Conducting a State-of-the-Art Review - A Guide

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In the rapidly evolving world of research and development, conducting a state-of-the-art review is paramount to identify advancements in core technologies and methodologies. The ReaDI-Watch State-of-the-Art Funnel provides a systematic approach to this intricate process.

A Paradigm Shift in New Knowledge Creation

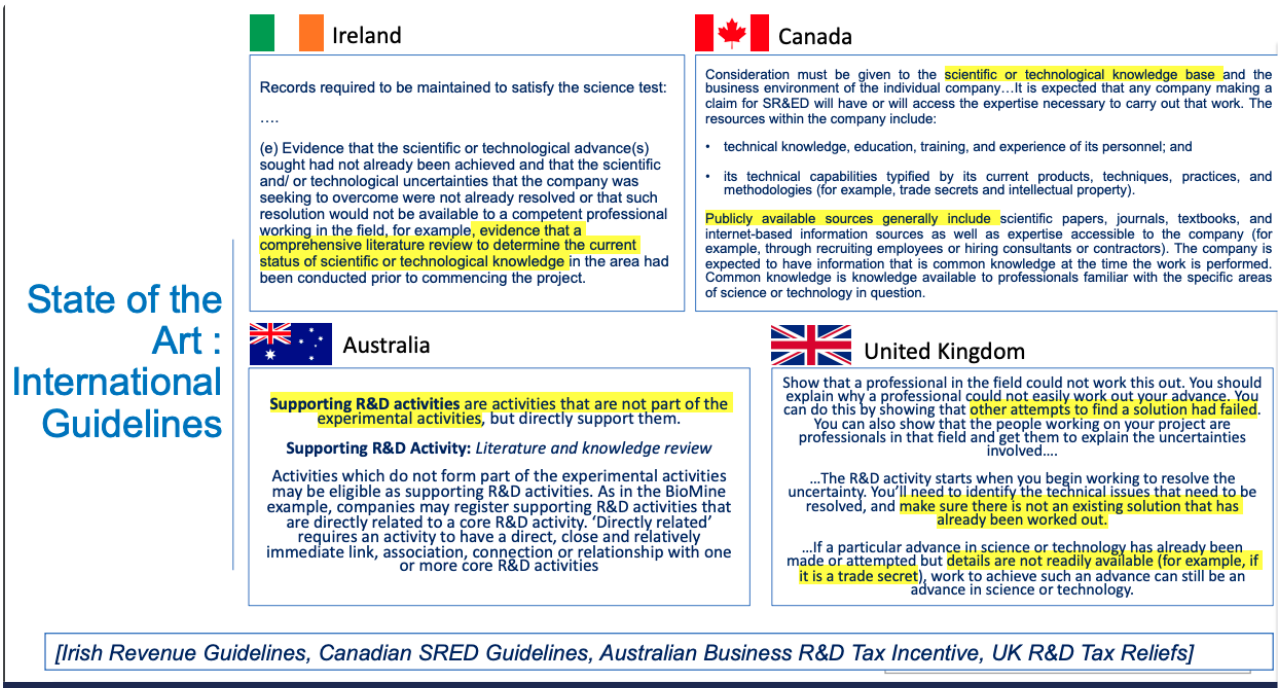
The world of “Knowledge”, and “Knowledge Creation” is in complete transformation. AI is completely disruptive. New issues and challenges are emerging around ownership of “Knowledge and IP” and “New Knowledge” created through R&D - this makes it more challenging for companies to claim that their R&D work is owned by them!

Dealing with “Tacit Knowledge”

In companies, all too often, knowledge is "Tacit" - stored in the minds of strong team members. Part of ReaDI-Watch's mission is to bring this tacit knowledge out to the team, for many reasons - not least to support that the R&D work the business is undertaking is qualifying!

A State of the Art Review is required for R&D Tax Credits!

By way of example, see below the requirements across different countries, to ensure that a State of the Art Review is needed to conduct qualifying R&D.

