

Logistics

Business Scenario

Link Logistics (Link) is a world renowned vehicle-telematics designer and supplier. Link is constantly conducting research and development work to continue providing its clients with innovative solutions.

There are many legislated operational items that transport operators must comply with, including on-board mass limits, driver-fatigue restrictions and speed requirements. The parameters of these items are strictly defined and differ from state to state or zone to zone; therefore, up-to-date on-road compliance must be monitored accurately.

Link's goal was to deliver a complete compliance solution. Link launched an R&D project with the following hypothesis:

"A multi-function, in-vehicle computing platform can be designed and developed to improve the processes that ensure transport operators comply with, and operate within, legislative requirements."

Link needed to determine the eligibility of its proposed R&D activities in order to know if it qualified for the R&D Tax Incentive. Once Link identified the specific activities that qualified as R&D, it needed to assess whether each activity was a core or supporting R&D activity. After self-assessing, Link decided to register two core activities and two supporting activities.

Link's Core R&D Activities:

Design and development of a series of prototypes to achieve the technical objectives (design of the in-vehicle compliance platform).

Trials and Analysis of data to achieve results that can be reproduced to a satisfactory standard, and to test the hypothesis (testing of the in-vehicle compliance platform).

The hypothesis developed for this core activity stated,

"It is feasible to design the business logic underlying an in-vehicle platform to improve compliance processes for various transport operators."

Because the technology industry is constantly evolving, it was critical for Link to remain knowledgeable in this field through ongoing research.

Link engaged in numerous experiments, mainly consisting of coding, and continued to test the platform designs created in its next R&D phase.

The hypothesis for this core activity was that the theoretical conclusions from the design phase could be realised through comprehensive analysis and valid testing.

After much experimentation, Link concluded that the results were overall positive and did indeed prove the hypothesis. Link confirmed that it would use the new knowledge generated for further research and development work, which could lead to iterations of the design.



Commentary

Identifying Core R&D Activities

There are two types of core R&D activities:

1. Experimental activities whose outcome can not be determined in advance on the basis of current knowledge, information or experience, but can only be known by exercising a systematic progression of work that follows the principles of established science, proceeding from hypothesis to experiment, observation and evaluation, and lead to logical conclusions.
2. Experimental activities that are conducted for the purpose of creating new knowledge.

Hypothesis Defined

AusIndustry recognises a hypothesis as a statement or proposition about what result is expected if certain conditions are put in place and certain actions are carried out in an experiment. It can range from an assumption or proposition to a theory, but it must establish the experimental activity and form part of a broader systematic progression of work undertaken by the company. It must be evident that the claimed experiment has been designed to test the hypothesis.

If the outcome of an activity can be obtained without a hypothesis, then the activity will not be considered R&D.

Link's Supporting R&D Activities

Background research to evaluate current knowledge gaps and determine feasibility (background research for the in-vehicle compliance platform).

Link conducted the following experiments during its research phase:

- Literature search and review, including maintaining awareness of changing legislation in the different states and zones
- Consultation with industry professionals and potential customers to determine the level of interest and commercial feasibility of such a project
- Preliminary equipment and resources review with respect to capacity, performance and suitability for the project
- Consultation with key experts to determine the factors they considered important in the design, and to gain an understanding of how the design needed to be structured accordingly

These specific research activities were directly related to and supportive of Link's core R&D activities because they assisted in determining the fundamental elements of the research project.

Ongoing analysis of customer or user feedback to improve the prototype design (feedback R&D of the in-vehicle compliance platform).

Link's supporting R&D activities included:

- Ongoing analysis and testing to improve the efficiency and safety of the project.
- Ongoing development and modification to interpret the experimental results and draw conclusions that served as starting points for the development of new hypotheses.
- Commercial analysis and functionality review.

These activities were directly related to the core activities because the feedback was imperative to evaluate the performance capabilities of the new design in the field and to improve any flaws in the design.

Commentary

Identifying Supporting R&D Activities

Activities that do not form part of the core experimental activities may still be eligible as supporting R&D activities. Supporting R&D activities are directly related to an eligible core R&D activity. They must have been performed for the primary purpose of supporting a qualified R&D activity.

What records and specific documentation did Link keep?

To meet the R&D Tax Incentive requirements, Link had to save documents that outlined what it did in its core R&D activities, including experimental activities and documents to prove that the work took place in a systematic manner. Link saved the following documentation:

- Project records/ lab notes
- Conceptual sketches
- Design drawings
- Literature review
- Background research
- Design documents for system architecture and source code
- Testing protocols
- Results of records of analysis from testing/trial runs
- Records of resource allocation/usage logs
- Staff time sheets
- Tax invoices

By having these records on file, Link confirmed that it was 'compliance ready' – meaning if it was selected for an audit by the ATO, it could present documentation to show the progression of its R&D work.