:

Company A's own expenditure	€2,500,000
Allowable amount paid to University	+ €120,000
Allowable amount paid to Company Z	<u>+ €300,000</u>
Total Company A qualifying expenditure	€2,920,000
Tax credit due (€2,920,000 @ 25%)	€730,000

7. Group Expenditure on R&D

7.1 Rules on group structures³⁷

Companies will be regarded as members of a group if one is a 51 per cent subsidiary of the other, or both are 51 per cent subsidiaries of a third company, irrespective of the country of residence of each company.

A company shall not be regarded as a subsidiary of another unless, in addition to the 51 per cent shareholding relationship, the parent company is also entitled to 51 percent of the profits available for distribution to shareholders and would be entitled to a 51 share of any assets available for distribution in the event of a winding up of the company³⁸.

In determining whether this is the case, ownership of shares by a company dealing in shares is ignored.

The order of offset for credits claimed in respect of qualifying R&D activity in a group is the same as that for a company (See Paragraph 2.8)

Example no. 23:

ABC Ltd. own 60% of the shares of DEF Ltd. DEF Ltd. owns 90% of the shares of XYZ Ltd.

As ABC Ltd. effectively controls 60% of DEF Ltd. and 54% (60% @ 90%) of XYZ Ltd., all three companies are members of a group for the purpose of claiming the R&D tax credit.

7.2 Qualifying group expenditure on R&D³⁹

For relevant periods commencing before 1 January 2015, qualifying group expenditure for a relevant period is the excess group expenditure on R&D activities in that relevant period over the threshold amount for that group.

The first relevant period will generally be the first period of one year ending at the end of the first common accounting period of the member companies of the group that commences on or after 1 January 2004. If the companies do not have a common accounting period, they must jointly elect which accounting date should be used.

For all relevant periods commencing at any time after 31 December 2003 the base period is one year ending on a date in 2003 that corresponds with the end of the relevant period.

For accounting periods commencing on or after 1 January 2015, it is no longer necessary to adjust for the base year (2003) expenditure in the computation of the R&D tax credit.

³⁷ s.766(1)(b) TCA 1997

³⁸ s.766(1)(b)(ii) TCA 1997 applies the group relief rules set out in ss.412 to 418 but applies a 51% rather than a 75% holding threshold.

³⁹ s.766(1)(a) TCA 1997 – in the definition of “qualifying group expenditure”

7.3 Threshold Amount⁴⁰

“Threshold amount” is defined in relation to a relevant period of a group of companies; however, the concept also applies to a single company. It is the amount of qualifying expenditure on R&D in the base period of 2003 (the threshold period). This amount is then compared with the expenditure on R&D by that group in the relevant period in order to determine the level of incremental expenditure.

Where a company is a member of a group for only a part of the base period, the expenditure is counted, for the purposes of the threshold amount, only if it was incurred at the time when the company was a member of the group.

7.4 Calculating qualifying group expenditure on R&D with threshold amounts⁴¹

For accounting periods **commencing on or after 1 January 2012**, the following formula applies:

$$A + B$$

Where:

A is the first €100,000 of group expenditure on R&D in relation to the relevant period, and

B is the excess of the amount of group expenditure on R&D in the relevant period over the threshold amount, but A + B shall not exceed total group expenditure on R&D.

For accounting periods **commencing on or after 1 January 2013** the value of A is increased to €200,000.

For accounting periods **commencing on or after 1 January 2014** the value of A is increased to €300,000.

This is illustrated in the table below:

Accounting Period	Base year restriction
Up to and including 31 December 2011	Full base year (2003) expenditure (known as “threshold amount”)
Accounting periods commencing on/after 1 January 2012	Threshold amount less €100,000
Accounting periods commencing on/after 1 January 2013	Threshold amount less €200,000
Accounting periods commencing on/after 1 January 2014	Threshold amount less €300,000
Accounting periods commencing on/after 1 January 2015	No Restriction

⁴⁰ Section 766(1)(a) TCA 1997 – in the definition of “threshold amount”

⁴¹ Section 766(1)(a) TCA 1997 – in the definition of “qualified company”

Example no. 24:

RD Group Limited incurred qualifying R&D expenditure of €255,000 in the base year 2003, and qualifying R&D expenditure of €1,500,000 in each of the years 2011 – 2014

<u>A + B</u>	<u>Qualifying Expenditure</u>
2011: €0 + (€1,500,000 - €255,000)	€1,245,000
2012: €100,000 + (€1,500,000 - €255,000)	€1,345,000
2013: €200,000 + (€1,500,000 - €255,000)	€1,445,000
2014: €300,000 + (€1,500,000 - €255,000)	€1,500,000*

*While the calculation would result in a figure of €1,545,000, the qualifying expenditure cannot exceed the total Group R&D spend in the relevant period.

