

# The Defence Trailblazer: Institutional Reform, Intellectual Property And Commercialisation Review

A Consolidated Perspective



A COLLABORATIVE PARTNERSHIP BETWEEN



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# Executive Summary

The Defence Trailblazer (DTB): Institutional Reform, Intellectual Property (IP) and Commercialisation Review (the research program) is a joint initiative between the University of Adelaide (UoA) and the University of New South Wales (UNSW). As part of the Commonwealth Department of Education's Trailblazer Universities Program, the project seeks to accelerate innovation in the defence sector through university-industry collaboration, with a focus on commercialisation and cultural transformation.

This report examines DTB by comparing two critical perspectives: the views of internal program staff who design and implement DTB activities, and external stakeholders including academics and industry partners who participate in DTB initiatives (i.e., 'the program') according to a program logic framework. By systematically comparing these viewpoints, this analysis identifies areas of alignment and divergence, providing insights into program strengths and opportunities for enhancement.

The research draws on interviews with 12 DTB staff members and 22 external stakeholders (12 academics and 10 industry partners (including 5 start-ups, 3 non-major prime defence companies, and 2 major primes), supplemented by analysis of program documents and workshop data, providing a comprehensive view of the program's implementation and impact across its two primary domains: intellectual property management and commercialisation, and cultural transformation within universities.

## Consolidated Key Findings from the Program Logic Analysis:

### Strong Foundation in Commercialisation

**Activities:** DTB demonstrates notable success in supporting technology development, improving collaboration processes, and creating commercial pathways for defence innovations. Both internal staff and external participants recognise substantial progress in areas such as intellectual property management, funding support, and structured innovation programs. However, progress in cultural transformation; changing how universities reward and recognise industry engagement seems to be emerging more gradually and requires sustained attention.

### Structural Complexity and Administrative

**Considerations:** The dual-university model creates administrative complexity that affects collaboration efficiency. Both internal staff and external participants report that the structure introduces operational challenges affecting financial processes, contract negotiations, and stakeholder engagement.

### Different Timeframes and Incentive Structures:

Academic and industry timeframes often diverge, particularly for SMEs operating on commercial schedules. Academic incentive structures, which prioritise publications and grants, continue to present challenges for meaningful industry engagement despite program initiatives.

### Communication and Visibility Opportunities:

Limited marketing and communications capacity affects program visibility, stakeholder engagement, and recognition of achievements. External stakeholders report that short notice for events and opportunities often prevents meaningful participation, while internal staff acknowledge these constraints as a significant limitation.

**Varied Outcomes and Emerging Impacts:** The program has strengthened relationships across sectors, supported early-stage innovation, and facilitated new collaborations. However, broader systemic change, particularly cultural reform and sustainable collaboration, remains in its early stages and is uneven in its distribution.

**Different Perceptions of Progress:** While internal staff can identify specific indicators of cultural and attitudinal change, external stakeholders report limited evidence of fundamental shifts in behaviour or institutional practices, suggesting a perception gap regarding the program's influence on deeper cultural transformation.

**Sustainability Planning Considerations:** Both internal and external stakeholders express uncertainty about who will maintain the university-industry facilitation role once program funding concludes, raising questions about the long-term sustainability of program initiatives and relationships.



### What This Means for Practice

#### **Building on Demonstrated Strengths:**

The program's established success in commercialisation support and process improvement provides a strong foundation for continued development. Addressing communication coordination and planning timelines could further enhance participation and engagement across all activities.

**Strategic Development Opportunities:** The current emphasis on commercialisation activities, while demonstrating clear value, could be complemented by enhanced systematic attention to cultural transformation initiatives. This balanced approach may strengthen the program's long-term impact potential.

**Broader Application Potential:** DTB's experience offers valuable insights for other university-industry collaboration initiatives. The program's structured innovation pathways and specialised support mechanisms represent promising practices, while its implementation experiences highlight important considerations for institutional change initiatives.

### Looking Forward

DTB has established significant foundations for enhanced university-industry collaboration in defence technology commercialisation. Its success in creating structured innovation pathways, developing practical collaboration tools, and facilitating technology advancement demonstrates the value of targeted program intervention in this domain.

Achieving the program's broader transformative objectives requires sustainable collaboration patterns that persist beyond program funding. This represents an opportunity to build on current strengths while enhancing systematic approaches to institutional development. The program's demonstrated capabilities in pragmatic process improvement, combined with continued attention to deeper institutional change, position it to maximise its contribution to Australia's defence innovation ecosystem.

This comparative analysis provides insights for program development, highlighting both the achievements to build upon and the areas that merit ongoing attention as DTB continues its mission to enhance university-industry collaboration in defence technology development.

# 1. Background

In 2022, the Australian Government committed \$370.3 million to the Trailblazer Universities Program. Designed to build new research capabilities, drive commercialisation outcomes, provide new industry engagement opportunities, and to support Australia's strategic priority areas, the four-year program is an Australian Government investment toward Australia's Innovation Agenda.<sup>1</sup> The Department of Education awarded six Trailblazer programs, with each lead University receiving \$50 million, to be matched by university and industry contributions.

In July 2023, the Defence Trailblazer Program (DTB) contract was awarded to the University of Adelaide (UoA) and the University of New South Wales (UNSW). In July 2023, the Australian Government announced that the "Trailblazer project will create a defence industry of the future", stating that it would "develop 100 new products", creating over 1,000 new employment opportunities and an additional 1,400 jobs throughout the wider defence industry.<sup>2</sup>

DTB is now an established consortium with over 180 partners. It aims to enhance Australia's sovereign capability through the acceleration of Australia's innovation agenda at speed and at scale.<sup>3</sup>

DTB activities are divided into two streams of work:

Stream 1 - Workforce Innovation and Culture

Stream 2 - Technology Development and Acceleration, of which research activities are aligned within the following themes:

- Quantum Materials, Technologies & Computing
- Defensive Hypersonics and Countermeasures
- Information Warfare & Advanced Cyber Technologies
- Robotics, Autonomous Systems and AI; and
- Defence Space Technologies.<sup>4</sup>

DTB also leads a range of cross-portfolio activities in Workforce Innovation and Culture aimed at supporting commercialisation activities.

## **DEFENCE TRAILBLAZER** Accelerating Australia's innovation agenda at speed and at scale



**Boost world leading defence capability**



**Open, collaborative IP agreements** that are attractive for industry partners



**Incentives and rewards for research staff** who translate and commercialise research



**Co-funding from industry partners** and proactive engagement with businesses



**Educational qualifications and pathways**

- Industry engagement
- Job-ready skills
- VET quals and pathways

**Figure 1: Accelerating Australia's innovation agenda at speed and at scale through DTB<sup>5</sup>**

DTB operates as part of the broader Defence Information Systems and Technology (IS&T) Ecosystem.<sup>6</sup> Among defence IS&T Enterprises are Defence Science and Technology Group, the Advanced Strategic Capabilities Accelerator, and Group and Service IS&T elements.

There are also state-based university/ industry/ government defence collaborations within the Australian Defence Science and Universities Network (ADSUN), including the Defence Science Institute (Victoria and Tasmania), Defence Innovation Partnership (South Australia), Defence Innovation Network (New South Wales and the Australian Capital Territory), Defence Science Centre (Western Australia) and the Queensland Defence Science Alliance (Queensland and Northern Territory).<sup>7</sup>

Each of these has individual funding lines and seeks to develop technologies that will address ADF challenges.

## 1.1. About the Research Program

The Defence Trailblazer: Institutional Reform, Intellectual Property and Commercialisation Review (the Research Program) aims to determine the effectiveness of the programs and initiatives undertaken within DTB. For activities that are determined to be effective, high-level commentary on their scalability to enterprise level and a recommended approach to implement across both UoA and UNSW is also sought.<sup>78</sup> It is anticipated the Research Program will help determine the effectiveness of the approaches, programs and initiatives undertaken by DTB as it aims to achieve program objectives (i.e., culture transformation and IP Innovations). Findings from the Research Program will be delivered to the People and Culture Action Group (PCAG) for their consideration.

UNSW Canberra School of Business and University of Adelaide Business School will examine two primary areas of research:

- 1. Institutional reform and culture change (HR, policy, and processes) – UNSW:** The research team will examine DTB initiatives to determine if they have created an environment where defence technology commercialisation can flourish, if this environment fosters collaboration between researchers and industry, and whether it incentivises successful and ongoing industry engagement.
- 2. Intellectual Property and Commercialisation – University of Adelaide:** The research team will examine DTB initiatives to determine whether they have created an environment that improves the management and access to IP, IP sovereignty, and defence technology translation to viable commercial enterprises in the Australian manufacturing ecosystem.

## 1.2. About this Report

### 1.2.1. Purpose

This report presents a synthesis of internal and external perspectives on the DTB program logic. It compares and integrates findings from comprehensive interviews and analysis conducted with both DTB program staff and external stakeholders, including academics and industry partners who participate in the program.

By systematically comparing these different viewpoints, this synthesis identifies areas of convergence and divergence in how the program is understood, experienced, and assessed by those who implement it and those who participate in it. This comparative analysis provides insights into program strengths, implementation challenges, and opportunities for enhancement across DTB's key domains of intellectual property management, commercialisation, and cultural transformation. While comprehensive, this report is not a definitive assessment of DTB and, as such, does not include specific recommendations for improvement. This will be the focus of subsequent stages of the Research Program.

### 1.2.2. Scope

This report focuses on synthesising findings from comprehensive data collection with both internal DTB staff and external stakeholders including academics and industry partners. The analysis examines how different stakeholder groups experience and perceives program implementation, effectiveness, and impact.

The synthesis is structured around the key elements of program logic: context and challenges, resources allocated, activities and processes, outputs and deliverables, outcomes (short and medium term), and impacts (long term). Within each element, the analysis explores patterns of alignment and difference between internal and external perspectives, with particular attention to how these patterns manifest across the program's two primary domains: culture reform and IP/commercialisation.

The analysis draws on interviews, program documents, and workshop data collected between December 2024 and May 2025, providing a comprehensive assessment of the program's operation from multiple stakeholder viewpoints.



### 1.2.3. Research Questions

This research addresses the following questions:

- Where do internal program staff and external stakeholder perspectives align or diverge regarding the university-industry collaboration problems that the DTB program intends to solve?
- How do program implementers' and participants' perceptions compare regarding the resources allocated to different program components?
- What similarities and differences exist between internal and external assessments of program activities and their effectiveness?
- How do internal and external stakeholders' views align or differ regarding program outputs, outcomes, and potential long-term impacts?
- What patterns of convergence and divergence emerge across the program logic elements, and what do these patterns suggest about the program's implementation and effectiveness?
- How do these patterns of alignment and difference manifest across the program's two primary domains: IP/commercialisation and culture reform?

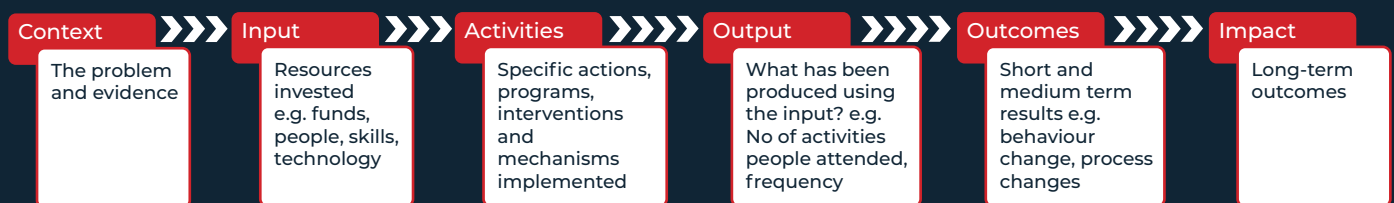


Figure 2: Elements of a program logic

### 1.2.4. Program Logic

A program logic, also known as a logic model, is a systematic and visual representation of the relationships between the context related problems, activities, resources, and outcomes of a program. It illustrates how a program is intended to solve context related problems by linking inputs (resources), processes (activities), outputs, and outcomes (short-term, intermediate, and long-term results). It provides a roadmap of the program's theory and assumptions, showing

the sequence of actions that lead to the desired changes (Savaya & Waysman, 2005; Hawkins, 2020).

