



EXECUTIVE SUMMARY

The Science and Industry Endowment Fund (SIEF) Experimental Development Program (EDP) is designed to address a significant gap in current funding options available for publicly funded research agencies (PRFAs) in the Industry portfolio for progressing technology development to a stage suitable for attracting commercial investment and market uptake.

The EDP specifically targets support for projects aiming to bridge the technology readiness level (TRL) ‘valley of death’ (TRL levels 3-7) on the path to commercialisation, particularly where funding is required to move a technology to pilot scale to assist in gaining commercial traction. If technical and commercialisation risks can be addressed at this stage, then it is more likely that the investment required for full commercialisation of the technology can be secured.

The objectives of the EDP program are to support research that:

1. is at the experimental development end of the research continuum;
2. translates research for commercial impact;
3. moves discoveries along the pathway to commercialisation;
4. accelerates commercialisation and entrepreneurial activities; and
5. ‘de-risks’ for future commercial investors.

This evaluation focuses on assessing the performance of the EDP against these objectives. The results of this evaluation will support SIEF’s commitment to the continuous improvement of the program, ultimately enhancing progression of technology innovations to a stage suitable for attracting commercial investment and market uptake.

The findings presented in this report are based on data drawn from documentation provided by SIEF (project applications, and progress/final reports; meeting minutes; financial information, etc.) for the 12 EDP projects funded and completed to date; and from 11 semi-structured interviews with SIEF EDP project leads and reviewers, and SIEF/CSIRO associates.

Key findings

Level of support (Objective 1)

- The assessment of this objective relates primarily to the role of the EDP in supporting research that is at the experimental development end of the research continuum, including through encouraging project partnerships and contributions.
- Interviewees identified that the EDP fills an important funding gap in the Australian innovation system in relation to experimental development research. They particularly felt that the program’s use of an independent, industry-focused panel to assess project proposals from the perspective of technology readiness level and commercial potential for the focal technology – and the general efficacy of program processes (including the reporting and review processes, and the support offered by the SIEF Secretariat) – provide excellent support for experimental development research projects looking to bridge the TRL-related ‘valley of death’ on the path to commercialisation for technological innovations.
- However, interviewees also identified ways in which they believe this level of support could be enhanced, including supporting greater engagement of external parties during the project application phase; providing feedback on project outcomes to application reviewers; and other, broader process improvements (e.g., the adoption of more flexible approaches to the use of project funds and the selection of the independent review panel).



- While there is evidence that the EDP supports experimental development research through its encouragement of appropriate project partnerships and associated financial contributions, the existing data is insufficient to establish the efficacy and sufficiency of these partnerships and contributions in supporting optimal project (and, therefore, ultimately program) outcomes.

Commercialisation journey (Objectives 2, 3, 4)

- The KPIs relevant for Objectives 2, 3, and 4 demonstrate various ways in which participating in the EDP program has advanced the commercialisation journey of funded project technologies, including in terms of TRL advancement, and securing ongoing funding (e.g., through licences, direct transfer to markets, etc.). However, as no success thresholds were identified for each KPI, it is not possible to establish whether or not the KPI results actually represent objectively successful outcomes for the program.
- However, evidence of the counterfactual (i.e., the ‘without program’ scenario) based on interview data suggests that the EDP does play an important role in supporting experimental development research, which often struggles to gain funding owing to the risk associated with its TRL, affecting its ability to scale to the point where effective commercialisation is possible.
- Both the final project reports and interview data also suggest that the EDP provides broader, longer-term benefits for the commercialisation journeys of program participants, particularly through the various ways in which it supports participants to develop an improved appreciation of innovation and entrepreneurship, thereby providing an important source of value for the Australian innovation system beyond the specific outcomes of the funded projects.

De-risking for future commercial investors (Objective 5)

- Program KPIs also indicate that participating in the EDP does de-risk project technologies to support future commercial investment, including through TRL advancement and the encouraging of participation of industry partners in funded projects.
- However, again, as success thresholds associated with each KPI have not been identified, it is not possible to establish whether or not the results for each KPI related to this objective actually represent objectively successful outcomes for the program.

While the data analysed in this evaluation relating to the EDP’s existing KPI structure provides some indication that the program is achieving its objectives, it is not possible to definitively establish that this is the case, particularly in the absence of objectively determined success thresholds for each KPI. A more detailed consideration of the high-level impact pathway for the program (as included in this evaluation), especially in terms of the identified intended outcomes, and a KPI framework that is more overtly linked to the program’s critical path to impact (combined with an appropriately documented and implemented Monitoring and Evaluation plan), may assist the program in the future to definitively identify the extent to which it is achieving its stated objectives.