Where one member of the group is not within the charge to Irish tax, that member's qualifying R&D expenditure is not taken into account when calculating qualifying group expenditure.

Example no. 25:

AB USA Corp, AB Ireland Ltd., and BA Ireland Ltd. are all members of a group. AB USA Corp. is not within the charge to Irish tax, while the other two members of the group are. The group incurred R&D expenditure as follows: what about the threshold reductions?

	2011*	2003
AB USA Corp	€75,000	€40,000
AB Ireland Ltd.	€65,000	€30,000
BA Ireland Ltd.	€32,000	€10,000

As AB USA Corp. is not within the charge to Irish tax, its R&D expenditure is not taken into account for the purpose of calculating qualifying group expenditure.

Qualifying group expenditure for 2011 is calculated as follows:

AB Ireland Ltd.	(€65,000 - €30,000)	=	€35,000
BA Ireland Ltd.	(€32,000 - €10,000)	=	<u>€22,000</u>

Qualifying group expenditure 2011 **€57,000**

*The €100k, €200k and €300k exclusions relate to accounting periods commencing on or after 1 January 2012, 2013, 2014 respectively.

7.5 Allocation of group expenditure between group members⁴²

The members of the group may, by election, allocate the tax credit between group members as they wish. Alternatively, the credit is allocated by reference to the following formula:

$$\frac{Q \times C}{G}$$

Where:

- **Q** is the qualifying group expenditure on R&D in the relevant period
- **C** is the amount of expenditure on R&D incurred by the company in the relevant period at a time when the company is a member of the group, and
- **G** is the group expenditure on R&D in the relevant period

Example no. 26:

A group of companies, ABC Group, had an aggregate R&D expenditure of €500,000 in the relevant period commencing 1 October 2018 as follows:

	2013
Company A	€200,000
Company B	€200,000
<u>Company C</u>	<u>€100,000</u>
Total	€500,000

The total amount for the 12 months ended 30 September 2019 is therefore €500,000. The tax credit for the group will be €125,000 (i.e. €500,000 x 25%).

The members of the group who have incurred the qualifying R&D expenditure may allocate the tax credit however they so wish. They may divide it equally between the group members or allocate it all to one company within the group.

In the absence of notification to Revenue will allocate according to the proportion of qualifying activity carried on by each group member as follows:

Company A	[€500,000 x (€200,000 / €500,000)] @ 25% =	€50,000
Company B	[€500,000 x (€200,000 / €500,000)] @ 25% =	€50,000
<u>Company C</u>	[€500,000 x (€100,000 / €500,000)] @ 25% =	<u>€25,000</u>
Total		€125,000

⁴² Section 766(3) TCA 1997

7.6 Transfer of R&D activity within a Group⁴³

Where a company which carried on qualifying R&D activity and has made a claim under s.766 ceases to carry on a trade and another company commences to carry on that trade and continues the qualifying R&D activity related to that trade which was carried on by the ceasing company, the “successor company” may claim any R&D tax credit amounts not used by the “predecessor company” provided that both companies were members of the same group of companies at the time of the transfer of the trade and provided that the “successor company” carries on the qualifying R&D activity for a period of at least 2 years after the transfer.

In these circumstances the “successor” company may use any unused credits to reduce its current or future Corporation Tax liability, but it may not claim a payable tax credit in respect of any such unused amounts.

Example no. 27:

ABC Parent Ltd wish to transfer the R&D activities from ABC Sub Ltd. ABC Parent Ltd owns 100% of the shares of ABC Sub Ltd. It can transfer the activities either by way of a transfer of the trade up to ABC Parent Ltd or by way of a merger between ABC Parent and ABC Sub.

Either a transfer of the trade or a merger would satisfy the requirements under S.766(4C), once the companies are at the time of the event members of the same group under S.411(1) TCA 1997 and all other requirements under S.766(4C) are satisfied.

