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## HMRC internal manual

# Corporate Intangibles Research and Development Manual

From: [HM Revenue & Customs](#)  
([/government/organisations/hm-revenue-customs](#))

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## CIRD274100 - Patent Box : R&D fraction: Overview

How the R&D fraction is used within the calculation

The R&D fraction links the beneficial rate on income from a qualifying IP right to the research and development expenditure incurred by the company. There needs to be an R&D fraction for each sub-stream. The fraction is created by dividing any relevant R&D expenditure directly undertaken by the company plus any relevant R&D expenditure subcontracted to an

unconnected third party, for each sub-stream, by total relevant R&D expenditure for each sub-stream which includes the above plus relevant connected party R&D subcontracting expenditure and acquisition costs relating to the qualifying IP right(s) within the sub-stream from the relevant period. How to track and trace the relevant expenditure in advance of calculating the terms of the fraction is explained at [CIRD272000](https://www.gov.uk/hmrc-internal-manuals/cird272000) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird272000>) - [CIRD272200](https://www.gov.uk/hmrc-internal-manuals/cird272200) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird272200>). There will be more than one qualifying IP right in a sub-stream when streaming at product or product family level, and so this section also needs to be considered in conjunction with the guidance on the choices allowed in streaming relevant IP income at [CIRD271500](https://www.gov.uk/hmrc-internal-manuals/cird271500) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird271500>).

The R&D fraction also applies a 30% increase to qualifying expenditure (the numerator), so in effect up to 30% of R&D expenditure can be outsourced to a connected company, or on acquisition costs, without any reduction in the fraction.

Each R&D fraction is then multiplied by the relevant IP profit for its sub-stream and so modifies the proportion of IP profits subject to the reduced rate. It is applied at step 6 of the calculation, see [CIRD275200](https://www.gov.uk/hmrc-internal-manuals/cird275200) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275200>).

The result is capped at 1, so the uplift has no effect where all costs are in-house or subcontracted to an unconnected party (as there is already no reduction to the relevant IP income.) If there is no R&D or acquisition expenditure and the denominator is 0 the fraction is to be treated as 0 (not infinity) and there will be no relevant IP profit from that sub-stream.

Each R&D fraction is calculated cumulatively and must be reviewed annually to take into account on-going development and acquisition costs for the relevant qualifying IP rights within that sub-stream, and to remove any R&D or acquisition expenditure which relates to expired patents which no longer have relevant income included in that sub-stream or which date back more than 20 years.

There may be different fraction results depending at which level the company chooses to stream. The requirement is to stream at qualifying IP right level if possible. HMRC appreciates that this may not always be possible and that identifying the R&D expenditure relating to the R&D fraction for a sub-stream will be a consideration in making that decision. There is no one correct answer as different types of qualifying IP rights and different trade sectors operate in different ways, which is why a choice has been provided within the legislation. However, should a company choose to change its methodology then it should explain the reason for doing so within the accounts.

Other points to note:

Where qualifying IP rights(s) are transferred, along with a trade, or part of a trade, from one company to another, each component of the R&D fraction up to that point is also considered to have been transferred and it continues in the hands of the transferee company. [CIRD240160](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird240160) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird240160>) provides further information on this.

Under exceptional circumstances the fraction may be increased where there is evidence it doesn't adequately reflect the company's contribution to the R&D (rebuttable presumption) – [CIRD275500](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275500) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275500>) provides further information on this.

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