

# IOP Institute of Physics

## The scope of qualifying expenditures for R&D Tax Credits: Consultation

### Institute of Physics response

#### About the Institute of Physics

Our 23,000 members come from across the physics community whether in industry, academia, the classroom, technician roles or in training programmes as an apprentice or a student. However, our reach goes well beyond our membership to all who have an interest in physics and the contribution it makes to our culture, our society and the economy.

#### Question 1a

Are there uses of data that contribute to R&D but which do not currently attract relief through the RDEC and SME schemes?

The scope of costs incurred in the generation, processing or analysing of datasets eligible for relief under the current R&D tax credits regime is broad. This is particularly true as they can be argued to contribute clearly to the resolution of the uncertainty that the R&D is geared towards. Where a company cannot buy data and claim for it under the scheme, it is likely that it does not fall under paragraph 31 of the BEIS R&D guidelines, suggesting the use of the data is too far removed from the R&D.

While the scheme is clearly a major benefit to organisations carrying out R&D, the concerns of IoP members revolve primarily around the clarity of guidance on what falls within the scope of qualifying expenditure and a perceived disproportionate focus on the research phase. In computing, for example, there is very little technical risk in the research phase of software development where relief can be claimed, but for many physics-based organisations, the capital costs incurred in the development phase are far more significant and constitute a far greater risk. For such organisations, where the development phase may involve an improvement to an existing (commercially successful) technology rather than a wholly new product, an inability to claim relief can have significant impacts even though such a product is likely to succeed at market. Products that improve existing technologies are often likely to attract business investment, and as such a shift in the focus of the scheme towards development could have a positive impact on investment in the market and, subsequently, value to the Exchequer.

#### Question 1b

To what extent are data sets employed in the R&D process consumed? To what extent do they retain value?

Many organisations need to purchase data sets in order to carry out modern R&D work. These can be considered consumables as they are purchased for the sole purpose of their necessary contribution towards an R&D project. If one is bought and used, it will often no longer have future value, as the dataset has been bought for a sole, specific use. So in one sense, datasets are consumed and do not

retain value. However, in the longer term, the business gains value from the use of the data asset inasmuch as it contributes to the business' own IP, even if the dataset in its own right has not retained value.

## Question 2a

Do you already claim for software costs under the current definition? If so, what was your experience of separating out the R&D specific costs for the purposes of the claim?

IoP members report that they require further clarity on whether the spend on third party cloud-based solutions would be eligible for claim. From an accounting perspective, separating out costs can be difficult if the system employed is not simple as dividing spend into cost categories is open to misunderstanding and errors in reporting. See below for further discussion of the need for greater clarity and simplification of the qualifying criteria.

## Question 2b

Are there any software costs that currently qualify for R&D tax credits, that could be limited or excluded from relief without materially affecting R&D projects?

While the current scope is broad, it is likely that the most efficient way to limit or exclude relief in order to make savings on behalf of the taxpayer would be to ensure that the R&D tax credit scheme reflects the nature of modern R&D. Over time, this is likely to exclude claims on particular softwares and technologies which see decreasing use.

## Question 2c

Are there any software costs, partially or wholly for R&D purposes, that do not currently qualify for R&D tax credits, that should be if the regime is to better reflect the nature of modern R&D?

The current R&D tax credits scheme was launched some 20 years ago, and the BEIS R&D guidelines were released in 2004. Despite some minor updates to the guidelines, the current scheme in a large part does not reflect the digital age and the nature of modern R&D. Even set against the last update to the scheme in November 2010, there is considerably more digital work undertaken as part of R&D now, so the current scheme is not quite fit for purpose. HMRC has made steps to address this with improved guidance on software, but it still classifies software as something that exists on internal servers rather than in the cloud.

Most businesses, including SMEs, will need to invest in IT-based developments in order to thrive in the years ahead. Government policy should target appropriate support to enable SMEs to develop capability and expertise in data analytics, cloud computing and associated predictive capabilities such as AI and deep learning techniques. This would place such developments at or close to the marketplace.

Cloud computing costs have traditionally not fallen within the scope of the R&D tax credit scheme, but they represent a big cost for organisations undertaking R&D in the digital age. Companies working in this way can encounter major cashflow difficulties, whereas, for example, an organisation working in the construction sector can make significant claims for tax relief because it fits the current legislation more closely.

The use of cloud computing for organisations undertaking R&D includes data storage, backup and financial business systems. In terms of R&D itself, large cloud data servers are used by organisations to store vast amounts of work, and some IoP members are beginning to explore the use of cloud-based computing for large-scale parallel computation and analysis of data. Whilst this is part of running a business, it is also integral to R&D. Cloud computing and software development (such as Devops) are relatively small but ever-growing areas, and the IoP would unequivocally welcome additional relief in this field.