7.7 Changes to Group Structure

The threshold amount in relation to a group is fixed at the amount of expenditure incurred in the threshold period (2003) by those companies who were members of the group in that period. Where a company is disposed of by one group and acquired by another, any base year R&D expenditure incurred by the company which is being divested will remain with the divesting group, and subsequently does not form part of the base year expenditure of the acquiring group. These provisions do not apply where there is common control of the divesting and acquiring groups.

⁴³ Section 766 (4C) TCA 1997

Example no. 28:

A US based company, XYZ Inc., buys 100% of the share capital of an Irish company, ABC Ireland Ltd., which was part of PSR Group. ABC Ireland Ltd. has incurred €500,000 of R&D expenditure in 2003, and no other company in the PSR group had qualifying R&D expenditure in 2003. The US based group XYZ Inc. had no R&D expenditure for 2003.

In this situation, the €500,000 base year expenditure of ABC Ireland Ltd. remains with the PSR group after ABC Ireland Ltd. has been transferred to XYZ Inc.

In practice, this may mean that where the divesting group has no other qualifying R&D activity the threshold amount for that group ceases to be relevant for the purposes of the R&D computation of any group.

Example no. 29:

An Irish company LMN Ltd. buys 100% of the share capital of another Irish company DEF Ltd. to form a new group, Group Z. The ownership of LMN Ltd. is broadly unchanged.

LMN Ltd. had no R&D expenditure in 2003. DEF Ltd. had R&D expenditure of €250,000 in 2003. **Neither company was part of a group in 2003.**

In this situation, the R&D base year expenditure falls out of charge when DEF Ltd. is subsumed into Group Z as LMN Ltd had no commonality of control with DEF Ltd. in 2003.

7.8 Closure of an R&D Centre⁴⁴

Section 54 of the Finance Act 2010 changed the way in which the threshold amount is calculated where a group of companies operated two or more R&D centres in separate geographical locations during 2003 and subsequently closes down one of those centres on a permanent basis.

For relevant periods commencing on or after 1 January 2010 the R&D expenditure incurred in respect of the centre which has been closed is excluded from the threshold amount. The principal features of this provision are as follows:

- An “R&D Centre” is defined as a fixed base or bases, established in buildings or structures, which is used by a company for the carrying on of R&D activities.
- Two R&D Centres will only be treated as being in separate geographical locations where they are at least 20 kilometres from each other.
- A claw-back of any benefit gained under this provision will apply if –
 1. The R&D centre which has been closed down is subsequently used for the purposes of a trade by any company which is a member of that group, or

⁴⁴ Section 766 subsection (7C) TCA 1997

2. The R&D activities that had been carried on in the closed centre in the 48 months preceding the closure are subsequently carried on in the State by any company which is a member of that group, or
3. Within a period of ten years commencing on the date the R&D centre was closed, no company which is a member of the group remains within the charge to CT.

8. Requirements for a valid claim⁴⁵

The legislative definition of a qualifying company requires that such a company carries on qualifying R&D activity and **maintains a record** of expenditure incurred by it in carrying on that activity. Proper records must be maintained by companies claiming R&D credit. Records need not be paper based in all cases. Where a company maintains effective electronic records, for example relating to project management or staff attendance these will meet the record-keeping requirement. However, **contemporaneous** records, whether in a hard copy or electronic format, must be available for inspection by Revenue officials.

To avail of R&D tax credit the company must be in a position to demonstrate that its claim can satisfy two essential tests. First, that the activity is qualifying R&D activity (referred to as the “Science Test”) and, second, that the costs incurred in the carrying on of qualifying activity have been properly tracked and accounted for (referred to as the “Accounting Test”). Records must be kept to satisfy both tests. This requirement applies equally to the threshold period as it does to the relevant period (for accounting periods commencing prior to 1 January 2015). In the event of a claim being selected for examination by Revenue, records for the threshold period (2003) must be available for inspection where relevant.

[Appendix 3](#) sets out a suggested file layout that would provide support for an R&D tax credit claim. Appendix 3 was formulated based on feedback from Revenue compliance officers and independent experts, from their experience of material that sufficiently supports the science test and accounting tests. As each R&D project is by definition unique, further supplementary/clarifying information may be requested.

8.1 The Science Test

This is to ensure the activities under review are consistent with the statutory definition of R&D activities.