This report draws on a program logic to:

- Provide a clear and concise way to describe the DTB program; and
- Facilitate the evaluation of DTB elements.

## 2. Methodology

### 2.1. Overview

This report employs a qualitative approach to systematically examine program implementation and effectiveness from multiple perspectives. The research design captures comprehensive insights from both program implementers and participants, ensuring a robust understanding of university-industry collaboration through comparative analysis of different stakeholder viewpoints.

The methodology is structured around collecting and analysing perspectives from two key stakeholder groups: internal DTB program staff who design and implement activities, and external stakeholders including academics and industry partners who participate in the program. This comprehensive approach enables identification of convergence and divergence patterns in how the program is understood, experienced, and assessed across different stakeholder positions.

### 2.2. Data Collection

The findings presented in this report draw from comprehensive data collection processes with internal and external stakeholders conducted between December 2024 and May 2025.

**Internal Stakeholder Data:** The research included 12 in-depth interviews with DTB staff members across various program roles and levels, each lasting up to 90 minutes. These interviews explored staff perspectives on program design, implementation challenges, and observed outcomes. Additional internal data included findings from a workshop held specifically with DTB staff in October 2024, and analysis of 17 DTB documents including meeting minutes, presentation materials, and other program documentation.

**External Stakeholder Data:** The research involved semi-structured interviews with 22 external participants: 12 academics and 10 industry representatives (including 5 start-ups, 3 non-major prime defence companies, and 2 major primes engaged with the DTB program, each lasting up to 90 minutes. These interviews explored participants' experiences, challenges, and insights related to university-industry partnerships across various program dimensions. Academic interviews spanned both partner universities and included researchers at

different career stages who had engaged with DTB through various mechanisms. Industry participants represented a range of organisations from small and medium enterprises to large defence contractors, providing diverse perspectives on program engagement and effectiveness.

This comprehensive data collection approach ensured the evaluation captured both implementation perspectives and participant experiences.

### 2.3. Analysis Framework

The evaluation employs thematic analysis to identify patterns and insights across the dataset. This analytical process is both systematic and adaptive, allowing for the identification of anticipated themes while remaining open to emergent insights from the data.

The analysis framework is structured around three complementary dimensions:

- **Hierarchical levels:** Analysis examines influences operating at macro (policy/regulatory), organisational (institutional structures), inter-organisational (partnership dynamics), team (project implementation), and individual (researcher/industry participant) levels, reflecting the multi-layered nature of university-industry collaboration.
- **Program logic elements:** Findings are mapped to key components of the program logic, including resources (inputs), activities (processes), outputs, and outcomes (short, medium, and long-term), enabling assessment of the program's operational theory.
- **Evaluative dimensions:** Data is coded to identify barriers, opportunities, enablers, and lessons learned, providing practical insights for program improvement.

The coding process evolved throughout data collection and analysis. Emergent themes that did not fit neatly into the existing framework were discussed in regular team meetings. Research memos captured conceptual developments as they emerged, and the coding framework underwent iterative refinement based on data patterns. This balanced approach ensures the findings remain grounded in established

theoretical constructs while remaining open to novel insights from the data.

To ensure data quality, the analysis incorporates a collaborative team-based coding approach where team members rotated responsibility for different data sources. This rotation ensures multiple perspectives inform the analysis while also preventing coder fatigue. Each researcher assumed primary responsibility for specific interviews and documents, bringing their analysis to weekly calibration meetings where challenging coding decisions were discussed collectively. This approach promotes both individual accountability and team consistency, supported by systematic documentation of all coding decisions and their rationales.

## 2.4. Comparative Synthesis Approach

This report presents a comparative synthesis that systematically examines similarities and differences between internal program staff perspectives and external stakeholder viewpoints. The synthesis process involved several steps designed to identify meaningful patterns across stakeholder groups.

**Comparative Mapping:** The analysis involved mapping themes, findings, and evidence related to each program logic element from both internal and external perspectives. These were organised into a framework highlighting areas of convergence (where perspectives aligned) and divergence (where perspectives differed) for each program element.

**Pattern Interpretation:** The analysis examined not only whether perspectives aligned or differed, but also why these patterns might exist and what they suggest about program implementation and effectiveness. This deeper interpretation

considered the different roles, experiences, and contexts that might influence how various stakeholders perceive and assess the program.

**Domain Analysis:** The synthesis examined how convergence and divergence patterns manifested differently across the program's two primary domains (culture reform and IP/commercialisation) to understand whether certain aspects of the program demonstrated greater alignment between implementers and participants than others.

**Integrated Assessment:** The findings were integrated into a comprehensive assessment of the program from multiple stakeholder perspectives, highlighting both shared understandings and perception gaps that might influence the program's ongoing implementation and ultimate impact.

The synthesis process was guided by three primary comparative dimensions:

**Internal-External Comparison:** Examining how program staff perspectives align with or differ from those of external stakeholders.

**IP/Commercialisation-Culture Reform Comparison:** Exploring how perspectives vary across the program's two primary domains.

**Program Logic Element Progression:** Tracing how perspectives align or diverge across the progression from inputs through activities, outputs, outcomes, and impacts.

This multi-dimensional comparative approach provides a comprehensive understanding of how different stakeholders perceive and experience the DTB program, revealing important insights about implementation effectiveness and potential areas for program enhancement.



### 3. Results

The analysis examines how different stakeholder groups understand the challenges the program addresses, evaluates the resources allocated, assesses the activities implemented, recognises the outputs generated, observes emerging outcomes, and envisions potential long-term impacts.

The comparative approach reveals both areas of alignment, where internal and external perspectives converge, and areas of divergence, where different stakeholder groups hold notably different views. These patterns provide valuable insights into program implementation effectiveness and highlight opportunities for enhancement.

Within each program logic element, findings are organised to identify:

- **Shared understandings** where internal and external stakeholders align in their perceptions.
- **Differing perspectives** where stakeholder views diverge significantly; and,
- **Domain-specific patterns** showing how these dynamics manifest differently across IP/commercialisation and culture reform activities.

Tables 1 to 6, below, summarise the key patterns of convergence and divergence identified across all program logic elements, providing an overview of the comparative findings detailed in the subsequent sections.

**Table 1: Summary table comparing internal and external stakeholder views on Context**

Program Logic Element	Description	Themes
<b>Context and Challenges</b>	<b>Views common to all stakeholders</b>	<p><b>Dual-University Structural Complexity:</b> The dual-university structure of DTB is introducing significant operational complexities.</p>
		<p><b>University-Industry Timing Misalignment:</b> There is a fundamental timing misalignment between university and industry processes.</p>
		<p><b>Social Norms:</b> The existence of unfavourable social norms and preconceptions about UICs create barriers to engagement.</p>
		<p><b>Gaps in Understanding Between Academia and Industry:</b> Cultural divisions arise through differing vocabularies, priorities, motivations, work practices and lack of understanding of value added through University-Industry Collaborations (UICs), difficulty in understanding academic processes, timelines, and priorities.</p>
		<p><b>Academic Culture and Incentive Misalignment:</b> Academic culture and incentives are currently not favouring UICs, affecting motivation of academics to collaborate.</p>
	<b>Themes relating to differing views</b>	<p><b>Financial Process Complexity:</b> Internal staff: administrative coordination challenges across the dual-university structure, delays in budget confirmation and release that affect program implementation. External stakeholders: impact of cash contribution requirements and the overall financial burden of UIC on business operations.</p>
		<p><b>Strategic Focus and Resource Distribution:</b> Internal staff: view the current portfolio of projects and activities as appropriately balanced across program objectives (with the exception of culture portfolio and marketing communication). External stakeholders: question whether the current distribution of resources across multiple smaller projects optimises impact.</p>
		<p><b>Marketing Communication and Planning Horizons:</b> Internal staff: recognise marketing communication as challenging, given resource constraints. External stakeholders: highlight significant challenges with the timing and lack of advance notice of DTB events, opportunities, and process changes, noting that insufficient lead time frequently prevents effective participation. They also noted the lack of case studies and external marketing of DTB initiatives and success stories.</p>
	<b>Culture specific themes</b>	<p><b>Academic Culture and Incentive Misalignment:</b> Internal staff views the academic culture challenge as primarily requiring interventions such as information exchange, education, and structured opportunities. External academic stakeholders emphasise the need to focus on deeper structural barriers embedded in promotion criteria, workload models, and institutional reward systems.</p>
		<p><b>Limited Resources for Culture Change:</b> Culture change initiatives within the DTB program face significant resource constraints, limiting their scope and effectiveness despite their acknowledged importance for long-term transformation.</p>
<p><b>Communication and Understanding Gaps</b> Both internal and external stakeholders identify significant communication barriers between academia and industry as key challenges. External stakeholders note that successful collaborations often depend on key individuals who can "translate" between sectors, suggesting these gaps require ongoing interpretation and mediation rather than one-time educational interventions.</p>		
<b>IP specific themes</b>	<p><b>Organisational Silos and Information Flow:</b> Departmental silos within universities impede collaboration and information flow. While some departments don't like to collaborate with one another, others have processes and practices that hinder staff engagement in UICs.</p>	
	<p><b>IP Knowledge and Framework Complexity:</b> Internal staff emphasise procedural and legal aspects of IP management, focusing on how to streamline agreement processes and create more industry-friendly templates. Industry express concerns about university expectations regarding IP ownership and commercialisation benefits.</p>	

**Table 2: Summary table comparing internal and external stakeholder views on Input**

Program Logic Element	Description	Themes
Inputs	Views common to all stakeholders	<p><b>Financial Resource Framework:</b> The multi-source funding model, drawing on Commonwealth, university, and industry contributions, is creating a strong financial base for program activities. However, there are challenges with the evolving funding ratio expectations, with internal staff highlighting the operational strain of meeting escalating matching targets and external stakeholders, particularly SMEs, noting difficulties with cash contribution requirements.</p> <p><b>Value of Staff Expertise:</b> All stakeholders value the expertise and capabilities of DTB personnel. Internal assessments emphasise the diverse skill set and domain knowledge of the program team. External stakeholders consistently highlight the value of staff in navigating institutional complexities and facilitating connections. Industry partners particularly value DTB staff's role as interpreters and guides to university systems, while academics appreciate their ability to bridge communication gaps with industry.</p> <p><b>Leverage Value of DTB Networks:</b> A strong area of agreement concerns the value of the relational resources mobilised through DTB. Internal staff emphasise how they actively leverage professional and institutional networks to secure partnerships and opportunities. External stakeholders confirm the effectiveness of these networking activities in creating valuable connections. Both perspectives recognise that these networks, both formal (through governance mechanisms) and informal (through personal connections), significantly enhance program outcomes.</p> <p><b>Marketing and Communications Capacity:</b> Both internal and external perspectives identify marketing and communications support as significantly under-resourced relative to program needs. Internal staff describe struggling with limited communications capacity across multiple portfolios. External stakeholders note challenges with promotional visibility, event notification, and program awareness. Both groups recognise that these constraints affect the program's ability to build momentum, share successes, and engage new participants.</p>
	Themes relating to differing views	<p><b>Staff Capacity and Distribution:</b> Internal staff: highlight significant staffing constraints, particularly for culture change initiatives, with staff describing operating "on a shoestring" in some portfolios. External stakeholders: focus less on staff numbers and more on staff roles and accessibility, with some noting inconsistent points of contact and unclear lines of communication with program personnel.</p> <p><b>Infrastructure and Systems Considerations:</b> Internal staff emphasise significant infrastructure gaps, particularly regarding customer relationship management (CRM) systems and project tracking tools, describing makeshift solutions and operational inefficiencies. External stakeholders: particularly industry partners, focus instead on the practical outcomes of these infrastructure limitations, noting challenges with information sharing, project updates, and collaboration coordination.</p> <p><b>Portfolio Autonomy and Resource Transparency:</b> Internal perspectives reveal variability in how different portfolio leads interpret and deploy their budgets, with some noting creative approaches to resource allocation given the absence of clear budget designations, particularly for culture initiatives. External stakeholders, however, perceive less of this internal flexibility and more of its outcomes, noting what appears to be uneven resource distribution across program components, with stronger resourcing for commercialisation activities compared to culture reform initiatives.</p>
	Culture specific themes	<p><b>Culture Reform Resources:</b> Internal staff note limited and less clearly defined resourcing for culture initiatives, with staff noting the challenges of driving cultural change with constrained dedicated resources. External stakeholders perceive culture reform as less systematically resourced than commercialisation activities, with academics in particular noting limited investment in incentive restructuring, workload accommodation, and sustainable change mechanisms.</p> <p><b>Complementary vs. Competing Resource Allocation:</b> An interesting dynamic emerges in how stakeholders conceptualise the relationship between resources allocated to different program domains. Internal perspectives tend to emphasise complementarity, describing how investments in one domain can support objectives in another. For example, staff note how commercialisation successes can drive broader cultural change by demonstrating the value of industry engagement. External stakeholders, particularly academics, more often frame resource allocation in terms of competition between domains, expressing concern that limited investments in structural culture reform may undermine the sustainability of commercialisation achievements.</p>
	IP specific themes	<p><b>IP and Commercialisation Resources:</b> Internal staff note substantial resource allocation to IP management and commercialisation activities. They describe targeted investments in legal expertise, template development, and structured commercialisation support programs. External stakeholders confirm the visibility and impact of these investments, particularly valuing the Seed Innovation Fund, cybersecurity voucher program, and specialised legal support for agreement development.</p>

