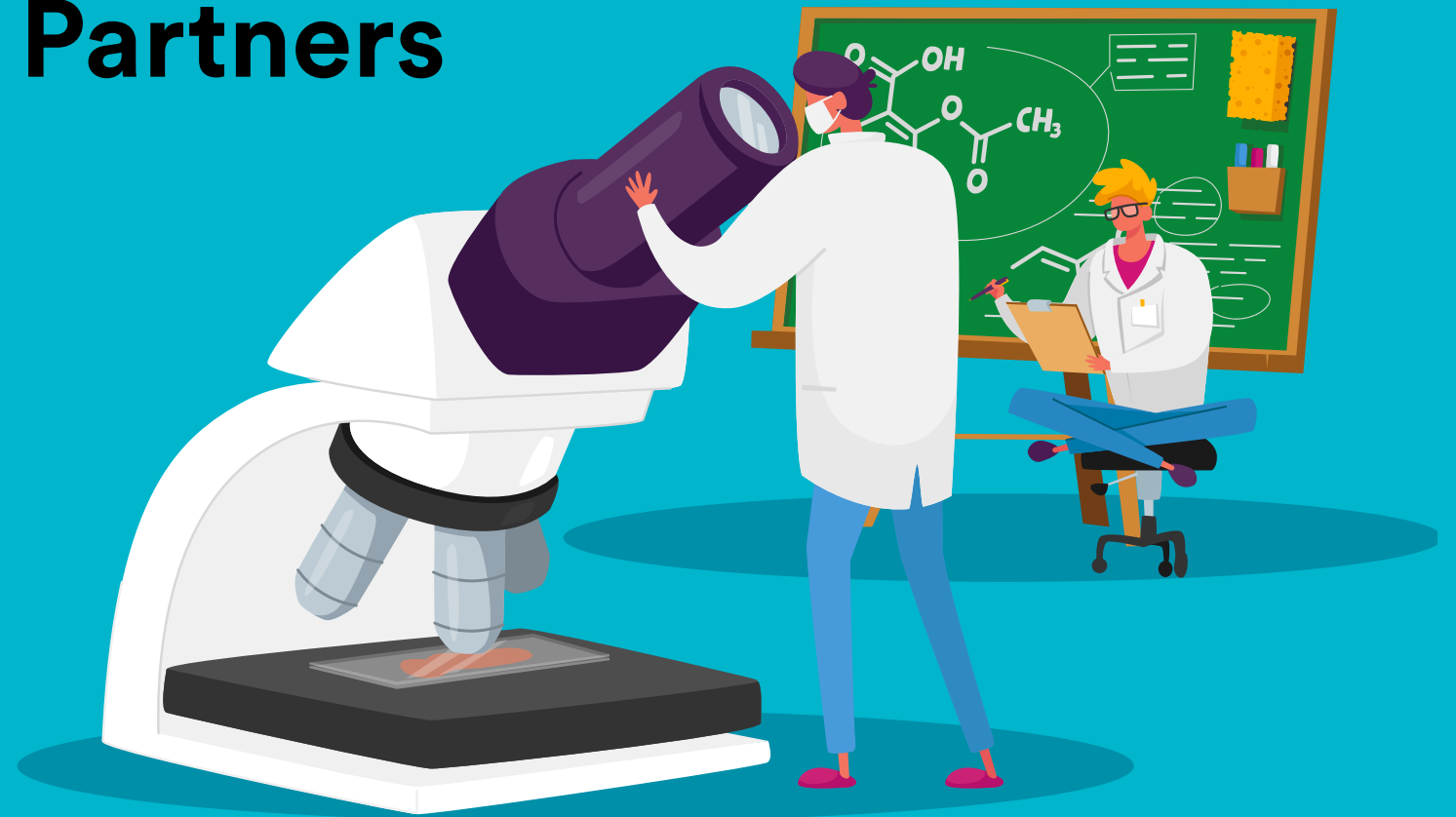


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Learn R&D  
by Wilson Partners