Records required to be maintained to satisfy the science test

- a) A description of the R&D activities, the methods to be used and what the company seeks to achieve by undertaking the activities concerned.
- b) The field of science and technology concerned.
- c) The scientific or technological advancement that is the goal of the R&D activities.
- d) The scientific or technological uncertainty that the company is seeking to resolve in its R&D activities.
- e) Evidence that the scientific or technological advance(s) sought had not already been achieved and that the scientific and/ or technological uncertainties that the company was seeking to overcome were **not already resolved** or that such resolution would

⁴⁵ Section 766(1)(a) TCA 1997 – in the definition of “qualified company”

not be available to a competent professional working in the field, for example, evidence that a comprehensive literature review to determine the current status of scientific or technological knowledge in the area had been conducted prior to commencing the project.

- f) Details of the systematic investigation, including
 - the hypothesis advanced.
 - the series of experiments or investigations undertaken to test the hypothesis.
 - documentary evidence of the necessity for each major element and how it fits into the project as a whole.
 - dated documents of the original scientific or technological goals, the progress of the work, how it was carried out and the conclusions.
 - indicators or measures identified at the commencement of the project to determine if the scientific or technological objectives of the R&D activities are met.
- g) the qualifications, skill and experience of the project manager.
- h) the numbers, qualifications and skill levels of other personnel working on the project.

8.2 The Accounting Test

This is to ensure that the expenditure claimed as being incurred on qualifying R&D activities is being correctly claimed.

Companies should be able to provide details of the allocation of resources and associated costs to each stage of a project. Details of the targets and deliverables specifically related to the resolution of scientific or technological uncertainties and the advances in scientific or technological knowledge sought **should be directly associated with relevant accounting records**.

Records containing the following information, if relevant, are required:

- a) The dates of commencement and termination of the project. The date of resolution of the scientific or technological uncertainty is a determining factor when considering where an R&D activity ends, and activity associated with commercial exploitation begins. Costs incurred after the R&D phase is completed do not qualify for the relief;
- b) A project plan with appropriate milestones and deliverables for management of the project;
- c) Details of progress made against the project plan;
- d) Details of the personnel involved in the project, their qualifications and the amounts of their time allocated to the project;
- e) The location where the R&D activities took place, and a breakdown of costs associated with the location (e.g. apportionment of light, heat etc.);
- f) Details of any amounts paid to universities or institutes of higher education and the qualifying R&D activity carried out by them on behalf of the company;

- g) Details of any amounts paid to non-academic subcontractors and the qualifying R&D activity carried out by them on behalf of the company;
- h) Details of the methods and bases of apportionment of all expenditure associated with the R&D. The appropriate allocation factor for costs will vary between sectors and may indeed vary between companies within sectors. The appropriate allocation factor must be determined by each claimant company as one which provides a reasonable nexus with the costs incurred. Revenue will accept the company's allocation where it is clear that the management accountant, financial director or an appropriate director with knowledge of the company documents chooses the percentage of the overall costs to be allocated, if that choice is *bona fide*, reasonable, and based on the facts of the individual claim.

8.3 Grant aided R&D accounting review

Small or micro sized companies that are carrying out an R&D project that paragraph 2.7 applies to must still have all of the records required for the accounting test, available for review.

The following material is either exempt from or not required to be published under the Freedom of Information Act 2014.

[...]

8.4 Method of Record Keeping

In order to qualify for the R&D credit it is important that—

- all entries are made on a timely and consistent basis;
- all records are kept on a continuous basis; and
- all linking papers to accounts are kept.

The claimant company must be able to provide reliable assurances as to the integrity of the records, including the author/creator and date of creation of each record.

8.5 Different Industry Norms

Revenue is aware that different industries have different regulatory requirements, and across various industries that R&D activities may take place within different time frames and be recorded in different ways. For example, R&D activity in the pharmaceutical industry typically takes place over a multi-year time frame, is heavily regulated and is monitored and recorded in a very systematic and methodical way.

The records required for Revenue purposes should generally be available within a company for its own internal purposes. However, claimant companies should take care, whatever approach to record-keeping is used, that it will be sufficient to clearly identify qualifying activity and associated costs.

The demonstration of a systematic approach and the preparation of appropriate contemporaneous evidentiary materials is an essential element of any R&D claim. Such evidence does not necessarily have to be available in traditional hard copies but may be available electronically. When such resources are used to support a claim, they should clearly indicate the author / creator, and the date of creation.