**Table 3: Summary table comparing internal and external stakeholder views on Activities and Processes**

Program Logic Element	Description	Themes
Activities and processes	Views common to all stakeholders	<p><b>Staged Innovation Support:</b></p> <p>Internal perspectives emphasise the intentional design of this "funnel" approach, which creates a pathway from initial engagement through to mature commercial ventures with progressively higher levels of support and selectivity.</p> <p>External stakeholders, particularly industry partners, confirm the value of this staged structure, appreciating the progressive nature of support that enables appropriate engagement based on technology readiness and commercial maturity.</p>
		<p><b>Knowledge Building Initiatives:</b></p> <p>Internal staff highlight the design of various educational initiatives, including masterclasses, workshops, and guidance materials, as addressing critical knowledge gaps in both IP/commercialisation and culture domains.</p> <p>External stakeholders confirm the value of these activities, with both academic and industry participants noting their effectiveness in building relevant capabilities and understanding.</p>
		<p><b>Adaptive Learning Approach:</b></p> <p>Both internal and external perspectives recognise DTB's adaptive, learning-oriented approach to implementation. Internal staff describe deliberate processes for acknowledging challenges, learning from experience, and adjusting activities based on implementation feedback.</p> <p>External stakeholders, particularly those engaged over longer periods, observe and value this adaptability, noting how program elements have evolved in response to participant needs and operational realities.</p>
		<p><b>Networking Events and Matchmaking:</b></p> <p>Both external and internal stakeholders valued the forums and dialogue events organised through DTB as creating important spaces for addressing cultural barriers to collaboration. These activities were seen as creating valuable connections between potential collaboration partners who might otherwise have remained disconnected.</p> <p>These events, including the Innovation summit and innovation showcases, were seen as facilitating open discussion of collaboration challenges and approaches.</p>
		<p><b>Activity Communication and Accessibility:</b></p> <p>Internal staff generally view their communication of program activities as adequate given resource constraints. External stakeholders, particularly industry partners and academics with competing commitments, highlight challenges with short-notice event announcements and unclear participation pathways. This disconnect affects various activities across the program, from networking events to application processes for funding opportunities.</p>
	Themes relating to differing views	<p><b>Activity Integration and Coherence:</b></p> <p>Internal staff tend to emphasise the strategic integration of activities across program domains, highlighting how different elements complement each other within an overarching program logic.</p> <p>External stakeholders, however, more often perceive activities as somewhat disconnected, with less visibility of how different program elements interrelate or build upon each other.</p> <p>This divergence suggests that while the program may have a coherent internal logic, this logic is not always visible or comprehensible to external participants, who may experience activities as more isolated than program designers intend.</p>
		<p><b>Implementation Pace and Timing:</b></p> <p>Different assessments emerge regarding the pace and timing of program implementation. Internal staff emphasise the challenges of establishing complex activities within tight timeframes, noting the significant accomplishment of launching multiple new initiatives in parallel.</p> <p>External stakeholders, particularly from industry, focus more on the pace of individual activities once established, with some noting that even streamlined processes remain slower than commercial timeframes would ideally accommodate.</p>
		<p><b>Defence Market Access Initiatives:</b></p> <p>Internal stakeholders identified Defence market access opportunities offered through DTB.</p> <p>External stakeholders particularly valued activities designed to facilitate access to defence markets and procurement processes. These initiatives, including defence showcases and prime contractor introductions, were seen as creating vital pathways for market engagement. However, they also noted there is lot more room for improvement in opportunities given to interact directly with defence client services within the ADF and groups within the Department).</p>
	Culture specific themes	<p><b>Culture Reform Initiatives:</b></p> <p>Internal perspectives highlight various initiatives designed to address cultural barriers, including masterclasses focused on collaboration practices, staff mobility programs, and educational events targeting cultural aspects of university-industry engagement.</p> <p>External stakeholders, however, demonstrate more varied awareness of and engagement with these activities, with most noting limited visibility of culture-specific initiatives, lack of awareness and engagement with culture reform initiatives.</p>
		<p><b>Cross-Domain Activity Integration:</b></p> <p>An interesting pattern concerns how activities that bridge both IP/commercialisation and culture domains are perceived. Internal staff emphasise the integrated nature of many program activities, highlighting how initiatives like staff mobility programs simultaneously address both practical IP/commercialisation skills and cultural barriers through experiential learning.</p> <p>External stakeholders, particularly those who have participated in such cross-domain activities, similarly value their dual benefits, noting how they combine practical outcomes with deeper relationship development.</p>
IP specific themes	<p><b>IP and Commercialisation Activities:</b></p> <p>Internal staff describe strong uptake of structured collaboration programs, Technology Development &amp; Acceleration initiatives, and specialised support mechanisms like the cybersecurity voucher program.</p> <p>External stakeholders confirm high engagement with these activities, with industry partners particularly valuing the practical support for technology development, IP management, and commercialisation pathways.</p>	

**Table 4: Summary table comparing internal and external stakeholder views on Outputs**

Program Logic Element	Description	Themes
<b>Outputs and Deliverables</b>	<b>Views common to all stakeholders</b>	<p><b>Research Collaborations and Projects:</b> Internal perspectives highlight the establishment of numerous research projects across priority technology areas, noting their varying scale and complexity. External stakeholders, both academic and industry partners, confirm the development of these collaborations, with many acknowledging that specific projects would not have been established without DTB facilitation.</p>
		<p><b>Templates and Frameworks:</b> Strong alignment exists regarding the development of templates, frameworks, and standardised approaches as valuable program outputs. Internal staff emphasise the creation of streamlined agreement templates and structured processes designed to facilitate collaboration. External stakeholders, particularly industry partners, acknowledge the value of these standardised approaches in reducing administrative complexity and negotiation timeframes.</p>
		<p><b>New Networks and Community Formation:</b> Both internal and external perspectives recognise the emergence of new networks, communities, and collaborative relationships as tangible program outputs. Internal staff describe the formation of both formal networks established by the program and informal communities that have emerged through program activities. External stakeholders confirm the development of these connection structures, with some industry partners highlighting the self-organising alumni networks that have formed among program participants.</p>
		<p><b>Metric Achievement versus Substantive Output:</b> Internal perspectives often emphasise quantitative metrics, such as participant numbers, events delivered, and funding secured, as indicators of program output. External stakeholders, while acknowledging these metrics, tend to place greater emphasis on qualitative aspects of outputs, such as relationship depth, knowledge quality, and collaboration sustainability.</p>
		<p><b>Output Visibility and Recognition:</b> Internal staff identify a broad range of outputs across program domains, including those that may not be immediately visible to external stakeholders. External stakeholders, particularly those with limited program engagement, tend to recognise fewer outputs and may not always attribute observed changes specifically to DTB interventions.</p> <p><b>Output Distribution Across Participants:</b> Internal perspectives tend to emphasise the aggregate volume of outputs across the program, focusing on the overall portfolio of achievements. External stakeholders more often focus on the distribution pattern of these outputs, with some noting variability in which participants benefit most from program activities.</p>
	<b>Themes relating to differing views</b>	<p><b>Culture Reform Outputs:</b> Internal perspectives identify various outputs designed to address cultural barriers, including educational resources, staff mobility placements, and culture-focused events and forums. External stakeholders, however, demonstrate more limited recognition of culture-specific outputs, with some suggesting that tangible manifestations of culture reform work are less visible or not well-communicated.</p> <p><b>Output Communication Dynamics:</b> Internal staff highlight constraints on marketing and communications resources that limit their ability to effectively promote program achievements. External stakeholders confirm this limitation, with several noting that program successes could be more systematically shared to build momentum and demonstrate value. This alignment on communication constraints suggests that output visibility challenges stem from genuine resource limitations rather than strategic choice or stakeholder perception issues.</p>
	<b>Culture specific themes</b>	<p><b>IP and Commercialisation Outputs:</b> Internal staff highlight the development of technology prototypes, collaborative research projects, defence-ready organisations, and commercial trials. External stakeholders similarly recognise these tangible outputs, with industry partners particularly noting technology advancements, market access pathways, and defence engagement opportunities.</p>
	<b>IP specific themes</b>	