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**Learn R&D by Wilson Partners is a new initiative which targets educating R&D professionals on HMRC guidance for R&D tax reliefs. We believe that spreading awareness of the BEIS guidelines which are used to determine eligible R&D can help R&D professionals sustain innovation, pursue development and assist their employers to invest in R&D projects that could potentially lead to additional projects that extend the boundaries of science and technology in their prospective fields.**

With HMRC increasing their efforts to prevent fraudulent claims through increased scrutiny of submissions, we hope to educate R&D experts on the differences between what is viewed as R&D commercially vs R&D tax credits. Through this we hope to improve the quality of technical reporting, ensure businesses understand the eligibility threshold for R&D tax credits per the BEIS guidelines, and can access R&D tax credits for genuine and innovative qualifying activities.



**The Learn R&D by Wilson Partners series explores, explains, and highlights the main differences and similarities between R&D principles from a technical and a legislative standpoint.**

Our Innovation Tax team is made up of highly talented individuals who are passionate about supporting clients to maximise their R&D funds in their pursuit of innovation through research and development with specialised knowledge around innovation tax. The team's experience in this area combined with their ease of understanding clients' requirements, and their ability to explain the complex definition of R&D gives you the edge to take your innovation to the next level.



# Section 1: What is R&D?

## A technical vs legislative overview

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### Technical overview

Technically, Research and Development (R&D) refers to the process of seeking knowledge, developing products or technologies through systematic investigation or experimentation. R&D activities can be carried out by organisations, government bodies, or academic institutions with the aim of advancing knowledge and developing new products, services, or processes.

There are several distinctive characteristics which describe R&D projects, namely, the level of uncertainties being resolved, the R&D team's technical skills, the funding source, the project's stakeholders, and organisational R&D strategy.