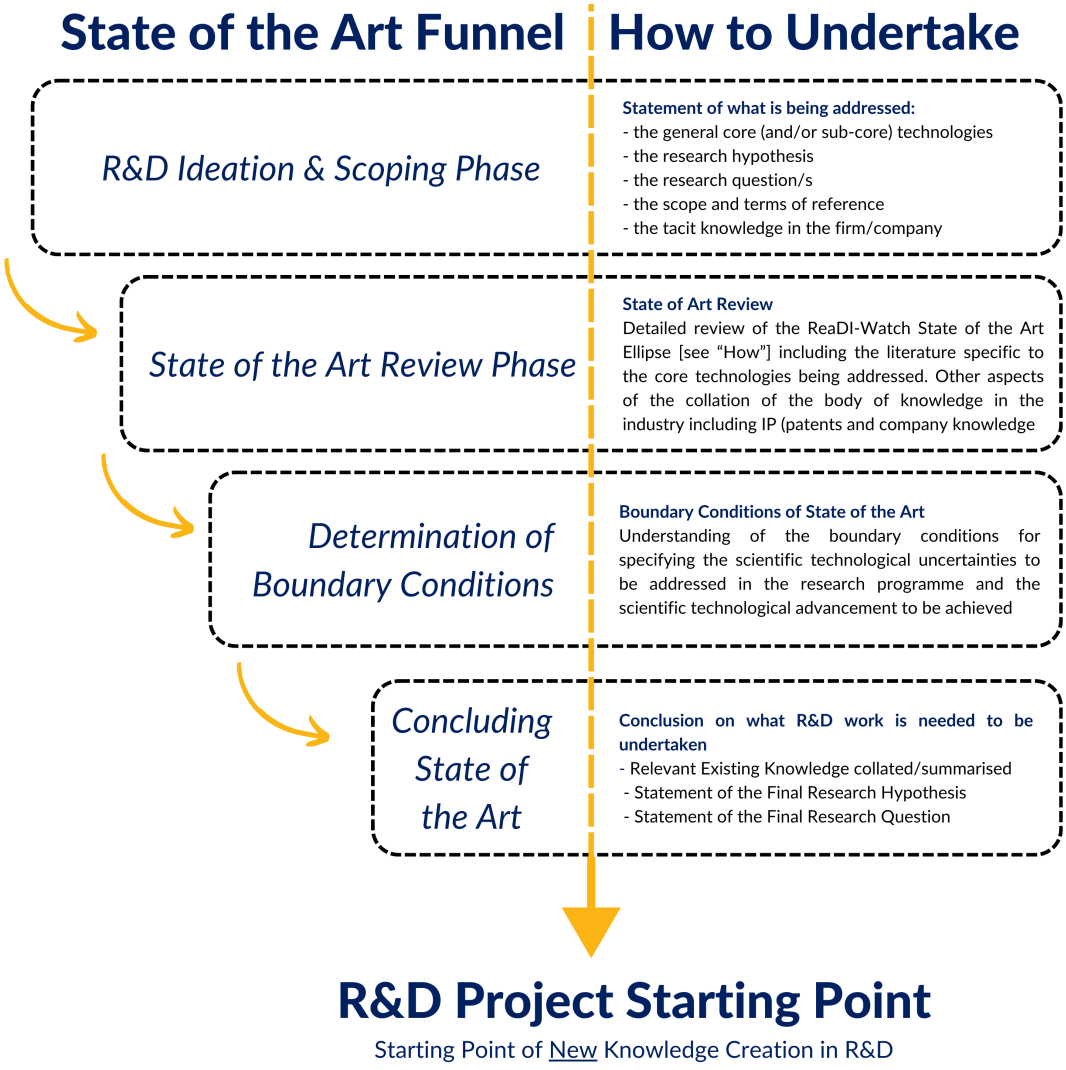


Different countries' guidance on R&D Tax Credits - demonstrating that a state of the art review is necessary for qualifying R&D

State of the Art Funnel Approach

State of the Art refers to the frontier of publicly available knowledge in science and technology.T o determine if a project meets the requirements for qualifying R&D, you must determine if the project advances beyond the known State of The Art in the particular field of research of the project.

As seen in the image below, ReaDI-Watch approach the State of the Art in a "Funnel" approach. Using the funnel approach, the State of the Art is broken out into several phases, each getting closer and tighter in scope to addressing what R&D work needs to be undertaken in order to create new knowledge in the field of science of technology.



ReaDI-Watch's "State of the Art Funnel" Approach

On ReaDI-Watch platform, you can use the State of the Art toolkit to follow the above process. For more detailed guidance and examples (ReaDI-Watch customers only), see here.

Converting a Customer Challenge into a Research Hypothesis

It can be very challenging, when faced with a customer challenge, to understand the challenge as a "Research hypothesis". Engineers are solution focused, and solve problems when working in industry! However, instead of thinking about the customer challenge and solution specifically, in order to conduct a robust state of the art review, consider the "Research hypothesis" as a core technology hypothesis, rather than a focused customer solution:

Classifying & Managing R&D in Companies using the Core Technologies Framework

See an example here: Grant Engineering - Innovation and Excellence in Heating Solutions