As an example, BT uses servers in data centres to host virtual environments as part of product testing. They currently claim the utility costs related to the data centres to the extent that they relate to the qualifying R&D activity, but cannot claim the server hardware costs that were used for data analytics work or hosting virtual test environments. Should the scope of qualifying expenditures be expanded, the IoP would seek clarity on how applications hosted in such servers would be eligible for R&D, as this constitutes a significant outlay.

Aside from software costs, there are further costs which may be considered good value if included within the scope of the scheme; in allowing businesses to focus their efforts on more intensive R&D activity, they could attract greater investment in the marketplace and ultimately, increased value to the Exchequer. For one, the cost of rented laboratory space is not included. This is clearly a necessary and valuable contribution to R&D which requires such facilities, and particularly challenging for early-stage start-ups who do not have their own laboratories. These kinds of businesses – many of whom carry out some of the most innovative R&D – should be where R&D relief is focussed. Their exclusion is detrimental.

For any new product development or software tool development, investment of time and resource into design, testing and prototyping of the new product or service is required. IoP members report that an estimated 20-35% of their current annual revenue is reinvested into R&D, taken from previous years' profit. Any assistance in recognising these costs as non-income earning investments into growing companies would be highly valuable.

### Question 3a

What experience do you have of claiming R&D tax credits in other jurisdictions, where expenditures pertain to data or cloud computing?

The current computing capacity of many IoP members is unlikely to meet the needs of the future. As the use of cloud computing and new softwares becomes increasingly commonplace in R&D, computing capacity is likely to be met through the use of remote or cloud-based cluster computing. If so, companies will be required to add this to their up-front costs in place of the up-front software costs which are currently eligible. With cashflow a perennial problem for R&D businesses, burdening them with further early-stage costs which are not eligible can only be to the detriment of the marketplace. The incentive of relief must be brought in line with up-to-date technological considerations.

### Question 3b

What evidence can you provide that a scope expansion in these areas would drive you to make additional investments in research and development?

The current scope of the R&D tax credit scheme is unquestionably broad. Since profits are the main source of investment in developing any business, any means of maximising funds for this purpose is a primary mechanism for strengthening and growth. As such, any scope expansion is bound to incentivise further investment in R&D. However, one of the issues facing many organisations working in R&D, particularly start-ups, is cashflow. Many businesses simply do not have the cash up front to invest in projects, given that the whole cycle from work carried out to claim to receipt of funds can be up to two years including claim and processing time. Even then, businesses face uncertainty over any refund as there is no guarantee a claim will be accepted, nor of success in the following year, which is particularly harmful for long-term investment in deep technology. Paying out up front means companies need to find the money to do the work and as such, incentivising additional investment is crucial if R&D is to form the centre of the government's innovation programme. There are a number of ways in which additional investment in business R&D might be incentivised.

In the current R&D scheme employed by the German government, for example, businesses can apply for project funding ahead of time and expect to receive money back shortly after the year end. If businesses were able to claim back money during the life of a project – particularly longer-term deep technology projects – it would make a significant difference to their ability to deliver products to market, benefitting the Exchequer. Such mechanisms exist for the VAT and PAYE schemes. Applying a similar mechanism to the R&D tax credit scheme would require an advanced assurance scheme which could easily be linked to VAT or quarterly returns, tagging expenses as R&D and allowing businesses to claim relief quicker with year-end reconciliation.

### **Capital Expenditure**

R&D tax is a revenue expenditure scheme. While there are allowances for R&D in the capital expenditure scheme, it's not useful for most R&D businesses. It offers the same benefits as the annual investments allowance which is not significant. Section 13/08 of the Corporation Tax Act 2010 allows claims for intangible assets under R&D where they are revenue in nature. However, the guidance on this in the Business Income Manual is vastly out of date, citing the Millennium Bug as an example. As an example, an early-stage start-up which wants business investment needs to be able to capitalise items in its accounts in order to not appear as a loss-making company where they expect future value from an asset they are developing. There should, in such instances, not be a differentiation between revenue expenditure and capital expenditure as the organisation is developing IP and gaining value from it. It should not be a revenue argument, but a capital and revenue argument.