**Table 5: Summary table comparing internal and external stakeholder views on Outcome**

Program Logic Element	Description	Themes
Outcomes - Short and Medium Term	Views common to all stakeholders	<p><b>Enhanced Skills and Capabilities:</b> Internal staff highlight various capability improvements among program participants in areas such as IP management and commercialisation processes. External industry partners, particularly from SMEs and early-stage ventures, confirm valuable knowledge gains about defence requirements and processes. Academics acknowledge skills development primarily for early career researchers and PhD students engaged in industry projects, while noting limited skill enhancement for established academics.</p> <hr/> <p><b>Streamlined Processes and Practices:</b> Internal staff highlight specific process improvements, particularly in areas such as agreement development and collaboration management. External stakeholders, while noting progress in certain areas, emphasise that substantial administrative and procedural barriers continue to hinder effective collaboration despite program interventions.</p>
	Themes relating to differing views	<p><b>Patterns of Attitudinal and Behavioural Change:</b> Internal staff, while acknowledging the challenges of cultural transformation, tend to identify certain positive indicators of changing attitudes toward collaboration. External stakeholders report minimal evidence of attitudinal shifts, with most participants indicating they have not observed significant changes in behaviour or interest levels because of DTB interventions. Many note that pre-existing attitudes and established patterns of engagement remain largely unchanged despite program activities.</p> <hr/> <p><b>Outcome Development and Sustainability:</b> Internal perspectives tend to emphasise the breadth of program outcomes across multiple domains and stakeholder groups, highlighting the diverse changes observed across the program portfolio. External stakeholders, particularly those with longer experience of UIC, often express more cautious assessments regarding the depth and sustainability of observed changes, questioning whether they represent lasting transformations or more temporary responses to program incentives.</p> <hr/> <p><b>Outcome Distribution and Consistency:</b> Internal staff, while acknowledging variability, tend to frame outcomes as broadly shared across program participants. External stakeholders more often emphasise the uneven nature of program outcomes, noting significant variability in how different participants experience and benefit from program engagement.</p> <hr/> <p><b>KPIs Versus Substantive Change:</b> Internal staff distinguish between KPI achievement and more meaningful program success, noting that technical compliance with metrics does not necessarily indicate transformative change. External stakeholders express similar distinctions, with several drawing sharp contrasts between measurable activities and deeper institutional or cultural shifts.</p> <hr/> <p><b>New UIC collaborations:</b> Internal staff highlight new UICs built because of DTB. External stakeholders had mixed views on whether DTB created genuinely new UICs. Some saw DTB as primarily adding value to existing connections through funding rather than creating new partnerships. Others acknowledged that while they strengthened existing relationships with "usual suspects," they also expanded their networks with new defence industry organisations.</p>
	Culture specific themes	<p><b>Industry Partner Engagement Outcomes:</b> Internal staff highlight the return of industry partners for additional projects as an important indicator of program value and relationship development. External stakeholders confirm this pattern, with industry partners who have had positive initial experiences reporting increased willingness to pursue further university collaborations.</p> <hr/> <p><b>Academic Culture Change Outcomes:</b> Internal perspectives acknowledge variability in academic interest across different disciplines and career stages while highlighting increased engagement from some academic participants. External stakeholders, particularly academics, report more modest or inconsistent cultural shifts, emphasising the persistence of structural barriers and incentive misalignments despite programmatic interventions.</p> <hr/> <p><b>Cross-Sectoral Understanding Outcomes:</b> Internal staff highlight improved mutual understanding between academic and industry stakeholders about each other's contexts, constraints, and priorities. External stakeholders confirm certain improvements in understanding, particularly among those with direct cross-sectoral experience through program activities, though many note that substantial communication and cultural divides persist.</p>
	IP specific themes	<p><b>Technology Advancement Outcomes:</b> Internal staff highlight the progression of specific technologies along the Technology Readiness Level (TRL) scale, noting how program support has enabled critical development milestones. External stakeholders confirm these advancement outcomes, though with variability in their assessment of progress scale and pace.</p>

**Table 6: Summary table comparing internal and external stakeholder views on Impact**

Program Logic Element	Description	Themes
Impact - Long Term	Views common to all stakeholders	<p><b>Sustainable Collaborative Relationships:</b> Internal perspectives emphasise how the program's various elements are designed to create relationship structures that outlive specific projects and funding cycles. External stakeholders similarly recognise relationship sustainability as a critical long-term objective, though many express more qualified expectations about whether current approaches will generate truly enduring partnerships</p> <hr/> <p><b>Enhanced Defence Capabilities:</b> Internal staff articulate how the program aims to strengthen sovereign capability through successful commercialisation of defence technologies. External stakeholders, particularly those with defence backgrounds, similarly emphasise the national strategic importance of enhancing defence capabilities through improved UIC.</p> <hr/> <p><b>Integrated Innovation Ecosystem:</b> Internal staff describe how the program aims to create improved pathways for knowledge flow and technology development across academia, industry, and defence. External stakeholders similarly value the potential for a more connected ecosystem, though with varying expectations about the program's ability to catalyse such systemic integration.</p>
	Themes relating to differing views	<p><b>Balancing Short-term Delivery and Long-term Change:</b> Internal staff emphasise the importance of demonstrated early achievements in building momentum and stakeholder confidence, suggesting that visible short-term outputs can create the foundation for longer-term impacts. External stakeholders, particularly those with experience of previous initiatives, more often emphasise the risks of prioritising quick wins over deeper systemic change, expressing concern that short-term output focus may come at the expense of more fundamental transformation.</p> <hr/> <p><b>Institutional Reform Considerations:</b> Internal staff, while acknowledging the importance of institutional change, tend to emphasise how program activities can progressively influence institutional practices through demonstration effects and success stories. External stakeholders, particularly academics, more strongly emphasise the need for fundamental reforms to core university incentive structures, promotion criteria, and resource allocation models to enable lasting cultural transformation.</p> <hr/> <p><b>Sustainability Planning for Impact:</b> Internal staff identify various mechanisms for embedding program elements within ongoing institutional practices, emphasising the role of formal structures like the People and Culture Action Group in institutionalising program lessons. External stakeholders express stronger concerns about sustainability planning, with many questioning who will take responsibility for maintaining university-industry facilitation once program funding ends.</p>
	Culture specific themes	<p><b>Transformed Academic Culture:</b> A more divergent pattern emerges regarding potential impacts on academic culture. Internal staff, while acknowledging the challenges of cultural transformation, identify various indicators that suggest potential for longer-term cultural shifts, particularly through changing perceptions and demonstrating collaborative benefits. External academic stakeholders, however, express more scepticism about fundamental cultural transformation given the persistence of traditional incentive structures and institutional priorities.</p> <hr/> <p><b>Defence-Aware Academic Pipeline:</b> Internal staff highlight the investment in various student engagement initiatives and PhD programs as contributing to this pipeline development. External stakeholders, both academic and industry, similarly recognise the value of student involvement in creating future academics with greater defence industry awareness.</p>
	IP specific themes	<p><b>Commercial Defence Technology Enterprises:</b> Internal staff highlight how various commercialisation support activities are designed to develop sustainable businesses that can deliver sovereign capabilities. External industry stakeholders, particularly from ventures demonstrating early commercial traction, also recognise this potential, though with varying assessments of the timeframes and support required.</p> <hr/> <p><b>Institutionalised IP Processes:</b> Internal perspectives emphasise the potential for institutionalisation of more effective IP management processes within universities, creating sustained changes in how these institutions approach IP in industry collaborations. External stakeholders also recognise potential for such institutionalisation, though with more qualified expectations about the depth and permanence of procedural reforms without deeper cultural change.</p>

## 3.1 Context and Challenges

This section examines how internal DTB staff and external stakeholders (academics and industry partners) perceive the contextual factors and challenges facing university-industry collaboration in defence technology commercialisation. The analysis reveals areas of alignment and divergence in these perspectives, offering insights into how different stakeholders understand the foundational challenges the program seeks to address.

### 3.1.1. Views Common to All Stakeholders

#### Complexity in Dual-University Structure

Both internal staff and external stakeholders identify the dual-university structure of DTB as introducing significant operational complexities. Internal perspectives emphasise the administrative burden of coordinating across two institutional systems with different processes, financial structures, and organisational cultures. External stakeholders, particularly industry partners, reinforce this view, highlighting how these structural challenges translate into practical difficulties in establishing and managing collaborations, especially regarding contract negotiations and project management.

*"Everything we've been doing in a contracting sense has involved two universities. They both have different cultures, different structures, and different risk tolerances. When you throw two institutions into the mix to try and negotiate a contract, it's more than twice as hard as negotiating with one." (DTB staff)*

The shared recognition of this structural challenge suggests that the dual-university model, while potentially offering benefits in terms of reach and expertise, creates coordination burdens that both program implementers and participants experience directly. This complexity emerges as a foundational challenge that affects all aspects of program implementation, from financial management to project delivery.

#### University-Industry Timing Misalignment

Another area of strong convergence is the recognition of fundamental timing misalignments between university and industry processes. Both internal and external

stakeholders identify this as a critical friction point in collaboration. Internal staff describe the challenge in terms of differing organisational priorities and decision-making timeframes, where academic scheduling must accommodate teaching and existing research commitments. External stakeholders, particularly SMEs, express similar frustrations from the industry side, emphasising the business impacts of these timing disparities, especially for companies operating on commercial timeframes with market pressures.

*"The struggle with entrepreneurial startups like ourselves is that doing those research programs takes a lot of definition of the program of work – who owns which bits, and who's funding which bits. And often we're running too fast to stop, pause, and work through those pieces." (Industry partner)*

This shared recognition suggests that timing misalignment is not merely a perception issue but a structural reality that manifests across the university-industry interface. It reflects deeper differences in organisational priorities, decision-making processes, and performance metrics that create friction even when there is goodwill on both sides.

#### Social Norms

Both internal and external perspectives acknowledge the existence of negative social norms and preconceptions that create barriers to engagement. These entrenched attitudes shape expectations and behaviour before direct interaction even begins. Internal staff observe that industry often enters with scepticism about university processes, while external stakeholders confirm this preconception, with industry partners noting widespread reluctance to explore university collaborations due to expectations of bureaucracy, delays, and cost.

*"From conversations I've heard, that's not new. Like a lot of industry, I think are hesitant to work with universities because of that, because there's this perception certainly that unis are so slow with everything." (Industry partner)*

This highlights the psychological and cultural barriers that exist alongside structural and procedural challenges. These perceptions create a starting point of hesitation that program activities must overcome before productive collaboration can begin.

## Gaps in Understanding Between Academia and Industry

Both internal and external stakeholders identify significant gaps in mutual understanding between academia and industry create barriers to effective collaboration. This reinforces cultural divisions through differing vocabularies, priorities, motivations, work practices and lack of understanding of value added through UICs. SMEs reported difficulty understanding academic processes, timelines, and priorities. Academics noted challenges in adapting to the more commercially focused, timeline-driven approaches of industry partners.

*"When a researcher says, 'can I publish this research,' they go, 'oh, no, no.' But they don't know the reason why is because then that researcher won't get promoted. That lack of understanding, that lack of empathy is a root cause of the relationship issues. We're generally talking at cross purposes because industry doesn't understand universities, and universities don't understand industry." (Industry partner)*

## Academic Culture and Incentive Misalignment

Academic culture and incentives do not currently favour UICs, affecting motivation of academics to collaborate. Academic stakeholders highlight the persistent challenge of misaligned incentive structures within universities. While DTB staff identified this issue, academics provided more detailed insights into how these misalignments affected their engagement with industry collaboration.

*"You're the 100% academic here, and like it or not, our academic system evaluates us based on research metrics – publications, grants you pull in, our survival in this business, promotions all depend on this. And if someone tells you this is a program where we don't want you to focus on that, we want you to focus on industry outcomes, already you're fighting an uphill battle. Like why would I want to do this to get to a state afterwards where my head of school said, 'yeah sure you made that great industry outcome, but we don't count that'". (Academic)*

Many academic respondents noted that despite institutional rhetoric supporting industry engagement, promotion criteria and performance metrics continued to prioritise traditional research outputs such as publications

and competitive grants. This created significant career risk for academics choosing to focus on industry collaboration, particularly for early and mid-career researchers.

## 3.1.2. Themes Relating to Differing Views

### Financial Process Complexity

While both groups identify financial processes as challenging, they emphasise different aspects. Internal staff focus primarily on administrative coordination challenges across the dual-university structure, highlighting delays in budget confirmation and release that affect program implementation. External stakeholders, particularly SMEs, emphasise instead the impact of cash contribution requirements and the overall financial burden of university collaboration on their business operations.

*"Research finance has been quite a significant barrier, and notably research finance versus plain old finance, purchase orders and invoices and the like... we've been waiting in excess of ten months now for some project budgets to be confirmed and released. We don't know why, it's just problematic."(DTB staff)*

This difference in emphasis reveals how the same structural challenge can manifest differently depending on stakeholder position. For program staff, financial processes represent an implementation challenge that affects their ability to deliver program elements efficiently. For industry partners, especially smaller enterprises, these same processes represent a direct business risk that affects their willingness and ability to engage at all.

*"We struggle a bit to stump up cash for these programs, but what we can contribute is time from our staff and input from our personnel as well as access to our platforms, our technology and things like that." (Industry partner)*

### Strategic Focus and Resource Distribution

Internal and external perspectives differ notably regarding the program's strategic focus and resource distribution. Internal staff tend to view the current portfolio of projects and activities as appropriately balanced across program objectives, while external stakeholders, particularly those from larger organisations,

question whether the current distribution of resources across multiple smaller projects optimises impact.