8.6 Claiming the credit

Where a company is satisfied that it can comply with the requirements of the legislation and has maintained the necessary supporting records, a claim to relief may be made by completing the relevant sections of the form CT1 through the Revenue Online System (ROS). No supporting documentation is required to be submitted with the return. In this respect, claiming a R&D tax credit is no different from claiming any other CT relief or tax credit.

8.7 Penalty Application

In relation to compliance interventions carried out on R&D claims, the two main elements of the claim are the science test and the accounting test.

It should be noted that where an R&D intervention results in a settlement, penalties will apply in line with legislation⁴⁶ and the code of practice, publication⁴⁷ may also apply. Where the penalty chargeable is on a 'specified amount' for the purposes of section 1077E(11) and section 1077E(12) the amount of credit will be deemed to be a reference to an amount of tax.

8.8 Restriction to offsets⁴⁷

Where an excess research and development tax credit claimed is being clawed back, section 766(7B)(c)(iii) prohibits the offset of any credits, losses, expenses or allowance against that tax liability. The clawback amount shall not attract the close company surcharge.

⁴⁶ Section 25(2)(g)(i) Finance Act 2019 substituted a new paragraph for paragraph (b) of section 766(7B) TCA 1997. An overclaim of the research and development tax credit, which has not been paid out, will attract a penalty, w.e.f.22/12/2019.

⁴⁷ Inserted by section 25(2)(g)(ii)(II) Finance Act 2019, w.e.f. 22/12/2019

9. Payment to ‘Key Employees’⁴⁸

As an incentive to certain staff, a company may transfer some or all of its R&D credit to ‘key employees’.

In order to be considered as a ‘key employee’, the following criteria must be satisfied⁴⁹:

- The employee must perform at least 50% of their duties in “the conception or creation of new knowledge, products, methods and systems” and 50% or more of the cost of earnings from their employment must qualify as R&D expenditure.
- The employee must not be, or have been, a director of his or her employer company or an associated company and must not be not connected⁵⁰ to such a director.
- The employee must not have, nor have had, an individual holding of more than 5% of the shares of the company or an associated company and must not be connected to a person who has such a material interest.

The amount of the credit that can be surrendered to key employees is limited to the amount the company could otherwise have used to reduce the CT liability in respect the accounting period in which the qualifying R&D activity was carried out.

The option to surrender any part of the credit is not available to loss-making companies. The company cannot surrender an amount that would have been due as a payable credit.

To surrender all or part of the credit a company must:

1. Pay the amount of CT which it could otherwise have reduced.
2. Make a claim to Revenue,

and

3. Notify each key employee in writing of the amount surrendered to that employee.

If the company has any outstanding tax liabilities, including any balance of CT payable in respect of the accounting period in respect of which the credit arises, it will not be entitled to surrender any amount.

A key employee can claim the credit in the tax year following the tax year in which the accounting period of the company that surrendered the credit ends.

⁴⁸ Section 766(2A) TCA 1997

⁴⁹ Section 472D(1) TCA 1997

⁵⁰ A connected person is a spouse, civil partner or close relative. See Section 10 of The Taxes Consolidation for full details

10. Consultation with other persons (Independent experts)⁵¹

To ensure compliance with legislation Revenue may examine the entitlement of certain claims to tax credit for R&D activities. Revenue may enlist the assistance of qualified individuals with specialised knowledge in the relevant field of science or technology. Those individuals act on a consultancy basis for Revenue and report to Revenue as to whether, in their opinion, the activities examined constitute R&D activities, as defined in s766 of the Act. All such individuals are required to sign a confidentiality agreement with Revenue prior to engagement.

Where the opinion of such an expert is disputed by a claimant company the expert may be required to give evidence before the Appeal Commissioners or a court of law.

Before disclosing information to such experts, Revenue will notify the claimant company of the identity of the expert it proposes to engage and the information that it intends to disclose to that expert.

A claimant company may object to the use of a particular expert where it has reason to believe there would be a genuine conflict of interests. In any case of dispute, the claimant company will have the right of appeal to the Appeal Commissioners against the use of a particular expert.

