

R&D in UK Manufacturing

Developed to perform



“Companies with traditional R&D or engineering departments often qualify for relief in areas where they may not be aware of the opportunities.”

David Cobb, Deloitte R&D service line partner

As the definition of R&D for the purposes of the tax relief becomes more clearly defined and tested, it is apparent that many activities undertaken to develop and improve manufacturing processes qualify for the relief. Although the actual number of companies claiming the relief is increasing, most companies are still not claiming for all eligible activities, specifically those occurring outside their product development or research centres. Can you afford not to be sure?

This article aims to address this issue and highlight some very common misconceptions about the relief. We hope to paint a clearer picture of the relief concentrating on what types of activities qualify and more importantly how you identify these in your manufacturing process.

Studies have shown that companies which invest in R&D grow and prosper in increasingly competitive markets. The UK Government has realised the importance of this type of investment and is going to great lengths to ensure that it is supported. To this end it has introduced significant tax incentives for R&D activities. From 1 April 2008, companies are able to claim a cash tax saving of between 8.4% and 21% of eligible activities.

Just take a second to consider this: many companies will be able to get a return on their investment in eligible activities of at least 8.4% before factoring in any sales or future efficiencies from the development. Yet in our experience, many companies have not fully investigated this incentive and are surprisingly confident that they do not undertake eligible R&D and therefore do not make claims.

The definition is however a lot wider than most realise and a key aspect of our work when assisting companies is not in simply identifying eligible R&D activities but rather in helping our clients' technical staff appreciate how those, and other similar, activities fall within the definition. If we consider a normal manufacturing cycle, a very large part, perhaps as much as 80%, of the total intellectual property in a product development and production process, is contained in the know-how surrounding the manufacturing process.

We are talking here about the development to introduce a new product to the manufacturing line, equipment development, process development and continual improvement of the production process.

Very little of this intellectual property is formally protected, however its very existence suggests it is likely that activities eligible for the R&D tax relief are being carried out. This is the sort of activity that, in our experience, is rarely claimed by manufacturing companies.

A bit of background

The Government introduced the relief in April 2000, but initially it was only available to small and medium sized enterprises (“SMEs”). In April 2002, Government followed this up with the introduction of the large company scheme.

As with the introduction of any new scheme, the uptake of the relief was relatively slow and although Government and other interested parties have gone to some lengths to publicise the benefits, many companies are still inadvertently looking this ‘gift horse in the mouth’.

Represented in the table below are the figures released by HMRC which show the total number of research and development tax credits claims that have been processed since the inception of the scheme.

R&D Tax Credit Claims		Large Company
	SME	
2000-01	1,860	
2001-02	3,410	
2002-03	4,630	730
2003-04	5,160	1,090
2004-05	5,300	1,320
2005-06	4,870	1,440

This table shows a generally increasing trend in the number of claims submitted as more companies realise they can claim. We expect that these numbers will increase following the expiration of the recent 31 March 2008 filing deadline for retrospective claims.

The Government has also, as the relief has been tested, tried to make the definitions clearer. This in itself has created some confusion and many companies who investigated the potential for claiming the relief before the revised guidelines were issued in March 2004, and concluded that it was not appropriate to them, have not re-examined their activities in the light of these new guidelines.

To try to understand why companies are not taking full advantage of the relief, Deloitte undertook a survey of Small and Medium Enterprises (SMEs) across the UK. The aim of the research was to measure actual and potential uptake of the benefit, and to investigate areas of difficulty in claiming the available relief.

In total, Deloitte surveyed over 560 companies nationally and the research findings confirmed our suspicions that as many as 55% (average of figure 1 below) of those companies potentially eligible to claim the relief were not taking advantage of it. Equally concerning was the fact that many companies currently taking advantage of the relief, are marginalising the value of their claims by not including all aspects of qualifying expenditure. Two of the main areas of difficulty in claiming the relief were found to be identifying eligible activities and agreeing the claim with HMRC.

In our experience, the main reasons why this is happening is that companies are either not aware of how wide the definition actually is, or do not involve their technical employees in the claim preparation process and therefore do not know how to apply the definition in practice. This consequently results in an under estimation of the company’s eligible technical activity and the total potential benefit available.

Packaging case study

Following an internal review and engagement with non-specialist advisors, a major manufacturer of durable consumer packaging identified a small team of product development personnel who they believed undertook a percentage of activity eligible for the purposes of R&D tax relief.