Several external academics and industry partners suggest that a more "mission-oriented" approach concentrating resources on fewer, larger initiatives might yield greater transformative potential than the current distributed model. This perspective reflects a broader strategic concern about depth versus breadth of impact that is less prominent in internal program assessments.

*"The challenge that defence has is not finding the next silver bullet widget... What shifts the needle is the integration of those technologies, the ability to bring them together... But you don't know what technologies to choose unless you really know the mission." (Industry partner)*

### **Marketing Communication and Planning Horizons**

Communication emerges as an area where internal and external perspectives notably diverge. While internal staff recognise communication as challenging, particularly given resource constraints, they generally view current approaches as adequate given these constraints.

External stakeholders, however, highlight significant challenges with the timing and advance notice of DTB events, opportunities, and process changes, noting that insufficient lead time frequently prevents effective participation.

*"It is critical to share information about collaboration exhibitions and programs well in advance to SME/prime so that they can plan for this in advance." (Industry partner)*

This divergence suggests that while program staff may be operating within what they perceive as reasonable communication timeframes given their own planning horizons, these timeframes may not align with the planning needs of external stakeholders, particularly SMEs with limited resources and academics with competing teaching and research commitments.

## **3.1.3. IP Management and Cultural Transformation**

### **Academic Culture and Incentive Misalignment**

Both internal and external stakeholders identify academic culture and incentive misalignment as

critical barriers to effective UIC. However, internal perspectives tend to emphasise these challenges as primarily requiring information, education, and structured opportunities, while external academic stakeholders particularly emphasise the deeper structural barriers embedded in promotion criteria, workload models, and institutional reward systems.

*"Publications are important, but if you've got pretty significant dollars, then you can certainly assuage the concerns of a promotion panel by pointing to some big numbers. If you're doing Defence related research and getting reasonable Defence grants, but not publishing loads of stuff, you can tell a story from that easier than saying, 'I do Defence research. I've not received any money, but I can't tell you about anything that I've done.' That's a harder story to tell." (Academic participant)*

External academic stakeholders highlight persistent tensions between traditional academic metrics focused on publications and grants versus industry engagement and commercialisation activities. They note that despite institutional rhetoric supporting industry engagement, practical assessment and promotion structures continue to prioritise traditional outputs, creating significant career risk for academics choosing to focus on industry collaboration.

This difference in emphasis suggests that while program staff view cultural barriers as addressable through educational and experiential initiatives, many academic participants perceive these barriers as more fundamentally structural, requiring systemic changes to core academic incentive and reward systems.

### **Communication and Understanding Gaps**

Both internal and external perspectives acknowledge communication and understanding gaps between academia and industry as important challenges. However, internal staff tend to frame these gaps primarily as knowledge deficits that can be addressed through educational initiatives, while external stakeholders emphasise deeper differences in professional cultures, vocabularies, and working practices that require more sustained engagement to bridge.

External stakeholders, particularly from industry, highlight the difficulties of navigating academic environments without "translation" assistance,

noting that successful collaborations often depend on key individuals who can effectively interpret between academic and industry contexts. This suggests that communication barriers may be more fundamental and persistent than information gaps alone, requiring not just education but ongoing interpretation and mediation.

This feedback highlights the critical role of boundary spanners – individuals who can effectively bridge different organisational cultures and translate between academic and industry contexts. Effective boundary spanners in the DTB context need to possess credibility with both academic and defence industry stakeholders, helping to translate concepts, manage expectations, and facilitate meaningful connections across these traditionally separate domains.

*“Some academics are very academic. I get it – they’ve been working in that environment, that’s their worldview, and industry has its world. It creates a culture and a communication barrier where each party needs to understand and appreciate the values and influences of the other side.” (Industry partner)*

### Limited Resources for Culture Change

Culture change initiatives within the DTB program face significant resource constraints, limiting their scope and effectiveness despite their acknowledged importance for long-term transformation. These constraints can signal organisational priorities and potentially undermine engagement with change efforts. Addressing this challenge requires both more efficient resource use and potentially rebalancing allocation to reflect the importance of culture change for long-term program success.

*“Because it is all about the innovation, culture, workforce, and all of that. Understanding that you are doing a lot of things and there’s a lot of change that needs requires resources. What’s the barrier for reallocating some of the resources, for something that’s important like this? Cultural reforms is a big piece.” (DTB staff)*

### Organisational Silos and Information Flow

Both internal and external stakeholders agree that universities often operate in departmental and functional silos, hindering cross-cutting culture change initiatives and the effective dissemination of information about industry

engagement and commercialisation approaches. This siloed structure impedes the diffusion of innovations across the higher education sector.

Addressing organisational silos requires both structural interventions and cultural shifts that value and reward cross-boundary collaboration to ensure information about successful approaches is shared.

Concerns exist about the communication and flow of information within the universities, with some interviewees indicating that information, understanding and shared vision for better UIC which the leadership holds does not consistently reach all levels of the organisation.

*“He absolutely understands what we do. Why we’re doing it. [The] senior leadership team we’re engaging with in several different ways too. PCAG, for example, IP steering groups, some other bits and pieces, they understand it. There’s a little bit of a perma freeze between them though, and the operational level”. (DTB staff)*

### IP Knowledge and Framework Complexity

Both internal and external stakeholders identify complex IP frameworks and knowledge gaps as significant barriers to effective university-industry collaboration.

*“There is a knowledge gap from the basics of IP right up through to understanding what background IP is, project IP.” (Industry partner)*

However, internal staff tend to emphasise procedural and legal aspects of IP management, focusing on how to streamline agreement processes and create more industry-friendly templates, while external stakeholders, particularly from industry, emphasise more fundamental concerns about university expectations regarding IP ownership and commercialisation benefits.

This difference suggests that while program staff are focused on improving processes within existing institutional parameters, industry partners are raising more fundamental questions about the underlying IP ownership and value-sharing models that universities employ. This divergence highlights potential limitations in addressing IP barriers through improved processes alone without examining foundational assumptions.

### 3.1.4. Synthesis: Convergence and Divergence Patterns

The comparison of internal and external perspectives reveals both alignment and important differences. While stakeholders agree on fundamental structural challenges (dual-university complexity, timing misalignments, negative social norms), they differ in how they conceptualise solutions.

Internal perspectives focus on operational improvements within existing parameters, while external stakeholders, especially academics, emphasise deeper structural barriers requiring more fundamental reforms. This suggests some challenges may exceed the program's current scope or authority.

The comparison also shows asymmetry in how the same challenges are experienced – what represents an implementation constraint for program staff may constitute a business or career risk for external stakeholders.

Finally, there appears to be greater progress in IP management and commercialisation compared to cultural transformation, suggesting particular difficulty in changing core academic incentive structures that would support sustainable engagement with industry.

## 3.2 Resources Allocation (Inputs)

This section synthesises internal and external perspectives on the resources allocated to the Defence Trailblazer (DTB) program. It examines how program staff and external stakeholders evaluate the adequacy, distribution, and effectiveness of various resources deployed to support university-industry collaboration in defence technology commercialisation.

### 3.2.1. Views Common to All Stakeholders

#### Financial Resource Framework

Both internal staff and external stakeholders recognise the substantial financial foundation underpinning DTB activities. The multi-source funding model, drawing on Commonwealth, university, and industry contributions, is acknowledged by both groups as creating a strong financial base for program activities.

*“Defence Trailblazer is generous and accessible relative to alternatives.” (Industry partner)*

However, both internal and external perspectives also note challenges with the evolving funding ratio expectations, with internal staff highlighting the operational strain of meeting escalating matching targets and external stakeholders, particularly SMEs, noting difficulties with cash contribution requirements.

*“When you've got \$143 million to match with \$50 million the maths doesn't work. So, that's been quite problematic. We've had to, from what we initially said to partners, we've had to scale that right back and give them the bad news that it's kind of more like for every dollar you commit; we'll give you 30 cents. That's a big, big job.” (DTB staff)*

This shared understanding of financial resource strengths and constraints suggests realistic awareness of how program funding both enables collaboration and creates certain participation barriers, particularly for smaller organisations with limited cash resources.

#### Value of Staff Expertise

Both internal and external perspectives highly value the expertise and capabilities of DTB personnel. Internal assessments emphasise the diverse skill set and domain knowledge of the program team, while external stakeholders consistently highlight the value of staff in navigating institutional complexities and facilitating connections. Industry partners particularly value DTB staff's role as interpreters and guides to university systems, while academics appreciate their ability to bridge communication gaps with industry.

*“The people working in Defence Trailblazer have been spectacular. This was about making deals and lowering barriers to getting things done – one can really do something at scale and relatively quickly. My engagement with Defence Trailblazer has been terrific.” (Academic Participant)*

This convergence indicates that human capital, in the form of skilled and knowledgeable staff, represents one of the program's most recognised and valued resources from both implementation and participation perspectives.

## Leverage Value of DTB Networks

A strong area of agreement concerns the value of the relational resources mobilised through DTB. Internal staff emphasise how they actively leverage professional and institutional networks to secure partnerships and opportunities, while external stakeholders confirm the effectiveness of these networking activities in creating valuable connections. Both perspectives recognise that these networks, both formal (through governance mechanisms) and informal (through personal connections), significantly enhance program outcomes.

*"The teams' networks have probably been the most effective in terms of identifying companies." (DTB staff)*

This shared recognition of relational capital's importance suggests that some of the program's most valuable resources are intangible and relationship-based rather than purely financial or structural.

## Marketing and Communications Capacity

Both internal and external perspectives identify marketing and communications support as significantly under-resourced relative to program needs. Internal staff describe struggling with limited communications capacity across multiple portfolios, while external stakeholders note challenges with promotional visibility, event notification, and program awareness. Both groups recognise that these constraints affect the program's ability to build momentum, share successes, and engage new participants.

*"Often, they're giving me the heads up – 'do you know about this event and it's coming up next week?' Often that's too short notice for me. If there could be things with 6 months warning, minimum of 3 months warning, that's the sort of time frames that suit the pace we're running at and the planning we're doing. To know about something 2 weeks in advance, that diary is already filled up. The more warning, the better – that would really help." (Industry Participant)*

The alignment on this resource constraint suggests that limitations in communications capacity represent a recognised bottleneck that affects multiple dimensions of program implementation and engagement.

## 3.2.2. Themes Relating to Differing Views

### Staff Capacity and Distribution

While both groups value staff expertise, they differ in their assessment of staffing adequacy across program components. Internal perspectives note staffing considerations, particularly for culture change initiatives, with some portfolios having more limited dedicated resources.

*"Imagine the work in my portfolio, and then, you know, the other portfolios and then them trying to support that in terms of everything. That's events, media releases, you know, website, photography, but all of the things that go ahead with the marketing and comms team. But for two people to deliver that is, is astonishing. So again, I think undervalued or is it being under resourced?" (DTB staff)*

External stakeholders, however, focus less on staff numbers and more on staff roles and accessibility, with some noting inconsistent points of contact and unclear lines of communication with program personnel.

*"Defence Trailblazer has been great, but none of the mentors are from defence. It's all about business. I think that there needs to be a little bit more balance in regard to that." (Industry partner)*

This difference suggests that while internal staff experience resource constraints in terms of workload and capacity, external stakeholders experience these constraints through inconsistent engagement and unclear pathways to program support.

### Infrastructure and Systems Considerations

A notable divergence appears in how internal and external stakeholders assess technological infrastructure resources. Internal staff emphasise significant infrastructure gaps, particularly regarding customer relationship management (CRM) systems and project tracking tools, describing makeshift solutions and operational inefficiencies.

*"We have no system to support the work that the innovation team's doing, for example, applications and application assessment. All of this is on very much a shoestring. So, technology is an issue, and*

*I would say that we are only just achieving using Teams to its almost fullest extent what we need to there. We could, we could be doing so much better with better tech.” (DTB staff)*

External stakeholders, particularly industry partners, focus instead on the practical outcomes of these infrastructure limitations, noting challenges with information sharing, project updates, and collaboration coordination.