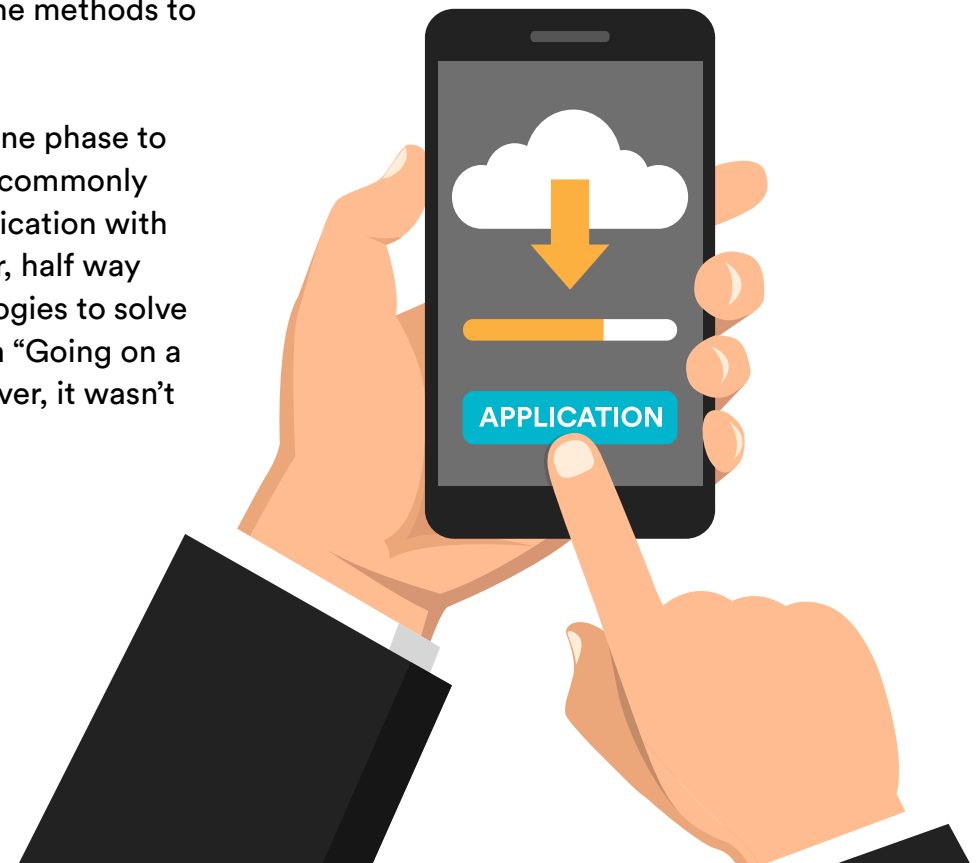
# Eddie Obeng's Model



There are multiple examples of projects from various industries which meet Obeng's criteria, for instance, a "Going on a Quest" project can generally include new product development projects where a business would know what they are looking to achieve but they wouldn't know how to achieve it. Mobile application development can be classified as a "Making a Movie" project as there are potentially unlimited ways in which programming languages can be used to develop new and innovative applications using the same principles. Examples of a "Lost in the Fog" project include organisational change projects, or in some cases, academic projects where neither the end-goal nor the methods to achieve it are well defined prior to undertaking the work.

It is also worth mentioning that a R&D project can change from one phase to another. For example, a software developer initially thought that commonly available knowledge was sufficient to develop a new mobile application with several features and started a "Making a Movie" project, however, half way through the R&D, the team had to further explore new methodologies to solve challenges that they did or didn't anticipate, making the project a "Going on a Quest" project as then, it was clear what the end goal was, however, it wasn't clear how to get to it.

**In general, if either the goal or the methods to achieve that goal could not be defined prior to undertaking the work, a project would have an element of R&D in it.**



# A Legislative Overview

**R&D for tax purposes takes place “when a project seeks to achieve advance in science and technology. The activities which directly contribute to achieving this advance in science or technology, through the resolution of scientific or technological uncertainty are considered R&D. Certain qualifying indirect activities related to the R&D project are also R&D. Activities other than qualifying indirect activities which do not directly contribute to the resolution of the project’s scientific or technological uncertainty are not R&D”.**

In essence, in the context of science and technology, the technical and legislative R&D definitions share a lot of similarities. Looking into Obeng’s model, the “Going on a Quest”, “Lost in the Fog” and in some cases “Making a Movie” projects can have scope to be eligible for R&D tax credits as long as the unknown element is related to science and technology.

In the upcoming sections, we will explain the differences between innovation and R&D from a legislative point of view. We will also expand on what is an R&D timeline in the context of R&D project management and a legislative standpoint, and we will discuss how efficient record keeping and knowledge of the HMRC BEIS guideline can speed up product development and allow businesses to effectively set strategies to maximise their R&D resources.

J. Billingsley, “Research & Development Project Management Workbook”, Learning & Development IMechE, 2022



# Section 2: The R&D Timeline vs The R&D project boundaries

## The S-Curve

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A typical project spend profile looks like the letter 'S' and is commonly known as the 'S-curve' shown below:

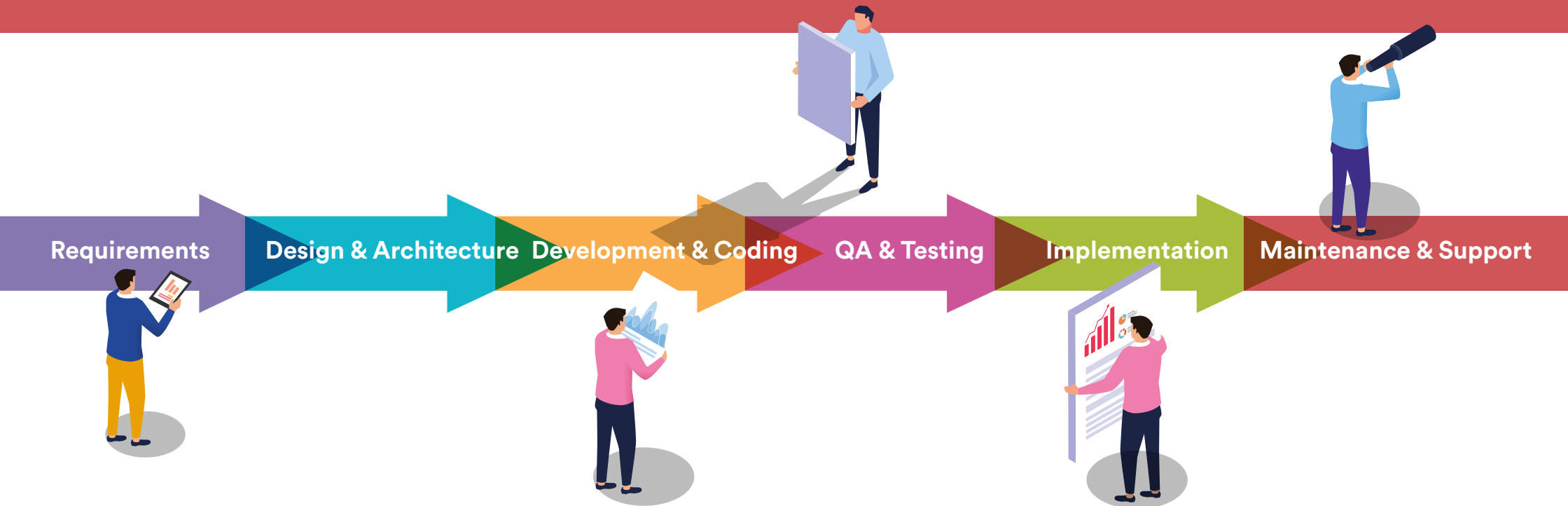


In general, it is commonly known that little spend is allocated to the start of the project and then the spend tends to ramp up towards the end of the project. As per HMRC's definition, compliant R&D activity can take place anywhere along the S-curve as long as the claimant is resolving scientific and/or technological issues.

A key factor in determining eligibility for R&D tax relief is the methodologies used to resolve the technical uncertainties and achieve the sought advancements. If these methodologies go beyond business-as-usual activities (i.e., fine tuning, debugging, calibration, routine maintenance, etc.), then these are eligible for R&D tax credits.



In the context of software development, the main stages of development would be as follows:



## Requirements

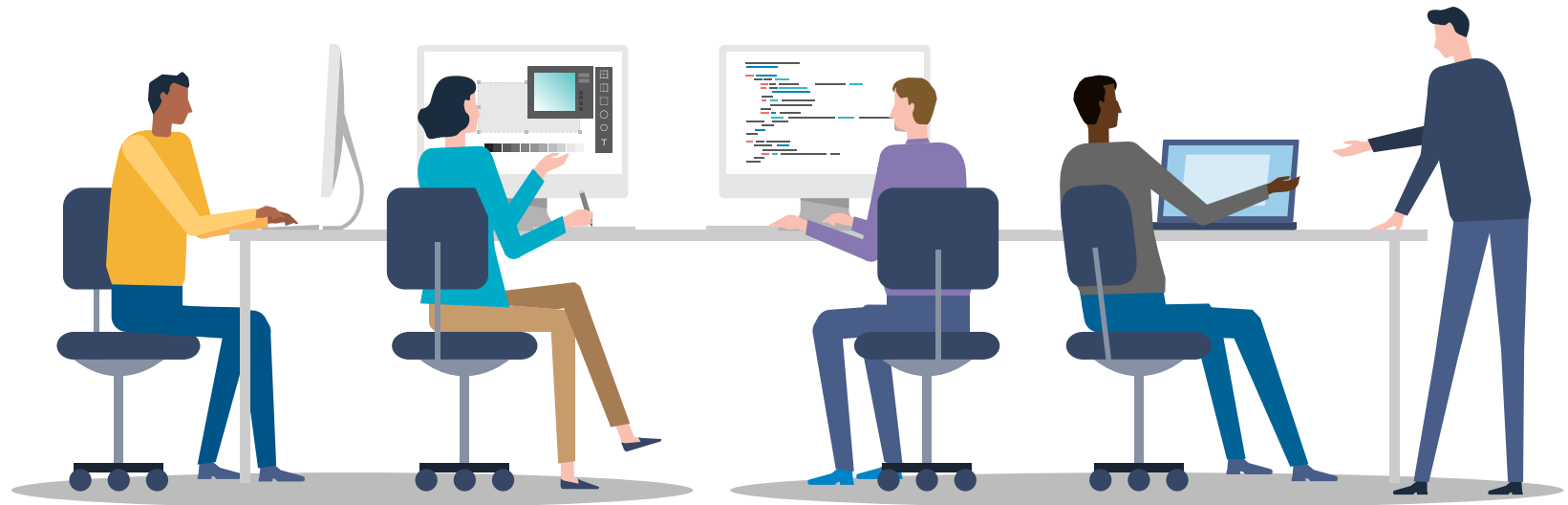
The knowledge required to set new software requirements is commonly available in the public domain. This includes functional, non-functional, domain, and UI/UX requirements etc. Although the process of setting up software requirements can sometimes take a lot of time and effort from developers, and it is a key part of any R&D project (technically), from an R&D tax standpoint, as the methodology to specify software requirements is available in the public domain, HMRC would view this as non-compliant activity as per Paragraph 20 of the BEIS guidelines.

## Design and Architecture

Software design and architecture focuses on how the newly developed software should be structured and organised, with emphasis mainly on the higher-level decisions and considerations. Fundamentally, the basic principles of software design and architecture remain the same (i.e., modularity, encapsulation, abstraction, etc). From an R&D tax relief standpoint, as per CIR81960, design, development and testing activities that are needed to directly resolve the scientific or technological uncertainties are R&D and may be included, however analysis, design, development and testing that do not contribute to resolving scientific or technical uncertainties are not R&D and need to be excluded.

## Development and Coding

Technical challenges can either be identified or anticipated during the previous two stages or during this stage of the R&D project. If the knowledge to resolve these challenges is not available in the public domain, then, businesses are entitled to claim R&D tax credits for the time and cost incurred to resolve these challenges and potentially push the boundaries of their prospective field as per Paragraphs 3, 6, and 9 of the BEIS guidelines. Looking into the 'S-Curve', this is also the point where the cost of the development starts to increase specifically if the development is being completed using a third-party subcontractor.



## QA and Testing

Whilst developing QA tests is not a qualifying R&D activity as developing test procedures is not a technological advancement, businesses can still claim for the time and costs incurred to test their newly developed solutions if they are uncertain the newly developed products or processes would work as anticipated or not, this includes in-house and third-party testing.

## Implementation

During the implementation process, multiple issues arise which can potentially instigate a R&D project. Examples include but are not limited to scalability, compatibility, and API integration issues. If these issues are new to the field, technical or scientific, and deducible methodologies were not sufficient to resolve them, then businesses are entitled to claim R&D tax credits for the time and cost incurred to resolve these challenges and potentially push the boundaries of their prospective field as per Paragraphs 3, 6, and 9 of the BEIS guidelines.



# Maintenance and Support

Once the end-product is commercially available for users, maintenance and support is considered a business-as-usual process as the competent professionals would use the knowledge, they have already gained during the development stage in addition to their acquired knowledge prior to undertaking the work to maintain and support other products. However, there are multiple instances where a problem would occur and the knowledge to resolve it is not available in the public domain which can then lead to launching a new R&D project eligible for R&D tax credits.

