R&D vs Product & Process Development – Is there a difference?

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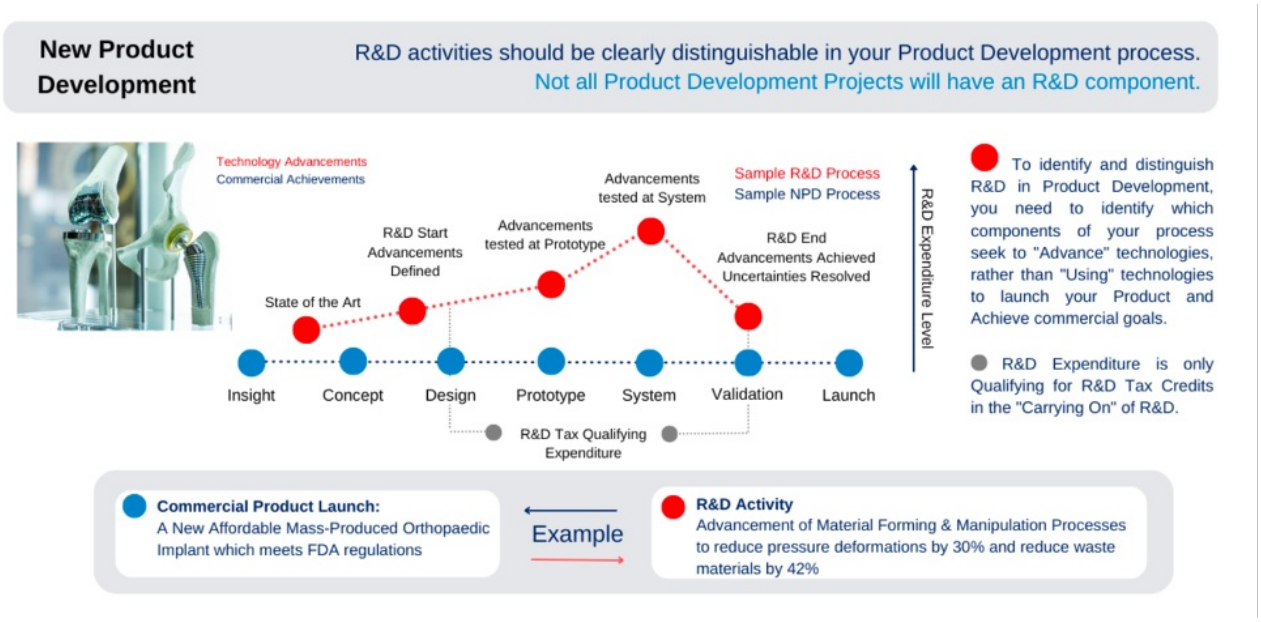
Are you developing and launching Products, improving Processes, or improving your Software Platform?

If so, you may be carrying out R&D. Why is this important? If you are carrying out R&D, you may be missing out on R&D Tax Credits, Grant Funding and Intellectual Property protection.

R&D is not Product or Process Development. It can form part of product or process development. The below diagram seeks to clarify the difference between R&D and non-R&D, in the context of a company's Product Development process. While the focus of Product Development is to launch a product, the focus of R&D is to lift the body of knowledge in a field of science and/or technology.