*“I think Defence Trailblazer is definitely a big part of that, along with ASCA, along with the other initiatives. I believe that there should be some form of waiver or some form of agreement that makes the technology sharing and development easier, more streamlined, because the end goal is to always get it to the user.” (Industry Partner)*

This difference in emphasis reflects how the same infrastructure limitations manifest differently for implementers versus participants as internal operational constraints for staff and as engagement and visibility challenges for external stakeholders.

### **Portfolio Autonomy and Resource Transparency**

Internal perspectives reveal variability in how different portfolio leads interpret and deploy their budgets, with some noting creative approaches to resource allocation given the absence of clear budget designations, particularly for culture initiatives.

*“The estimations, for the work and the resource allocation, would have been something to consider maybe. Yeah, I think that would have been better. That way it'd be making it a more even playing field for people, I think, in terms of the resources that go into the portfolios would have been a little bit more, transparent and equitable and fair.” (DTB staff)*

External stakeholders, however, perceive less of this internal flexibility and more of its outcomes, noting what appears to be uneven resource distribution across program components, with stronger resourcing for commercialisation activities compared to culture reform initiatives.

*“I think this can be a bit of a criticism as well. I don't think Defence Trailblazer have leveraged the good projects and the outcomes that have been achieved as much as they could have. But they maybe*

*should have had another \$50 million in the budget somewhere, and that was the only KPI for that person or that team – to make sure that LinkedIn, industry conferences, that's the only thing that people see the whole time, the goals that are being kicked, the good things that are coming out of Defence Trailblazer.”(Academic participant)*

This divergence suggests that internal resource allocation practices may not be fully visible or comprehensible to external stakeholders, potentially affecting perceptions of program priorities and commitment across different domains.

## **3.2.3. Resource Distribution Patterns Across Domains**

### **Culture Reform Resources**

A different pattern emerges regarding culture reform resources. Internal perspectives acknowledge more limited and less clearly defined resourcing for culture initiatives, with staff noting the challenges of driving cultural change with constrained dedicated resources. External stakeholders similarly perceive culture reform as less systematically resourced than commercialisation activities, with academics in particular noting limited investment in incentive restructuring, workload accommodation, and sustainable change mechanisms.

This alignment in perceiving resource constraints for culture reform suggests a genuine resource asymmetry between the program's two primary domains. Both implementers and participants recognise that while culture reform is identified as a critical program objective, the resources allocated to this domain appear more limited and less structured than those supporting commercialisation activities.

### **Complementary vs. Competing Resource Allocation**

An interesting dynamic emerges in how stakeholders conceptualise the relationship between resources allocated to different program domains. Internal perspectives tend to emphasise complementarity, describing how investments in one domain can support objectives in another. For example, staff note how commercialisation successes can drive broader cultural change by demonstrating the value of industry engagement.

External stakeholders, particularly academics, more often frame resource allocation in terms of competition between domains, expressing concern that limited investments in structural culture reform may undermine the sustainability of commercialisation achievements. This difference reflects varying perspectives on whether resources should be balanced across domains or strategically concentrated based on expected cross-domain effects.

### IP and Commercialisation Resources

Both internal and external perspectives recognise substantial resource allocation to IP management and commercialisation activities. Internal staff describe targeted investments in legal expertise, template development, and structured commercialisation support programs. External stakeholders confirm the visibility and impact of these investments, particularly valuing the Seed Innovation Fund, cybersecurity voucher program, and specialised legal support for agreement development.

*“The cybersecurity voucher, for instance, which is extraordinary helpful for a small company like ours. We don't just have \$50,000 to get things sorted for our DISP accreditation.” (Industry partner)*

The convergence between internal and external perspectives on these resources suggests effective deployment and communication of IP and commercialisation support mechanisms. External stakeholders can clearly identify and access these resources, and their value is recognised across stakeholder groups.

### 3.2.4. Synthesis: Strategic Resource Allocation

The comparison of internal and external perspectives on resource allocation reveals both strengths and potential gaps in the DTB program's resourcing approach. While the program has established a strong foundation of financial, human, and relational resources, there appear to be significant asymmetries in how

these resources are distributed, perceived, and leveraged across program components.

The most notable pattern concerns the apparent resource imbalance between IP/commercialisation and culture reform initiatives. While both domains are recognised as critical to the program's objectives, commercialisation activities appear to benefit from more substantial, structured, and visible resource allocation. This imbalance may reflect strategic prioritisation decisions, implementation sequencing, or simply the greater challenges in resourcing intangible culture change compared to more concrete commercialisation support.

The consequences of this resource distribution pattern for long-term program outcomes remain uncertain. The greater progress in commercialisation activities may generate short-term wins that build momentum and demonstrate value. However, the more limited investment in structural culture reform may constrain the sustainability of these achievements if underlying academic incentive structures and organisational processes remain unchanged.

Both internal and external perspectives suggest that addressing key resource gaps—particularly in communications capacity, culture reform resourcing, and technology infrastructure—could enhance program effectiveness across domains. The alignment between internal and external stakeholders on these gaps suggests they represent genuine constraints rather than mere perception issues, offering potential focus areas for resource reallocation or enhancement.

## 3.3 Activities and Processes

This section synthesises internal and external perspectives on the activities and processes implemented by the Defence Trailblazer (DTB) program. It examines how program staff and external stakeholders evaluate the design, implementation, and effectiveness of various activities across IP/commercialisation and culture reform domains.

### 3.3.1. Views Common to All Stakeholders

#### Staged Innovation Support

Both internal staff and external stakeholders recognise and value DTB's structured, multi-stage approach to innovation support. Internal perspectives emphasise the intentional design of this "funnel" approach, which creates a pathway from initial engagement through to mature commercial ventures with progressively higher levels of support and selectivity.

*"We started off with filtering processes like a funnel. We'd educate all these people who had an interest and innovations in the defence area, and we put them through a funnel and then gradually reduce the number depending on how successful they were. It's only now that we've come to the bottom of the funnel where we're actually seeing businesses that we believe have a significant chance of success in being relevant for developing Australia's sovereign capability." (DTB staff)*

External stakeholders, particularly industry partners, confirm the value of this staged structure, appreciating the progressive nature of support that enables appropriate engagement based on technology readiness and commercial maturity.

*"We got into the boot camp, originally... we do want to progress to the next level after boot camp, which is the Entrepreneurial Foundation for Defence." (Industry partner)*

This alignment suggests that the staged innovation model represents a clearly communicated and well-received core program activity, with both implementers and participants understanding its design logic and value proposition.

#### Knowledge Building Initiatives

Strong alignment exists regarding the importance and value of knowledge building activities within the program. Internal staff highlight the design of various educational initiatives, including masterclasses, workshops, and guidance materials, as addressing critical knowledge gaps in both IP/commercialisation and culture domains. External stakeholders confirm the value of these activities, with both academic and industry participants noting their

effectiveness in building relevant capabilities and understanding.

*"We also applied for that as well. I believe it's quite competitive. They originally had a cohort of around 50+ for boot camp last year. Then they narrowed it down to about 23 for Entrepreneurial Foundations for Defence. We were in the cohort of 23, so that was our first face-to-face interaction with Defence Trailblazer because we went to Adelaide for three days to meet with our cohort and also meet with the facilitators." (Industry partner)*

This convergence suggests that educational activities represent a program strength that successfully bridges intention and implementation, with external stakeholders experiencing these activities largely as internal staff intend them to function.

#### Adaptive Learning Approach

Both internal and external perspectives recognise DTB's adaptive, learning-oriented approach to implementation. Internal staff describe deliberate processes for acknowledging challenges, learning from experience, and adjusting activities based on implementation feedback.

*"We got it wrong initially. We actually let people tell us what TRL they thought their product was at. We didn't validate that. We've actually got better. We've learned that lesson and we've got better at saying, tell us where you think your program is at. Now provide some evidence, please. So, we've learned those lessons." (DTB staff)*

External stakeholders, particularly those engaged over longer periods, observe and value this adaptability, noting how program elements have evolved in response to participant needs and operational realities.

This shared recognition of program adaptability suggests that both implementers and participants value the responsive, learning-oriented culture that has developed within DTB, even as specific activities have changed over time.

#### Events for Networking and Matchmaking

Both external and internal stakeholders valued the forums and dialogue events organised through DTB as creating important spaces for addressing cultural barriers to collaboration. These activities were seen as creating valuable

connections between potential collaboration partners who might otherwise have remained disconnected.

*"DTB became a central hub for introductions to people, so very much 'oh, you need to be talking to this person who's running this course, doing that,' and brokering those introductions." (Industry partner)*

These events, including the Innovation summit and innovation showcases, were seen as facilitating open discussion of collaboration challenges and approaches.

### 3.3.2. Themes Relating to Differing Views

#### Activity Communication and Participation

A significant divergence appears in perceptions of activity communication and accessibility. Internal staff generally view their communication of program activities as adequate given resource constraints, while external stakeholders, particularly industry partners and academics with competing commitments, highlight challenges with short-notice event announcements and unclear participation pathways. This disconnect affects various activities across the program, from networking events to application processes for funding opportunities.

*"If there could be things with 6 months warning, minimum of 3 months warning, that's the sort of timeframes that suit the pace we're running at and the planning we're doing. To know about something 2 weeks in advance — that diary's already filled up." (Industry partner)*

This difference suggests that while program staff may be operating within what they perceive as reasonable communication timeframes, these do not always align with the planning horizons of external stakeholders, potentially limiting participation and engagement.

#### Activity Integration and Coherence

Internal and external perspectives differ regarding the coherence and integration of different program activities. Internal staff tend to emphasise the strategic integration of activities across program domains, highlighting how different elements complement each other within an overarching program logic. External stakeholders, however, more often perceive

activities as somewhat disconnected, with less visibility of how different program elements interrelate or build upon each other. They also emphasise the need to have more exposure to the defence client.

This divergence suggests that while the program may have a coherent internal logic, this logic is not always visible or comprehensible to external participants, who may experience activities as more isolated than program designers intend.

#### Implementation Pace and Timing

Different assessments emerge regarding the pace and timing of program implementation. Internal staff emphasise the challenges of establishing complex activities within tight timeframes, noting the significant accomplishment of launching multiple new initiatives in parallel. External stakeholders, particularly from industry, focus more on the pace of individual activities once established, with some noting that even streamlined processes remain slower than commercial timeframes would ideally accommodate.

*"Too slow, right, like and so Defence Trailblazer is suffering from that as well... it's going to take a year to get something done, like just approvals, then, I mean, certainly as I think about it now as a medium sized company, we're just going to walk away, right, because in the end, you know, you're burning money every month." (Industry partner)*

This difference reflects varying reference points for assessing implementation speed – internal perspectives focus on program establishment timeframes, while external perspectives focus on operational timeframes for specific activities once established.

#### Defence Market Access Initiatives

Internal stakeholders identified Defence market access opportunities offered through DTB program. External stakeholders particularly valued activities designed to facilitate access to defence markets and procurement processes. These initiatives, including defence showcases and prime contractor introductions, were seen as creating vital pathways for market engagement. However, they also noted there is lot more room for improvement in opportunities given to interact directly with defence clients (in the three services of the ADF and groups within the Department).

*"We did participate in the event in Canberra the other day. Those things are great — if Trailblazer can bring defence buyers to the table and involve us, those things are fantastic, and we'd love to be involved with them." (Industry partner)*

### 3.3.3. Engagement Patterns Across IP and Culture Activities

#### Culture Reform Activities

A different pattern emerges regarding culture reform activities. Internal perspectives highlight various initiatives designed to address cultural barriers, including masterclasses focused on collaboration practices, staff mobility programs, and educational events targeting cultural aspects of university-industry engagement.

