SR Swanson Reed
Specialist R&D Tax Advisors

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 they qualified for the Research and Experimentation Tax Credit. Link had to be certain that its "qualified research" met four main criteria, known and developed by Congress as the "Four-Part Test." After self-assessing, Link decided to register four R&D activities.

Link's Eligible R&D Activities:

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

The hypothesis developed for this 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 industry of information technology rapidly develops, it was critical for Link to remain knowledgeable in this field through ongoing research.

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

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 for this activity was that the theoretical conclusions from the design phase could be realized 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.

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 assisted in determining the fundamental elements of the research project, therefore qualifying as R&D work.

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

Link's eligible R&D work for this phase of the project 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 imperative to evaluate the performance capabilities of the new design in the field and to improve any flaws in the design.

Commentary

Qualified Research Defined

Qualified research consists of research for the intent of developing new or improved business components. A business component is defined as any product, process, technique, invention, formula, or computer software that the taxpayer intends to hold for sale, lease, license, or actual use in the taxpayer's trade or business.

The Four-Part Test

Activities that are eligible for the R&D Credit are described in the "Four-Part Test" which must be met for the activity to qualify as R&D.

1. Permitted Purpose: The purpose of the activity or project must be to create new (or improve existing) functionality, performance, reliability, or quality of a business component.
2. Elimination of Uncertainty: The taxpayer must intend to discover information that would eliminate uncertainty concerning the development or improvement of the business component. Uncertainty exists if the information available to the taxpayer does not establish the capability of development or improvement, method of development or improvement, or the appropriateness of the business component's design.
3. Process of Experimentation: The taxpayer must undergo a systematic process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, or the appropriate design of that result, is uncertain at the beginning of the taxpayer's research activities.
4. Technological in Nature: The process of experimentation used to discover information must fundamentally rely on principles of hard science such as physical or biological sciences, chemistry, engineering, or computer science.

What records and specific documentation did Link keep?

Similar to any tax credit or deduction, Link had to save business records that outlined what it did in its 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 audited by the IRS, it could present documentation to show the progression of its R&D work, ultimately proving its R&D eligibility.