Technically, the R&D timeline includes all the activities undertaken within an R&D project including the stages where minimal hands-on development takes place. HMRC defines the project boundaries as the time undertaken to resolve the technical and scientific challenges using non-deductible methods. Whilst this might not cover the whole R&D project period, it does cover the periods where the highest expenditure potentially takes place and where a business is more likely to work with third-party subcontractors or spend a significant amount of time resolving technical challenges.

J. Billingsley, “Research & Development Project Management Workbook”, Learning & Development IMechE, 2022

**At Wilson Partners, we believe that every new developed software is innovative in its own way, however when preparing your R&D claim it is important to understand the activities that would be viewed as compliant by HMRC through the course of a project. Our technical and financial experts can help you explore your development journey and ensure that your claim captures and documents the qualifying R&D activities from your research, development, and innovation.**

# Section 3: R&D vs Innovation

## A technical and R&D Tax overview

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### What is R&D?

R&D plays a crucial role in advancing various academic and industrial fields. In essence, the definition of R&D is very broad where several activities and functions fall under the umbrella of R&D, this includes:

- **Scientific research**, which includes exploring new concepts, theories, and phenomena in various STEM subjects.
- **Technology development**, including the development of new methodologies to potentially advance the state-of-the-art in hardware and software related topics.
- **Product development**, including the development of new products or appreciably improving existing products through mechanical or electrical design and prototyping.



# What is R&D?

- **Process improvement**, through the investigation and implementation of new techniques to improve commonly used processes efficiency, cost, sustainability, or emissions.
- **Innovation**, through generating and exploring new ideas, concepts, and solutions to address specific challenges or capitalise on opportunities including creative problem-solving techniques.
- **Intellectual property management**, including identifying, protecting, and managing intellectual property assets generated from R&D activities.
- **Collaborations and partnerships with academic institutions**, research bodies or other industry partners.
- **Feasibility studies** to evaluate the technical and economic viability of potential projects or ideas through market research, cost-benefit, and risk analysis.
- **Project management**, including R&D planning, resource allocation, timeline management, and collaboration of multidisciplinary personnel.
- **Data analysis and modelling**, including analysing and interpreting the data collected during the R&D activities using statistical analysis, visualisations, predictive modelling, and simulation.
- **Knowledge sharing and documentation**, this includes sharing findings and publishing results to allow for knowledge preservation and facilitate further collaboration, experimentation, and validation of studies.



# What is R&D?

The definition of R&D for R&D tax credit purposes is set out in the BEIS guidelines and states that R&D occurs when a project seeks to achieve an advance in science or technology. The activities which directly contribute to achieving this advance in science or technology through the resolution of scientific or technological uncertainty are considered R&D. Apart from intellectual property management, feasibility studies, and knowledge sharing and documentation, all the technical aspects of R&D meet this definition. It should be noted that relief for the intellectual property created through the R&D process is covered by the patent box scheme.

Although technically, innovation falls under the umbrella of R&D, this is not the case from an R&D tax credits point of view. The Innovation team at Wilson Partners process a large amount of R&D tax credits claims every year and in our experience many companies mix-up the definition of R&D and innovation for tax purposes. Whilst every innovation represents a form of progress by introducing something new or improved, in many instances, the improvement is either not significant or transformative in terms of the science or technology required to implement it.

Whilst the innovation may represent something novel or new to the claimant business this of itself is not sufficient to be eligible for R&D Tax Credits, the innovation must represent an overall advance in publicly available or readily deducible knowledge/capability in the overall field being advanced. Claims that do not meet this threshold will be disallowed by HMRC and companies may be subject to penalties on enquiry.