*"The masterclass series, which is focusing on intellectual property, commercialisation, and publications. We deliberately pulled out the IP and the commercialisation, masterclasses to be separate because we feel there is, there was quite a bit of a knowledge gap in IP across universities... And that really came from a conversation I had with A [redacted]." (DTB staff)*

External stakeholders, however, demonstrate more varied awareness of and engagement with these activities, with some noting limited visibility of culture-specific initiatives beyond educational events.

This discrepancy suggests that culture reform activities may be less consistently recognised and accessed by external stakeholders compared to commercialisation activities. While program staff can articulate a portfolio of culture-focused initiatives, external participants may not always identify these as distinct activities or recognise their intended cultural transformation objectives.

#### Cross-Domain Activity Integration

An interesting pattern concerns how activities that bridge both IP/commercialisation and culture domains are perceived. Internal staff emphasise the integrated nature of many program activities, highlighting how initiatives like staff mobility programs simultaneously address both practical IP/commercialisation skills and cultural barriers through experiential learning. External stakeholders, particularly those who have participated in such cross-domain activities, similarly value their dual benefits,

noting how they combine practical outcomes with deeper relationship development.

This alignment suggests that activities explicitly designed to address both domains simultaneously may represent particularly effective approaches that resonate with both internal and external stakeholders. These bridging activities appear to successfully translate program intentions into participant experience across both primary domains.

#### IP and Commercialisation Activities

Both internal and external perspectives recognise substantial engagement with IP management and commercialisation activities. Internal staff describe strong uptake of structured collaboration programs, Technology Development & Acceleration initiatives, and specialised support mechanisms like the cybersecurity voucher program. External stakeholders confirm high engagement with these activities, with industry partners particularly valuing the practical support for technology development, IP management, and commercialisation pathways.

*"We could actually do this trial, still go ahead, but we can actually co-fund it. So, part of the money that we get, we can actually help towards funding the trial. And that means we could move that conversation back on track and get it going. And that's quite valuable." (Industry partner)*

The convergence between internal and external perspectives on these activities suggests effective implementation and communication of IP and commercialisation support mechanisms. External stakeholders can clearly identify these activities and recognise their value, aligning with how program staff intend them to function.

### 3.3.4. Synthesis: Activity Design and Implementation

The comparison of internal and external perspectives on activities and processes reveals both strengths and potential gaps in the DTB program's implementation approach. The program has established a diverse portfolio of activities spanning both IP/commercialisation and culture reform domains, with many receiving positive recognition from both implementers and participants.

The most successful activities appear to be those with clear value propositions, structured implementation pathways, and effective communication to potential participants. The staged innovation support model, specialised funding programs, and targeted educational initiatives demonstrate particularly strong alignment between internal design intentions and external participant experience.

However, the comparison also reveals certain implementation challenges that affect activity effectiveness. Communication constraints appear to limit participation in some activities, particularly for external stakeholders with competing commitments and advance planning requirements. Additionally, the strategic integration of different program elements, while clear to internal staff, is not always apparent to external participants, potentially reducing the cumulative impact of related activities.

The analysis also suggests an activity emphasis pattern that mirrors the resource allocation pattern identified previously. IP and commercialisation activities appear more numerous, structured, and visible to external stakeholders compared to culture reform activities. While this may partly reflect the inherent challenges in designing tangible activities to address intangible cultural barriers, it also suggests a potential implementation emphasis that privileges commercialisation over cultural transformation.

This emphasis pattern raises questions about long-term program impact. While commercialisation activities demonstrate strong implementation and uptake, the more limited recognition and engagement with culture reform activities may constrain the program's ability to address the deeper structural and cultural barriers to sustainable university-industry collaboration. Both internal and external perspectives suggest that strengthening the implementation and visibility of culture-focused activities could enhance the program's comprehensive effectiveness across domains.

## 3.4 Outputs and Deliverables

This section synthesises internal and external perspectives on the outputs and deliverables generated by the Defence Trailblazer (DTB) program. It examines how program staff and external stakeholders evaluate the tangible products and concrete results that have

emerged from program activities across IP/commercialisation and culture reform domains.

### 3.4.1. Views Common to All Stakeholders

#### Research Collaborations and Projects

Both internal staff and external stakeholders identify research collaborations and projects as significant concrete outputs of the program. Internal perspectives highlight the establishment of numerous research projects across priority technology areas, noting their varying scale and complexity. External stakeholders, both academic and industry partners, confirm the development of these collaborations, with many acknowledging that specific projects would not have been established without DTB facilitation.

*"I met the researcher through one of their courses, so our lead researcher. And then she was very passionate about what we're doing. And we decided on how we would collaborate, but the first thing she said was, we'll go through Defence Trailblazer. So, I guess we wouldn't have really done it like that without them." (Industry partner)*

This convergence suggests that collaborative research projects represent one of the program's most visible and widely recognised outputs, creating tangible manifestations of university-industry collaboration across the defence technology landscape.

#### Templates and Frameworks

Strong alignment exists regarding the development of templates, frameworks, and standardised approaches as valuable program outputs. Internal staff emphasise the creation of streamlined agreement templates and structured processes designed to facilitate collaboration. External stakeholders, particularly industry partners, acknowledge the value of these standardised approaches in reducing administrative complexity and negotiation timeframes.

This shared recognition suggests that these process frameworks represent concrete deliverables that both implementers and participants can identify and value, creating practical tools for more efficient collaboration.

*"We've got there; we've got a really good suite of agreements. We'll leave them behind." (DTB staff)*

## New Networks and Community Formation

Both internal and external perspectives recognise the emergence of new networks, communities, and collaborative relationships as tangible program outputs. Internal staff describe the formation of both formal networks established by the program and informal communities that have emerged through program activities. External stakeholders confirm the development of these connection structures, with some industry partners highlighting the self-organising alumni networks that have formed among program participants.

*"One of the participants took it upon themselves to form what they're calling an alumni group... we didn't do that. They did that. It's brilliant. They're sharing successes, you know, shout outs for anybody who posts something great." (DTB staff)*

This alignment indicates that relationship structures represent recognised program outputs beyond specific projects or activities, suggesting that DTB has successfully catalysed enduring connection pathways between university and industry stakeholders.

### 3.4.2. Themes Relating to Differing Views

#### Metric Achievement versus Substantive Output

A notable divergence appears in how stakeholders assess output significance. Internal perspectives often emphasise quantitative metrics, such as participant numbers, events delivered, and funding secured, as indicators of program output. External stakeholders, while acknowledging these metrics, tend to place greater emphasis on qualitative aspects of outputs, such as relationship depth, knowledge quality, and collaboration sustainability.

This difference reflects varying frameworks for evaluating program achievements. Internal staff, accountable to program funders and oversight bodies, naturally focus on measurable outputs that demonstrate program implementation. External stakeholders, experiencing the program as participants, focus more on the practical utility and value of specific outputs for their own objectives.

#### Output Visibility and Recognition

Internal and external perspectives differ regarding the visibility and attribution of certain

program outputs. Internal staff identify a broad range of outputs across program domains, including those that may not be immediately visible to external stakeholders. External stakeholders, particularly those with limited program engagement, tend to recognise fewer outputs and may not always attribute observed changes specifically to DTB interventions.

*"We've all got KPIs, but my sense is ticking a KPI box isn't the same as declaring a program a success. And I think you'll find we all have different definitions of this, so there's nothing written down." (Industry partner)*

This divergence suggests that some program outputs may have limited visibility beyond those directly involved in their production, potentially affecting external perceptions of program impact. It also indicates challenges in distinguishing DTB-specific outputs from those that might have emerged through other mechanisms.

#### Output Distribution Across Participants

Different assessments emerge regarding how program outputs are distributed across participant groups. Internal perspectives tend to emphasise the aggregate volume of outputs across the program, focusing on the overall portfolio of achievements. External stakeholders more often focus on the distribution pattern of these outputs, with some noting variability in which participants benefit most from program activities.

*"A number of companies that had said they were going to put fairly significant chunks of cash in — over a million dollars — just didn't materialise and they ended up doing just little small things or nothing at all." (Academic participant)*

This difference reflects varying perspectives on output equity versus volume. While program staff naturally emphasise total output production as a measure of program effectiveness, external stakeholders are more sensitive to who benefits from these outputs and how evenly opportunities are distributed across the participant community.

### 3.4.3. Output Visibility and Communication

#### Culture Reform Outputs

A different pattern emerges regarding culture reform outputs. Internal perspectives identify

various outputs designed to address cultural barriers, including educational resources, staff mobility placements, and culture-focused events and forums. External stakeholders, however, demonstrate more limited recognition of culture-specific outputs, with some suggesting that tangible manifestations of culture reform work are less visible or well-communicated.

This discrepancy suggests that culture reform outputs may have lower visibility to external stakeholders compared to commercialisation outputs. While program staff can identify specific culture-related deliverables, these may not be as consistently recognised or valued by external participants, potentially due to both their less tangible nature and less systematic communication.

### Output Communication Dynamics

Both internal and external perspectives acknowledge challenges with output communication and visibility. Internal staff highlight constraints on marketing and communications resources that limit their ability to effectively promote program achievements. External stakeholders confirm this limitation, with several noting that program successes could be more systematically shared to build momentum and demonstrate value.

This alignment on communication constraints suggests that output visibility challenges stem from genuine resource limitations rather than strategic choice or stakeholder perception issues. Both implementers and participants recognise that more effective communication of outputs could enhance program impact by building broader awareness of achievements and opportunities.

*"It can happen. It should be and needs to be promoted, maybe more formally there that you have got different pathways here." (Academic participant)*

### IP and Commercialisation Outputs

Both internal and external stakeholders readily identify numerous concrete outputs related to IP management and commercialisation. Internal staff highlight the development of technology prototypes, collaborative research projects, defence-ready organisations, and commercial trials. External stakeholders similarly recognise these tangible outputs, with industry partners particularly noting technology advancements, market access pathways, and defence engagement opportunities.

The strong alignment between internal and external perspectives on these outputs suggests high visibility and effective communication of IP and commercialisation achievements. These outputs appear to be regularly documented, promoted, and recognised across stakeholder groups, creating shared understanding of program achievements in this domain.

*"We could actually do this trial, still go ahead, but we can actually co-fund it. So, part of the money that we get, we can actually help towards funding the trial. And that means we could move that conversation back on track and get it going. And that's quite valuable." (Industry partner)*

### 3.4.4. Synthesis: Output Generation and Recognition

The comparison of internal and external perspectives on outputs and deliverables reveals both strengths and potential gaps in the DTB program's tangible achievements. The program has generated a diverse portfolio of outputs spanning collaborative projects, educational resources, standardised processes, and relationship structures, many of which are recognised by both implementers and participants.

The most widely recognised outputs appear to be those with concrete manifestations and clear value propositions. Collaborative research projects, agreement templates, and network structures demonstrate particularly strong alignment between internal production intentions and external recognition, suggesting these represent successful translation of program activities into valued deliverables.

However, the comparison also reveals certain output recognition challenges that may affect perceptions of program achievement. Communication constraints limit the visibility of some outputs, particularly to stakeholders not directly involved in their production. Additionally, the less tangible nature of culture reform outputs compared to commercialisation deliverables may contribute to their lower recognition among external stakeholders.

The analysis also suggests an output emphasis pattern that mirrors the resource allocation and activity patterns identified previously. IP and commercialisation outputs appear more numerous, concrete, and visible to external

stakeholders compared to culture reform outputs. While this may partly reflect the inherent challenges in producing tangible deliverables from culture-focused activities, it also suggests a potential production emphasis that privileges commercialisation over cultural transformation.

This emphasis pattern raises questions about comprehensive program achievement. While commercialisation outputs demonstrate strong production and recognition, the more limited visibility of culture reform outputs may constrain acknowledgment of program accomplishments in addressing the deeper barriers to sustainable university-industry collaboration. Both internal and external perspectives suggest that strengthening the production and communication of culture-focused outputs could enhance overall perceptions of program achievement across domains.