Tax & Duty Manual [Part 29-02-05](#) provides a detailed explanation of Revenue's procedure for the sourcing and appointment of Independent experts

⁵¹ Section 766(7) TCA 1997

11. Enhanced Regime for Small and Micro Companies

New measures to enhance the R&D tax credit for small and micro companies were introduced in Finance Act 2019. These measures are subject to a commencement order, the relevant updates to this manual will be made once the sections are commenced.

Appendix 1 Categories of Activities which may qualify for the R&D credit⁵²

Natural Sciences

1. Mathematics and computer sciences, including mathematics and other allied fields, computer sciences and other allied subjects, software development.
2. Physical sciences including astronomy and space sciences, physics and other allied subjects.
3. Chemical sciences including chemistry and other allied subjects.
4. Earth and related environmental sciences including geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, volcanology, paleoecology and other allied sciences.
5. Biological sciences including biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics and other allied sciences, excluding clinical and veterinary sciences.

Engineering and Technology

1. Civil engineering including architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects,
2. Electrical engineering, electronics including communication engineering and systems, computer engineering (hardware) and other allied subjects,
3. Other engineering sciences such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as geodesy and industrial chemistry; the science and technology of food production, specialised technologies of interdisciplinary fields, *e.g.* systems analysis, metallurgy, mining, textile technology and other allied subjects.

Medical Sciences

1. Basic medicine including anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immunohematology, clinical chemistry, clinical microbiology, pathology
2. Clinical medicine including anaesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology and ophthalmology,

⁵² Statutory Instrument No. 434 of 2004

3. Health sciences including public health services, social medicine, hygiene, nursing, epidemiology.

Agricultural Science

1. Agriculture, forestry, fisheries and allied sciences including agronomy, animal husbandry, fisheries, forestry, horticulture, and other allied subjects,
2. Veterinary medicine.

Appendix 2 Categories of Activity that are not research and development activities⁵³

- a) research in the social sciences (including economics, business management, and behavioural sciences), arts, or humanities;
- b) routine testing and analysis for purposes of quality or quantity control;
- c) alterations of a cosmetic or stylistic nature to existing products, services or processes whether or not these alterations represent some improvement;
- d) operational research such as management studies or efficiency surveys which are not wholly and exclusively undertaken for the purposes of a research and development activity;
- e) corrective action in connection with breakdowns during commercial production of a product;
- f) legal and administrative work in connection with patent applications, records and litigation and the sale or licensing of patents;
- g) activity, including design and construction engineering, relating to the construction, relocation, rearrangement or start up of facilities or equipment other than facilities or equipment which is to be used wholly and exclusively for the purposes of carrying on by the company of research and development activities:
- h) market research, market testing, market development, sales promotion or consumer surveys;
- i) prospecting, exploring or drilling for, or producing, minerals, petroleum or natural gas;
- j) the commercial and financial steps necessary for the marketing or the commercial production or distribution of a new or improved material, product, device, process, system or service.
- k) administration and general support services (such as transportation, storage, cleaning, repair, maintenance and security) which are not wholly and exclusively undertaken in connection with a research and development activity.

⁵³ Note: These definitions are set out in Statutory Instrument No. 434 of 2004 "Prescribed Research and Development Activities". However, section 66 subsection (1)(a)(ii) of Finance Act 2006 clarified that only expenditure wholly and exclusively incurred in the carrying on of qualifying activity is eligible to claim the R&D credit.

Appendix 3 R&D Tax Credit Claim, Suggested File layout ⁵⁴

The following material is either exempt from or not required to be published under the Freedom of Information Act 2014. [...]	
Description per project⁵⁵	
1. Name of company which carried out the activities	
2. Name of Project	
3. The date the project commenced	
4. The date the project ceased (if applicable)	
5. The field of science or technology (referred to in S.I. No. 434/2004 - Taxes Consolidation Act 1997 (Prescribed Research and Development Activities) Regulations 2004)	
6.	
a. The activities are: <ul style="list-style-type: none"> • basic research • applied research, or • experimental development 	
b. Identifying which step on the Technology readiness level (TRL) scale the R&D process is operating, may be beneficial, when identifying if it is eligible as qualifying R&D expenditure under S.766 TCA 1997: <ul style="list-style-type: none"> • Idea • Basic Research • Technology Formulation • Applied Research • Small Scale Prototype • Large Scale Prototype • Prototype System • Demonstration System • First of a Kind Commercial System 	Include in Tab A Different industries enter and leave qualifying R&D expenditure at different levels on the TRL scale

⁵⁴ This suggested file layout is based on Revenue's experience reviewing R&D tax credit claims. It is a basic guide to the contemporaneous documentation that Revenue would expect to see: documentation that should be retained when completing activities in respect of which it is intended to make a claim under S.766 and S.766A TCA 1997 and Part 9 Chapter 5 TCA 1997. There is no requirement to keep the documentation in this format. The format is illustrative and is provided as guidance for those who wish it. Not all questions will be applicable to all industries, all companies or all projects. As each R&D project is by definition unique, further supplementary/clarifying information may be requested.