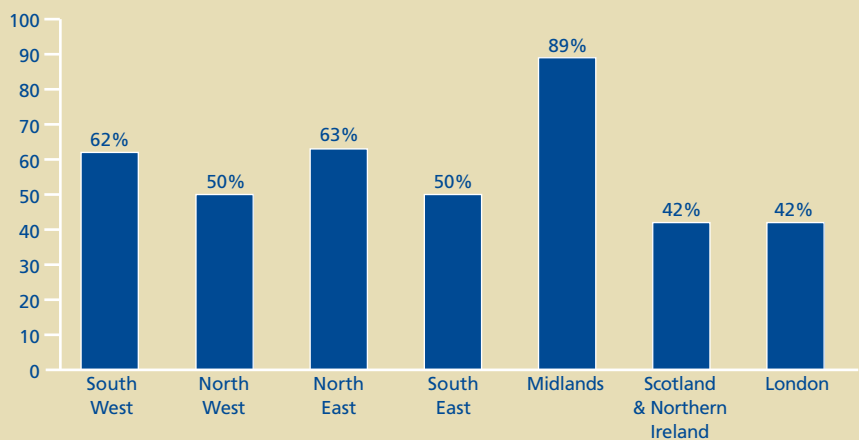
Members of the Deloitte R&D team – which includes a number of product development and manufacturing engineers with in excess of 20 years industry experience – together with a team of experienced costing and taxation professionals, reviewed their potential claim. They spotted several opportunities for significant increases by identifying:

- that a significantly wider proportion of the organisation’s technical team were directly or actively involved in eligible R&D activity;
- that eligible activity occurred not only in product development but also within the technically challenging areas of process and equipment development;
- that a significant amount of eligible support activity had not been included;
- That a significant number of unclaimed prototypes and eligible consumable materials were also associated with these additional areas.

As a result, Deloitte identified eligible activity worth more than ten times the value of the activities identified by the original review.

Figure 1: Percentage of potentially eligible companies not claiming R&D relief (by region)

Percentage not claiming



So how do you know if you are undertaking eligible activities?

The guidance notes issued by the Department of Trade and Industry (“DTI”) in 2004 have significantly improved the understanding of the types of activities that are eligible and now focus on more objective technological criteria.

The current definition of R&D for tax purposes states that qualifying activities take place when a project or activity seeks to achieve an advance in science or technology. The activities which directly contribute to achieving the advance through the resolution of scientific or technological uncertainty are R&D.

In other words, an advance exists when something is learnt in a particular field of science or technology which:

- increases the overall knowledge or capabilities and where the information on how to do this was not in the public domain;
- creates or appreciably improves a process, material, device, product or service;
- duplicates an existing process, material, etc but in a new or appreciably improved way.

An uncertainty exists if:

- a competent professional in the field would not know, or be able to determine whether it was possible to achieve a scientific or technological objective, or how to go about this, from existing knowledge and practice;
- there is more than one option to achieve the advance but it is unclear to a competent professional which is the most appropriate;
- something has been demonstrated as feasible but it is unclear if a commercial version could be produced in practice.

If you are employing engineers and scientists there is a good chance that they are “overcoming scientific or technological uncertainties” as a natural part of their work. The nature of engineering is for innovation to conquer uncertainty. This can apply whether the uncertainty is the laboratory formulation of a new compound or exceeding the recognised barriers of an established manufacturing process.

To engineer is to create and yet there seems reluctance in many organisations to explore outside their research or product development departments for innovation that would qualify.

Hopefully this article’s clarification of DTI R&D definition has made you realise that you are potentially undertaking qualifying activities and that you should be claiming for them. The key is now to optimise your claim.

Optimising your claim

Many companies define their R&D projects as being equivalent to their business projects but because this does not always take into account the technological issues, this does not always give the optimum result.

Businesses can often readily identify activities that fall within the definition of research since these tend to be picked up in specific departments and account codes. However, developmental activities are much more difficult to define and identify as typically they are spread throughout several departments. Companies with traditional R&D or engineering departments often overlook other areas of eligibility because the activities which occur there are not thought of as R&D in the traditional sense.

Many organisations would correctly consider that development of a composite material with a temperature rating of 100∞K higher than existing materials would be eligible. However, they may miss out on the qualifying cost of the innovative development required in the moulding machinery in order that the same material can be utilised in a new product. In a small, integrated department this may seem a fairly straightforward extension to the material development. But it may be less obvious if the machinery innovation is occurring in a different division or if the equipment developer is an unconnected organisation which may be able to claim in its own right.

Other common misconceptions

When considering if you may qualify, bear in mind the following points:

- R&D is not only performed in the R&D department.
- Engineering and software design can be R&D.
- Customer funded work can be eligible.
- Claims are still possible even if R&D costs are recharged.
- Large maintenance and upgrade works can be eligible.
- Trials and testing costs often qualify.
- The costs associated with prototypes and soft tooling can qualify.
- You do not necessarily need to retain the IP to make a claim.
- Eligibility is not contingent on the success of the work.
- R&D spend does not have to have been disclosed in the accounts.