### **Upskilling and retraining staff**

Retraining costs can be included in R&D tax claims, but only where the training is directly contributing to the R&D according to paragraph 31 of the BEIS R&D guidelines. Challenges arise here where businesses use external training providers – the claim needs to be made, but it is indirect. The retraining of staff is a much wider issue than R&D tax credits, as a business is unlikely to retrain staff for just one project, but there is an enduring value to the business of upskilled staff assets. How much of that cost should be covered by government is questionable. Whilst the acquisition and development of specific skills and associated business development could be included in the scope of relief, another solution may be to follow similar lines to the apprenticeship levy. Here, there are strict requirements if a claim is to be made around age, the type of training and other criteria. In the aftermath of the coronavirus pandemic, where many jobs will be lost, retraining and upskilling will be key. The apprenticeship levy could be expanded to include retraining in a post-pandemic world, such as in injection moulding, where staff currently working in plastics can be retrained to contribute to the manufacture of motors for electric vehicles.

## Question 4

Would changes to the R&D tax relief rules in the areas outlined above lead to any change in the commercial relationships between companies, insofar as expenditure is outsourced to a third-party provider?

Any business undertaking R&D keeps records of what has been expended on the R&D. Those records cover many cost categories that have been incurred. R&D tax is limited to certain cost categories. There are clear advantages to this in many ways; certain costs shouldn't be covered by the Exchequer. An example of this is external third-party providers, as those workers will make a profit margin on the work they do. From a holistic perspective, there is no reason for government to cover that profit margin, hence the 65% cap on subcontractors. However, this itself can be detrimental to start-ups carrying out innovative work. Such businesses, many of whom experience cashflow issues in their earliest iterations, will avoid taking staff onto payroll as they need to be flexible in line with the nature of their work, but this incurs the difficulties of the 65% restriction. This system therefore benefits established businesses over start-ups, many of whom carry out the most innovative R&D work. A change or clarification to who can claim the credit for subcontracted work might be of use, such as the credit belonging to whoever is taking the financial risk in the development.

This is part of a wider conversation around the efficiency of the R&D tax credit scheme, which will be addressed further in response to question 5. Around a quarter of funds recovered through the scheme are paid to accountants and on associated administrative costs. Management time also incurs further costs. Tax simplification and variable rates would be a far more efficient means of helping smaller technology companies, as would an increase in the percentage allowance available for relief. As it stands, elements of the scheme benefit larger, more established companies, but do not help SMEs. This does not reflect the diversity of where modern R&D is carried out.

## Question 5a

Are there expenditures on indirect activities which should be limited or excluded from eligibility for relief?

This consultation is not seeking views on the BEIS R&D guidelines or definition of R&D. In those guidelines, there isn't a great deal of outsourced work or indirect activity which does not fall under the bracket of R&D. While paragraph 31 of the BEIS document refers to what a qualifying indirect activity is, the issue lies around awareness and understanding of eligibility from the point of view of businesses of all sizes.

## Question 5b

Are there other expenditures on routine work which should be limited or excluded from eligibility for relief?

Many IoP members believe that there should be a greater focus on development or later-stage R&D activities up to first release to market. Many feel that the focus of the current scheme is on earlier stage research work which looks for an advance in science and technology or understanding which couldn't be

easily worked out by a professional in the field (this itself is the language of patents, and arguably not suited to the product development phase, when the 'it' is already necessarily known). The most technical risk during the R&D process is in the early stages of development – greater incentive here may well lead to greater business investment as a whole.

Some level of support in the post-research phase of new products or services would clearly be valuable. Often, companies find that taking a prototype or demonstrator into the next stages of development – pre-production prototype for example – costs many times more than the original research. Many businesses simply cannot afford to do this, and so often partner with other organisations to develop new commercial routes for the sale of products. If some of the costs involved were to be incorporated into an R&D tax credit scheme, this would allow greater focus on in-house development, increasing competitiveness and ultimately market value. It is important to note that uncertainty is a feature of all stages of the R&D process. Even when a product is released to market, it will still be at the lower end of its capabilities, and as such later stage activities are vital and should be the focus of greater relief. For start-ups who may not show an operating profit during the development phase, a greater focus on later-stage credit may free up investment.

Of course, some might argue that there is no focus on early-stage work. If a project that seeks to advance an uncertainty is R&D, and claims can be made to the point that the uncertainty is resolved, it might be argued that all stages of R&D are covered and claimable. If so, the overwhelming view of IoP members is that there is a problem of clarity and communication.

Clarity and transparency on eligibility for claims is clearly required. The requirements to argue what is or not an 'advance' or what could or couldn't necessarily be easily worked out by a professional in the field has led to a significant rise in businesses requiring advisors or no-win no-fee tax credit specialists. A large proportion of relief is spent on such legal and accountancy practices, while some firms also charge hourly fees for preparation, further increasing business costs. None of this reimbursed spend directly contributes to the development of technologies or products – the money from the taxpayer is not getting to its intended target. Further complexities arise when a project is grant funded. Simplification and greater clarity would be attractive in order to direct more taxpayer money to the growth of knowledge and the development and diffusion of innovative products, services and processes.

**For more information:**

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