⁵⁵ Note file should be retained on a per project basis

<ul style="list-style-type: none"> • Full commercial application 	
7. The specific scientific or technological advancement, which the company sought to achieve at the start of the project	
8. The specific scientific or technological uncertainty which it is intended will be (if the project is ongoing), resolved	
9. Work done to determine that the solution was not already known and available to a competent professional in the field at the time the R&D was commenced	<p>Include in Tab B</p> <p>Example: Extensive search on the internet resulted in no known solution, it is imperative to retain the results of the internet search as these results for that period in time cannot be recreated at a later date</p> <p>Example: retain details of journal searches</p> <p>Example: Literature review</p> <p>Example: Researched competitor's in the field</p>
<p>Science Test questions</p> <p>*Technical\scientific\competent professional involved in the project should complete this area, as if to be read by a professional in that field of expertise</p>	
10. The R&D comes within paragraph 2.7 of this TDM	<p>Include in Tab C</p> <p>Provide details confirming this and skip to question 16 (Accounting Test questions)</p>
11. Where activities were aimed at developing a product for internal use (not as part of a product for sale to customers), what was the alternative action plan if activities had been unsuccessful?	<p>Include in Tab D</p>
<p>12. Knowledge Transfer:</p> <ul style="list-style-type: none"> • Acquired from group companies, • Acquired from third parties • Details of any outsourcing (link with Tab M on outsourcing costs) 	<p>Include in Tab E</p>
13. A summary of the systematic, investigative or experimental qualifying activities in relation to the project, including the location of the activities. The method used and details of the series of experiments or investigations undertaken to test the	<p>Include in Tab F</p> <p>Example: white board, notes copied and retained</p>

hypothesis must be included	
Other information which if available should be submitted with the scientific details	
14. Details of any academic research involved (e.g. MSc Project) please provide an acknowledgements page of the thesis or a supporting letter from the Host University	Include in Tab G (if applicable)
15. Report, if any, carried out by an independent expert into the activities ⁵⁶	Include in Tab H (if applicable) Example: Enterprise Ireland, IDA, Horizon 2020 reports
Accounting Test questions	
16. The computation of the tax credit claimed in respect of each accounting period, showing clearly the threshold amount under section 766B	Include in Tab I
17. Computation of the tax credit claimed listing each line item (there should be no 'admin expenses' or 'general expenses' listed – this should be specific).	Include in Tab J – For display purposes, it may be preferable to have a summary expense list, such as would be included in a detailed Profit & Loss, supplemented by details of what expenses make up each line item in the summary (including reconciliations from the General Ledger codes to the figures, if necessary).
18. Staff cost details	Include in Tab K
a. The qualifications / experience of the project leaders	
b. Names, relevant qualifications/ experience and job titles and location of staff employed in activities, and details of how staff were allocated to various aspects of the project.	
c. Allocation basis where staff work on this and other projects. A description of the system used to record work on qualifying and non-qualifying projects should be included, and should at a minimum identify when staff record their work, who reviews, in that regard	Example: <ul style="list-style-type: none"> Where a company has timesheets please provide same, details of when the timesheets are created, details of when reviews took place to identify the qualifying and non-qualifying

⁵⁶ Independent reports will not be carried out in call cases and are not a requirement to claim S.766 TCA 1997.