# What is Innovation?

**Innovation refers to the process of implementing novel ideas, methods, products, or services which could potentially result in innovative new or improved solutions. The key characteristics of innovation are:**

- **Novelty**, which can be found during any stage of the innovation cycle including a new product, service, process, business model, or way of thinking.
- **Creativity and imagination**, by exploring new possibilities or ways to utilise and implement currently available knowledge.
- **Value and improvement**, by creating value to users through improving processes and services to enhance efficiency, performance, user experience, functionality, and cost effectiveness.
- **Market impact**, in which successful innovation has a positive impact on the market in terms of industry disruption, transforming business models, increasing market share, and driving organisational change.
- **Iterative and continuous**, innovation is an ongoing process that involves continuous improvement. Often, it builds upon previous innovations and evolves over time.
- **Multidisciplinary collaboration**, where collaboration between different ideas, disciplines and perspectives takes place to generate new innovative solutions.
- **Risk and uncertainty**, as innovation involves taking risks and navigating uncertainties.



# What is Innovation?

**Although all these aspects fall under the umbrella of R&D from a technical point of view from an R&D tax standpoint, creativity, added market value, and multidisciplinary collaboration where the research is not scientific or technological does not qualify as R&D per the BEIS guidelines.**

However, in some instances, R&D can be an integral part of the innovation cycle especially, when anticipated or unanticipated technical and scientific challenges occurs during the project that necessitates R&D as the methodologies/knowledge required to resolve these challenges are not in the public domain of the prospective fields of any of the project's parties. This could potentially lead to scientific and technological advancements which can be utilised later for more innovation across a wide range of industries.