In other cases, a product development requirement may lead to the first use of a material for a particular application. If experimentation in process parameters is required to successfully produce a part using this material, then this too could be eligible activity for the purposes of the relief.

Directed experimentation aimed at achieving significant technical advances may be eligible even when carried out with existing equipment and parts.

An example of this comes from a company that was working on improvements in resistance welding, where significant experimentation had been carried out to optimise electrode life and reduce energy consumption. The company gained the benefit of a four-fold improvement in electrode life and a twenty-five percent reduction in energy consumption; a true “advance” under anyone’s definition. It would also have been able to include the associated engineering research time and the cost of electrodes and materials consumed in the experimentation process.

“A claim can only be maximised by involving technical and engineering staff who understand the nature of the activities undertaken...”

Team work is essential

An understanding of the legislation and technical engineering experience are equally important attributes to ensure no qualifying activities are overlooked in a company.

Whilst many manufacturing engineers and managers may have heard of R&D incentives, many consider that they only apply to scientific research. Of those that do identify their work as eligible, in our experience, few will have had dialogue with the company tax department and thus the potential benefit to the company is often overlooked because of poor intra-company communication. Unfortunately the optimal approach is not significantly clearer from the perspective of many tax departments, as they are unlikely to understand the technological complexities without input from the technical side of the business.

Because the incentives are still relatively new to the UK, many organisations have been seeking guidance on which activities will qualify. In our experience there are still too many company taxation departments that have not considered the manufacturing process advances. By themselves finance departments do not contain the scientific or technical skills necessary to identify all the eligible activities.

How does the relief work and how do you calculate the benefit?

The SME scheme, introduced on 1 April 2000, currently allows companies that fall within this definition to claim an additional tax deduction of 50% on all qualifying revenue costs. This means that for every £1,000,000 spent on qualifying R&D, SMEs can deduct £1,500,000. If the company is paying the normal company tax rate of 28%, the relief essentially results in a real tax saving of 14% ($500,000 \times 28\%$). If the SME is a non-tax paying entity it can currently forfeit this additional tax deduction for a cash repayment of up to £24 for every £100 spent.

The 2008 Finance Bill includes proposed changes such that SMEs will be able to claim tax deductions of 175% on their qualifying revenue expenditure. We would expect this change to take effect from 1 April 2008, but this will not be clear until approval is obtained from the EU.

The value of the maximum cash credit will increase slightly to £24.50 for every £100 spent. For profitable SMEs the lower rate of tax has increased, and this will obviously increase the tax burden on this sector. It does however mean that the R&D relief will provide a greater absolute saving as it will provide additional deductions for offset at higher rates.

The precise value of the relief is difficult to predict for SMEs as their effective rate of tax changes as they move between the profit bands at which the different tax rates apply. If we look at the range from a company paying tax at the small company rate to the top rate then as the small company rate increases over the next three years from 19% to 22% the effective rates of benefit are as follows:

	Benefit at Small Company Rate	Benefit at top rate of corporation tax
1 April 2007 – 31 March 2008	10%	15%
1 April 2008 – 31 March 2009	15.75%	21%
1 April 2009 onwards	16.5%	21%

Where the additional R&D deductions are reducing profits in between the full and small company rates, the saving may be even greater due to the impact on marginal relief on effective tax rates.

For large companies (i.e. those not falling under the SME definition) the relief, introduced on 1 April 2002, now allows companies an additional tax deduction of 30% on all qualifying revenue costs. This means that for every £1,000,000 spent on qualifying R&D, Large companies can deduct £1,300,000 and so for a company paying the full company tax rate of 28%, the relief essentially results in a real tax saving of 8.4% ($300,000 \times 28\%$). Prior to 1 April 2008, the top rate of company tax was 30% and the rate of additional tax deduction was 25% which resulted in a real tax saving of 7.5%.

Under the large company scheme, companies are not able to surrender any losses generated by the relief for a cash payment. Under both schemes however, the benefits of the relief can be transferred to other group companies with sufficient tax capacity, giving them the benefit.

“Looking back over my twenty years of launch and manufacturing management there were significant product, process and equipment developments which today would qualify for the R&D incentives. Canadian, Australian and US organisations have had R&D incentives for many years and UK industry needs to start making up for lost time.”

Nigel Bolton, Deloitte Engineer

What are the qualifying expenses?

Qualifying expenditure includes staff costs (including employer's NI and pension costs), 65% of the costs associated with agency workers and external contractors, expenditure on software and consumable items (which includes a reasonable apportionment of water, fuel and power costs) and certain subcontract expenses.

The Design Phase – A case study

A major manufacturer had reviewed the product development and manufacturing lifecycle and, after some external consultation, had been led to believe its design function had no eligible activity.