Where the company has such a report it should be included here as it may assist Revenue in reviewing the project, e.g. Horizon 2020 Grant Report

how the qualifying element of the project is identified.	<p>elements and who undertook the review</p> <ul style="list-style-type: none"> • A record retained for grant awarding bodies, please supply these records
d. Allocation between qualifying and non-qualifying please provide the basis for the allocation and the process and control procedures around monitoring same (while this may not be done on a contemporaneous basis it should be done in a timely basis e.g. month in arrears, quarter end review, it is imperative the allocation is completed prior to R&D claim on CT1 and that supporting documentation is available for review)	
19. Outsourcing	Include in Tab L
a. Any expenditure paid to 3 rd party contractors or service providers in the course of carrying on R&D activities (excluding utilities)	
b. Any expenditure paid to a university or 3 rd level institute in the course of carrying on R&D activities	
c. A brief outline the work carried out by the other parties under (a) or (b)	
d. Total amount paid and copies of contracts or list of tasks assigned to outsourcing partner and related Invoices	
e. Copies of any notifications issued to sub-contractors under S.766(1)(b)(viii)	
20. Details of any apportioned expenses (other than staff apportioned), and support on the method of apportionment chosen	Include in Tab M
21. Details of grants received or ones to be received in relation to the project. Type of grant e.g. Expenditure on R&D, employee grants, building grant etc. Provide copies of documentation from the awarding body.	Include in Tab N
22. Materials used in qualifying R&D may be of further commercial value once the activities cease, please value at the lower of cost, or net realisable value of any materials or other saleable product or by-product	Include in Tab O
23. For claims under s.766A, details of amounts	Include in Tab P

in respect of which the claim is made	
a) Provide details of the land cost, which does not qualify for relief under S.766A	
b) Date treated as incurred <ul style="list-style-type: none"> • date actually incurred or, • date the building was first brought into use 	
c) Minimum 35% usage of the building for R&D activity over a period of four years beginning on the date it is brought into use, retain rationale and apportionment details	
d) Details of claw back in relation to ten-year rule	
24. For claims in respect of plant and machinery:	Include in Tab Q
a. details of the cost of the plant or machinery, date it comes into use	
b. where an apportionment is used, support on the method of apportionment chosen	
c. Usage adjustment under S.766(1A)(b)	

Appendix 4 Schedule of updates

Material March 2019 updates

Section	
2.5	New Example No. 9 Limitation of tax credits S.766B
2.7 and 8.3	The content of TDM 29-02-07, which sets out the treatment of the science test for micro and small enterprises, for the R&D tax credit claim on projects supported by EI or IDA grants, is incorporated into this manual
3.1	Clarification in relation to documentation
4.2	Updated wording and update to example No.13 (to include spouse/child)
4.4	Clarification on the eligibility of costs incurred in relation to seconded employees.
4.5	Updated to reflect the introduction of the Knowledge Development Box.
4.7	Clarification on the treatment of material used in the R&D activities, with three new examples included No.14, No.15 & No.16
6.1	Clarification that the limits apply separately to University and sub-contractor; Clarification that outsourced R&D, must constitute R&D activity of the company who appointed the sub-contractor rather than R&D of the sub-contractor; Example 21 updated.
7.6	Example No.27 included to clarify issues on the transfer of R&D activities
8.2	Additional detail on cost apportionment
8.7	Reminder that penalties may apply to incorrect R&D credit claims
Appendix 3	R&D Tax Credit claim, suggested file layout

Material June 2019 updates

Section	
2.6	Footnote 11 included in relation to grants issued by the European Commission

Material June 2020 updates

Section	
2.1	Clarification of time limit for claims under section 766A.
2.5	Update to example 5, 7 and 8.
2.6	Updated to reflect Finance Act 2019 additional grant restrictions. Footnote 11 from June 2019 deleted.
4.1	Updated to reflect Finance Act 2019 section 25(2)(a)(i) and 25(3)(a) Clarifies that rent is not expenditure on R&D.
5.1	Update to reflect Finance Act 2019, that section 765 TCA 1997 expenditure is not relevant expenditure on a building or structure from 1/1/2020. (Footnote amended) Updated to reflect Finance Act 2019 additional grant restrictions.
6.1	Updated to reflect Finance Act 2019 section 25(2)(a)(ii)(II) increase in the allowance for payments to a university or institute of higher education

	to carry out qualifying R&D activities. (Footnotes added to examples 21). Example No.22 updated Updated to reflect Finance Act 2019 section 25(2)(a)(ii)(III), requires notification to sub-contractor in advance of payment.
7.5	Example 26 updated.
8.7	New footnote for Finance Act 2019 penalty update.
8.8	New for Finance Act 2019 section 25(2)(g)(ii)(II) noting restrictions to offsets from 22/12/2019.
11	New section added for Finance Act 2019 enhancements for small and micro companies.