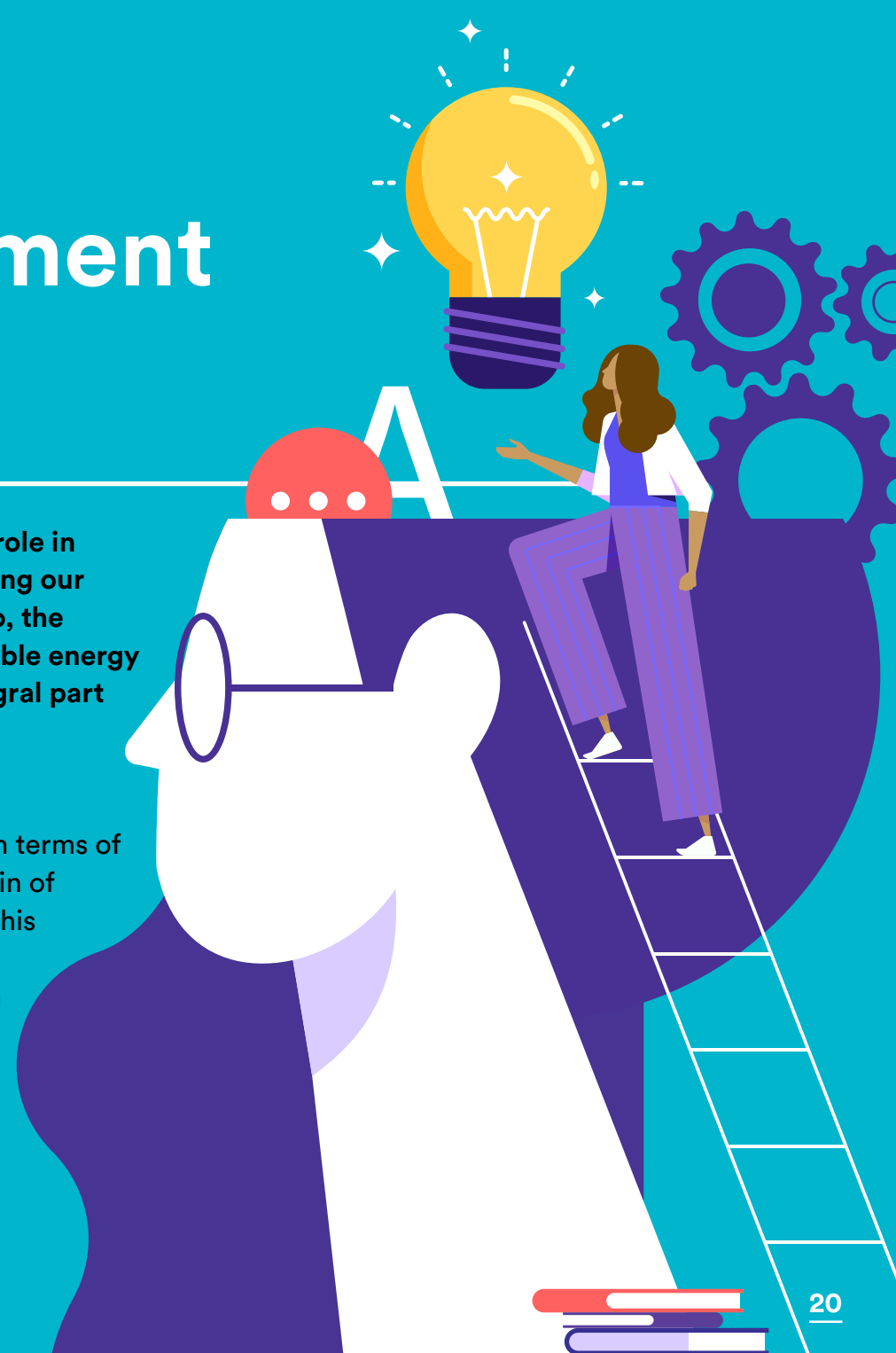
# Section 4: Novelty vs Advancement

## An overview

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Throughout history, advancements and novelties have played a pivotal role in pushing the boundaries of human knowledge and consequently improving our lives. Whether it was during the agricultural revolution 12,000 years ago, the digital revolution which started in the 1980s, or the internet and renewable energy revolution in the 2000s, novelties and advancements have been an integral part of human progress and they continue to shape our world inspiring new generations to innovate and solve the challenges of the future.

Although technically novelties and advancements share a lot in common in terms of their technical definition, from an R&D tax credit perspective a novel idea in of itself may not meet the definition of an advance for R&D tax purposes. In this part of the Learn R&D by Wilson Partners series, we will be looking at the technical definition of novelty and then comparing it against the definition of an advancement as per HMRC's definition.



# What is a novelty?

**Generally, a novelty refers to something that is new, unique, or original. In essence, a novelty is an attribute of an object, idea, concept, product, or experience that sets it apart from what has been seen or experienced before it occurs.**

In the context of research and development (R&D), a novelty is often the goal sought after. Additionally, novelty is a fundamental requirement for obtaining intellectual property, particularly patents. Commercially, achieving novelties can provide businesses with a competitive edge. Businesses who can introduce novel innovative solutions often get to enjoy a first-mover advantage in addition to differentiation from their competitors which, consequently, attracts customers, generates excitement, and drives market adoption.

Novelty is also a key factor in obtaining funds when evaluating research proposals. Funding is often granted to projects that demonstrate high levels of novelty and potential.

Ideally, achieving a novelty using unknown methods or new technologies can significantly enhance the level of novelty and the originality of the research contribution. However, a novelty can still be achieved if it was discovered using known methods. For example, novelties can be represented by incremental improvement of existing methods or technologies. Also, a novelty can be achieved by combining two technologies together to achieve a new outcome or by applying commonly available methods in a new context or application.

As novelties can be subjective and may vary depending on the specific field or industry, it is always important to try and quantify or measure the novelty against a well-known criterion for example, performance metrics, efficiency calculations, cost-reduction, etc.

# What is an advancement?

As per HMRC’s definition, an advance in science and technology means an advance in the overall knowledge or capability in a field of science or technology (not a company’s own state of knowledge or capability alone). This includes the adaptation of knowledge or capability from another field of science or technology where this adaptation was not readily deducible. An advance in science or technology may have tangible consequences like a new product or intangible outcomes like process improvements for example.

From an R&D tax credit standpoint, a novelty achieved using commonly available knowledge or without resolving technical and scientific challenges is not an advancement. In essence, a technical or scientific novelty is an advancement from an R&D tax credits perspective if it was achieved using knowledge not available in the public domain by resolving technical and scientific challenges.





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