Members of the Deloitte R&D team, which includes a number of highly experienced product development and manufacturing engineers, reviewed the activities undertaken and identified that the design activity was encountering technological uncertainty and was advancing industry knowledge by attempting to overcome these issues. Areas of potential eligibility included:

- Attempts to achieve desired geometry at the limit of the materials formability.
- Attempts to achieve a UV stable material with the required texture which would also be moisture resistant.
- Development of a formed material, part of which would meet the required form whilst achieving deformation requirements under impact and conforming to manufacturing process constraints.
- A significant number of prototypes and eligible consumable materials were also associated with these development areas.

The overall effect of this review was to identify significant eligible activity in areas which would otherwise have remained unclaimed.

Recent regulatory changes and their impact

The definition of an SME is that used by the European Commission. Briefly, an SME is a company with fewer than 250 employees, and either annual turnover not exceeding €50M or a balance sheet not exceeding €43M, and which is not part of a larger enterprise that would fail these tests.

The Government has announced, subject to EU approval, a doubling of the above relevant figures such that more companies will be able to claim the SME benefits. This means that the more generous SME relief will be available to companies with fewer than 500 employees and either turnover not exceeding €100M or gross assets not exceeding €86M (subject to the inclusion of figures for various associated companies as set out in the EU recommendation).

This is not a change to the EU definition but will be included in the UK legislation essentially extending it for the purposes of the R&D relief. The change will apply to expenditure incurred on or after the appointed date which will be announced once EC approval is received. This is excellent news for those companies that did not previously fall within the definition of an SME but will meet the new criteria, particularly if they are loss making as the large company R&D regime does not provide any cash payment option for loss makers.

In addition to the additional deductions available on revenue expenditure, there is also a 100% deduction available for capital expenditure related to R&D activities under the Research and Development Allowance (RDA) regime. This is often overlooked but does provide a significant cash flow advantage to profitable companies of all sizes with discounted benefits in the order of 5% of the qualifying spend.

The Finance Act 2007 included a reduction in the rate of capital allowances available on plant & machinery from 25% to 20%, still on a reducing balance basis. This extends the time period over which benefit is claimed for capital spend and so makes the acceleration available through RDAs even more valuable by around 1.5% of the qualifying spend.

Furthermore, the gradual phasing out of Industrial Building Allowances will extend the relatively greater benefits from RDAs where 100% relief may be available on capital expenditure that does not now qualify for any form of tax relief. This was always the case for office buildings but will in the future also apply to industrial buildings.



Pictured: David Cobb, Deloitte R&D

How can Deloitte help?

Deloitte has a track record of helping clients to optimise their claims. We have the right combination of skills and experience for success and our approach has enabled many clients to submit claims significantly in excess of their original expectations.

Our secret is a clear, business-focused approach. Claims should not be relegated to a tax function questionnaire but should be part of operational and budget planning. Equally, breaking projects down to too low a level may mean that very little will qualify. It is also essential that both the finance and technical functions work together to review potentially qualifying activities. More importantly, this team work needs careful coordination as those groups often have different priorities and objectives.

Initially building on the experiences of our US and Canadian practices, where R&D reliefs have been available for many years, over the last five years we have established a multi-disciplinary team in the UK bringing together software engineers, chemists, pharmaceutical scientists, automotive industry experts and manufacturing engineers together with experienced accountants and tax specialists.

Based on this knowledge and experience, we are able to provide clients with a variety of bespoke services including training to support the in-house preparation of R&D claims, assistance with developing an optimal claim methodology, preparation of R&D claims, and facilitating agreement of claims with HMRC (including claim defence).

Together, we offer clients a unique blend of skills and experience unavailable elsewhere in the UK market:

- We understand HM Revenue & Customs' interpretation of R&D. We have worked closely with them and the DTI as they developed their guidance and have significant insight into their approach.
- We understand the tax rules behind the relief and how these incentives may be incorporated into your overall group tax strategy. We can work closely with your technical staff to gain an insight into which projects should qualify during a year, enabling you to make appropriate reductions in your tax payments on account.
- We understand accounting systems and can take a practical approach to extracting relevant data and identifying activities and costs that are likely to qualify.
- We have qualified and experienced professionals from industry who understand the technological and scientific aspects of R&D. This knowledge is essential to optimising a claim and helps minimise the time your engineers and technical experts need to spend helping to put together and validate claims.

We have the experience, tools and proven methodologies to:

- manage R&D identification projects in complex organisations;
- map business projects to qualifying R&D projects; and
- optimise R&D claims for clients.

Conclusion

The R&D tax relief regime has suffered from widely held misconceptions about the extent of its availability. Please contact us if you would like to talk about any of the issues raised above in relation to your company.

For more details on how Deloitte can help UK Manufacturing businesses with their R&D tax relief, please contact:

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