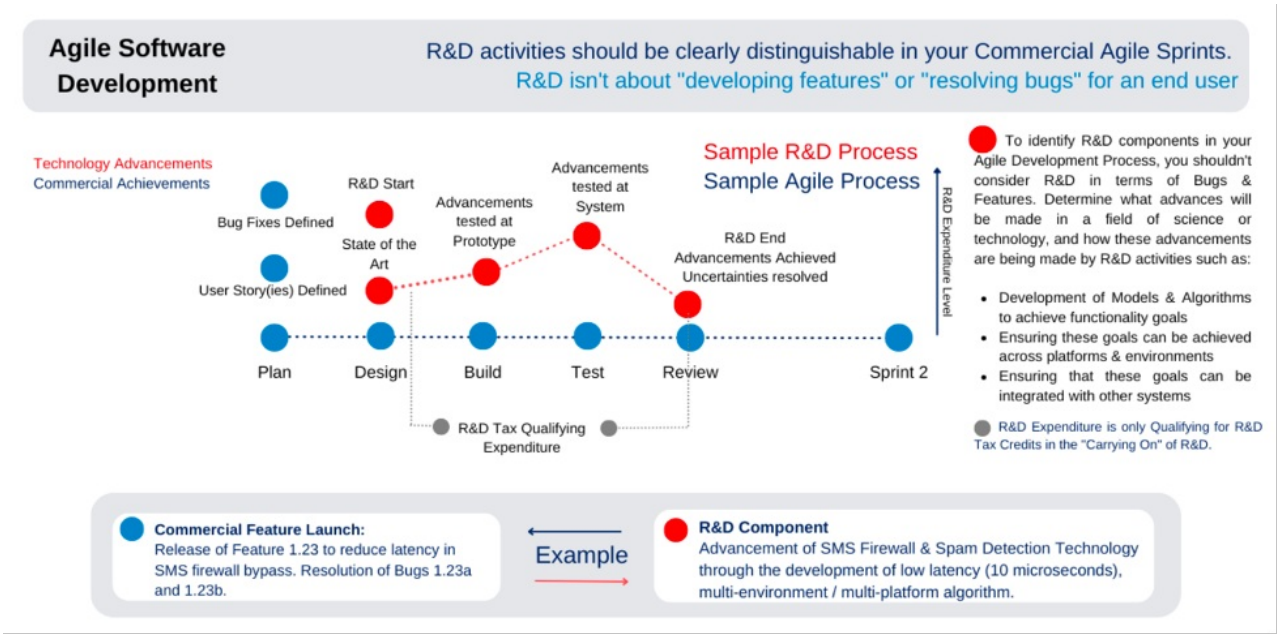


This can get a bit more confusing, when zooming in even closer into the minutiae of launching a product or developing a service or platform. In an agile development process, often developments are organised into sprints.

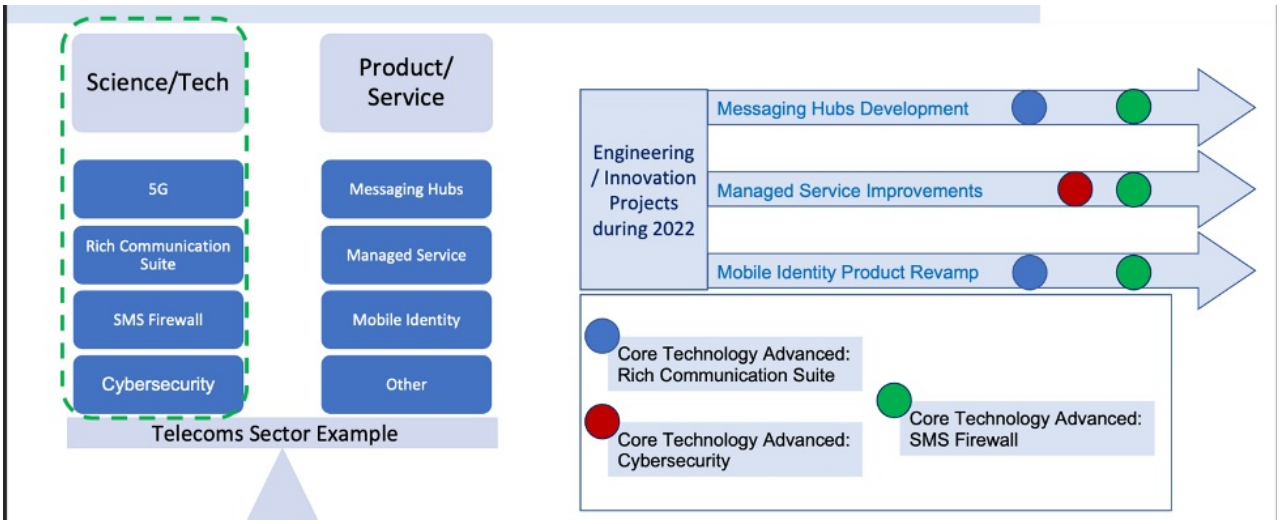
Sprints, for example when developing software, are designed to fix bugs, design and build "user stories", the culmination of which improve or introduce a new product / improve an existing one.

However, to extract the R&D from this activity, one may consider the R&D to be focused on developing a new prototype, testing that prototype in the context of the overall system being developed, and resolving technological uncertainty.

"Systems" R&D is a well-recognised and established concept, often positioning and justifying the need for R&D when developing platforms and complex products.

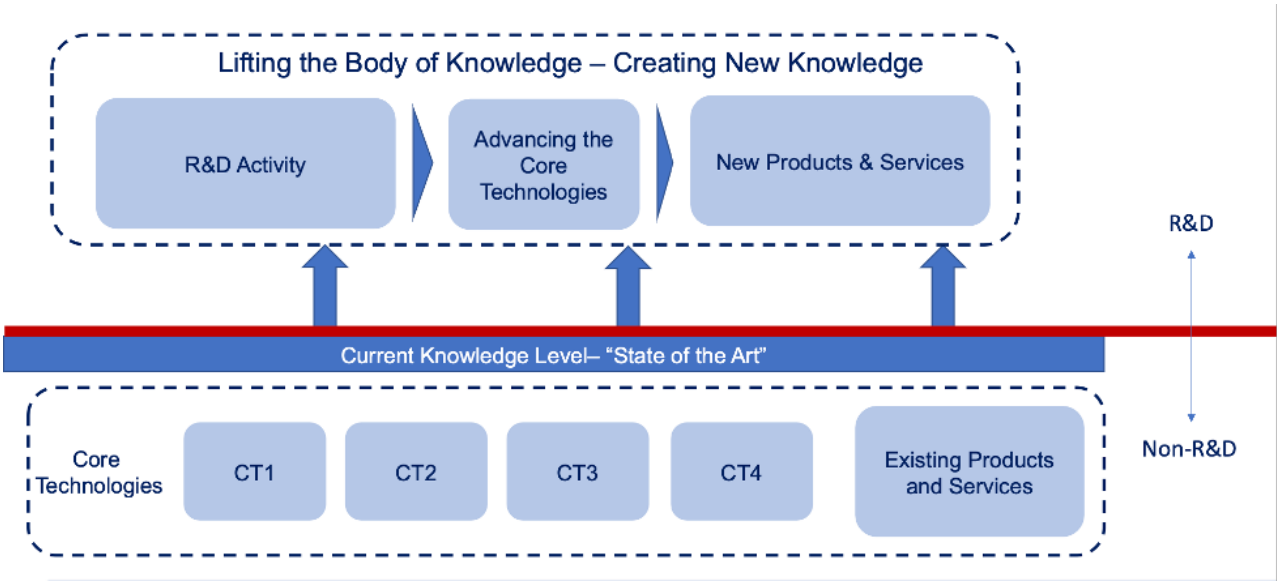


Tying the above concepts in with the Core Technologies framework, one can map out (such as in the diagram below), the R&D projects that may be taking place to advance technologies, ***within*** the product and process projects in a company.



R&D – Lifting the Body of Knowledge

The purpose of R&D is to lift the body of knowledge. This can be done, as explained above, through product/process development, and/or through direct R&D projects to advance technology.



The divide between "using" and "advancing" technologies can be complicated to draw. However, it is well established that to do so, in order to conduct R&D that advances beyond the known body of knowledge in the field of science or technology you are in, to achieve the OECD's Frascati criteria for R&D (Novelty, Creativity, Uncertainty, Systematic, Transferable / Reproducible), one must first carry out a "State of the Art" review.

Why conduct R&D (which is expensive!) when someone else has already resolved the significant technological uncertainties that lie ahead?

The State-of-the-Art review, undertaken by a competent professional in the field of science/technology, should give a company the best opportunity to advance technology.

Keeping abreast of international technology developments, knowing what key players in your space have achieved, and knowing what they have and haven't published publicly, makes for a best-practice approach to innovation and R&D.

Sure, your competitors won't disclose their latest innovations, and they may file patents to protect any copying or infringements on their own developments (such as avoiding reverse engineering), but the test for R&D lies in the public domain.