## 3.5 Outcomes — Short and Medium Term

This section synthesises internal and external perspectives on the short and medium-term outcomes emerging from the Defence Trailblazer (DTB) program. Unlike outputs, which focus on what has been produced, outcomes represent the changes in behaviour, knowledge, skills, status, or functioning that have resulted from program activities. The analysis examines how internal staff, and external stakeholders perceive these emerging changes across both IP/commercialisation and culture reform domains.

### 3.5.1. Views Common to All Stakeholders

#### Enhanced Skills and Capabilities

Both internal and external stakeholders recognise skill development as an outcome of program participation, though with important nuance regarding its distribution. Internal staff highlight various capability improvements among program participants in areas such as IP management and commercialisation processes. External industry partners, particularly from SMEs and early-stage ventures, confirm valuable knowledge gains about defence requirements and processes. Academics acknowledge skills development primarily for early career researchers and PhD students engaged in industry projects, while

noting limited skill enhancement for established academics.

*"Defence Trailblazer gives a lot more structure to that from someone that's coming up, and I'm not the only [person] that's coming up through the system that has an idea, has some technology, which is why it's super important to provide these types of services and information to people that haven't been to university and don't know what a term sheet is, or don't understand accounting, marketing, customer exploration — things like that."  
(Industry partner)*

This pattern suggests that skill development represents a recognised program outcome, but one that manifests unevenly across the participant spectrum. Early career researchers, startup enterprises, and organisations new to defence collaboration appear to experience more substantial capability enhancements, while established academics and larger organisations report less significant skill development. This distribution indicates that the program may be particularly effective in building capabilities among participants with less prior exposure to cross-sectoral collaboration.

#### Streamlined Processes and Practices

Both internal and external perspectives acknowledge some improvement in processes and practices related to university-industry collaboration, though with qualification regarding the extent of change. Internal staff highlight specific process improvements, particularly in areas such as agreement development and collaboration management. External stakeholders, while noting progress in certain areas, emphasise that substantial administrative and procedural barriers continue to hinder effective collaboration despite program interventions.

This qualified alignment suggests recognition of incremental process improvements rather than transformative change. Both implementers and participants acknowledge progress in streamlining certain collaboration processes while recognising the persistence of broader structural challenges.

*"I've also been involved with Defence Trailblazer through [redacted], and they have standardised agreements for their projects now with the universities, which*

*were meant to speed things up. It slowed us down a little bit because of conflict of interest nonsense and things going on. But standardised contracts or agreements that would be imposed or enforced by Trailblazer might help speed things up a little bit." (Industry partner)*

### 3.5.2. Themes Relating to Differing Views

#### Patterns of Attitudinal and Behavioural Change

A significant divergence appears in assessments of attitudinal and behavioural change. Internal staff, while acknowledging the challenges of cultural transformation, tend to identify certain positive indicators of changing attitudes toward collaboration. However, external stakeholders report minimal evidence of attitudinal shifts, with most participants indicating they have not observed significant changes in behaviour or interest levels as a result of DTB interventions. Many note that pre-existing attitudes and established patterns of engagement remain largely unchanged despite program activities.

This divergence suggests a perception gap regarding the program's influence on fundamental attitudes and behaviours. The limited attitudinal change reported by external stakeholders indicates that deeper cultural transformation remains elusive despite program interventions targeted at these outcomes.

*"Before Defence Trailblazer, we haven't looked at all at university from that perspective, in terms of collaboration with university, research capacity, and future outcome. But now that we have joined and we've actually seen the capacity and capability, it's now in the back of our mind of, well, there is an option for it." (Industry partner)*

#### Outcome Development and Sustainability

A significant divergence appears in assessments of outcome depth and sustainability. Internal perspectives tend to emphasise the breadth of program outcomes across multiple domains and stakeholder groups, highlighting the diverse changes observed across the program portfolio. External stakeholders, particularly those with longer experience of university-industry collaboration, often express more cautious assessments regarding the depth and sustainability of observed changes, questioning

whether they represent lasting transformations or more temporary responses to program incentives.

*"It really depends on how the relationship with the industry partner is managed and how the ways of working are established. For projects with a research component and undefined outcomes, which happens quite a lot because you don't know where you're going to find—that is sometimes in contrast with the industry contract mindset of milestone one, milestone two, milestone three, and so on." (Academic participant)*

This difference reflects varying time horizons and reference points for evaluating change. Program staff, focused on current implementation, naturally emphasise observable shifts in the present. External stakeholders, particularly those with previous experience of initiative cycles, may apply longer timeframes when assessing whether current changes represent sustainable outcomes or more transient responses.

#### Outcome Distribution and Consistency

Internal and external perspectives differ regarding the distribution and consistency of program outcomes across participant groups. Internal staff, while acknowledging variability, tend to frame outcomes as broadly shared across program participants. External stakeholders more often emphasise the uneven nature of program outcomes, noting significant variability in how different participants experience and benefit from program engagement.

This divergence suggests that outcome patterns may be more heterogeneous than aggregate assessments might indicate. While program staff can identify general outcome trends across the participant population, individual experiences may vary substantially based on factors such as organisational size, prior collaboration experience, and specific program engagement pathways.

*"We certainly have people who are very happy working with industry partners, and industry is very happy working with the university and what's being achieved. There are definitely a number of successful cases. But I can't say what the situation was like beforehand, because it's been such a short period of time." (DTB staff)*

#### KPIs Versus Substantive Change

A notable difference emerges in how stakeholders conceptualise the relationship

between formal Key Performance Indicators (KPIs) and substantive programmatic change. Internal staff distinguish between KPI achievement and more meaningful program success, noting that technical compliance with metrics does not necessarily indicate transformative change. External stakeholders express similar distinctions, with several drawing sharp contrasts between measurable activities and deeper institutional or cultural shifts.

This alignment on the limitations of formal metrics is notable, suggesting shared recognition that program outcomes extend beyond what is captured in standard reporting frameworks. Both implementers and participants appear to value substantive change over technical compliance, though they may differ in their assessment of how effectively the program is delivering such change.

*"I think we've had a great experience with the interns and then they're becoming staff and things like that. Yeah, look, we've been working with one of the leads of the programs at [redacted] and I guess we struggle sometimes to fit into the university's timetable." (Industry partner)*

### **New UIC collaborations**

Internal and external perspectives differ regarding the establishment of new UICs. Internal staff highlight new UICs built as a result of DTB while external stakeholders reported variable outcomes regarding new UICs. Some were of the view that DTB did not make any new connections between universities and industry, rather only added value to existing connections through funding. The others were of the view, while existing relationship with "usual suspects" have been expanded with projects, they also expanded their networks by establishing relationships with new defence industry organisations.

*"Well, first key things, yes, we knew each other before Defence Trailblazer started. We have already even put our application to one of the previous schemes... so again because of the mutual interest and the research capabilities... Defence Trailblazer was just about to be launching at the University and was looking for an expression of interest already for those researchers and industry who would be interested in participating and because we already had more or less formed research interest and proposal, so we worked on that." (Academic participant)*

## **3.5.3. Outcome Trajectory Patterns**

### **Industry Partner Engagement Outcomes**

Strong convergence exists regarding outcomes related to industry partner engagement patterns. Internal staff highlight the return of industry partners for additional projects as an important indicator of program value and relationship development. External stakeholders confirm this pattern, with industry partners who have had positive initial experiences reporting increased willingness to pursue further university collaborations.

*"A lot of the industry partners are through Trailblazer now happy to work with universities because the IP and commercialisation stuff is far more industry leaning... and seeing things working at pace." (Industry partner)*

This shared recognition of "repeat business" as a significant outcome suggests that the program has successfully demonstrated value to at least some industry participants, creating the foundation for more sustainable relationship development beyond initial engagements.

### **Academic Culture Change Outcomes**

A more mixed pattern emerges regarding outcomes related to academic culture change. Internal perspectives acknowledge variability in academic interest across different disciplines and career stages while highlighting increased engagement from some academic participants. External stakeholders, particularly academics themselves, report more modest or inconsistent cultural shifts, emphasising the persistence of structural barriers and incentive misalignments despite programmatic interventions.

*"The short answer would be no. And I would also then posit that potentially there is, but I'm just not necessarily seeing it. And I'm not sure how we're going to measure it." (Academic participant).*

This pattern suggests more limited progress in cultural transformation compared to technology advancement and industry engagement. While both internal and external stakeholders can identify certain positive indicators, there appears to be shared recognition that deeper academic cultural change represents a more challenging and longer-term outcome that remains at early stages of development.

## Cross-Sectoral Understanding Outcomes

Both internal and external perspectives acknowledge enhanced cross-sectoral understanding as an emerging outcome, though with qualification regarding its depth and distribution. Internal staff highlight improved mutual understanding between academic and industry stakeholders about each other's contexts, constraints, and priorities. External stakeholders confirm certain improvements in understanding, particularly among those with direct cross-sectoral experience through program activities, though many note that substantial communication and cultural divides persist.

This qualified alignment suggests incremental rather than transformative change in cross-sectoral understanding. Both implementers and participants recognise progress in building greater mutual awareness while acknowledging that deeper integration of perspectives and practices remains a work in progress.

*"I suppose it's not necessarily change, but I've seen how well some of our academics are working with industry and willing to work with industry, and I suppose it's a case of moving, doing, getting more academics to think like some of those academic and working with Trailblazer."(Academic participant)*

## Technology Advancement Outcomes

Both internal and external stakeholders recognise significant outcomes regarding technology advancement through program participation. Internal staff highlight the progression of specific technologies along the Technology Readiness Level (TRL) scale, noting how program support has enabled critical development milestones. External stakeholders confirm these advancement outcomes, though with variability in their assessment of progress scale and pace.

The generally positive alignment between internal and external perspectives on these outcomes suggests that technology advancement represents one of the program's more visible and acknowledged achievements. Both implementers and participants can identify concrete examples of how program engagement has enabled technology development that might not otherwise have occurred.

*"DTB and what it's doing with university setups or access to university labs for those early companies, it's probably helping them*

*get from kind of TRL-2, TRL-3 maybe to TRL-5, but it's kind of that next step that's the big jump." (Industry partner)*

## 3.5.4. Synthesis: Outcome Development

The comparison of internal and external perspectives on short and medium-term outcomes reveals a nuanced picture of program achievement. The DTB program has generated various positive outcomes across both IP/commercialisation and culture reform domains, with particularly strong progress in areas such as technology development, skill enhancement, and initial relationship building.

The most widely recognised outcomes appear to be those with concrete manifestations and clear pathways from program activities. Technology advancement, enhanced capabilities, and repeat industry engagement demonstrate particularly strong alignment between internal and external assessments, suggesting these represent substantive achievements rather than merely perceptual successes.

However, the comparison also reveals important outcome development challenges that may affect the program's transformative potential. Cultural outcomes, particularly those related to deeper academic incentive structures and institutional practices, appear to be developing more slowly and unevenly compared to technical and relationship outcomes. This pattern suggests that while the program is effectively addressing immediate collaboration barriers, longer-term structural challenges may require sustained attention beyond current interventions.

The analysis also indicates a potential outcome emphasis pattern that mirrors the resource allocation, activity, and output patterns identified previously. IP and commercialisation outcomes appear more substantial, visible, and widely acknowledged compared to culture reform outcomes. While this may partly reflect the inherently longer timeframes required for cultural transformation, it also suggests that the program's current configuration may be more effectively driving commercialisation outcomes than cultural change.

This emphasis pattern raises questions about long-term program impact. While commercialisation outcomes demonstrate encouraging progress, their sustainability may ultimately depend on deeper cultural and institutional changes that appear to be developing more slowly. Both internal and

external perspectives suggest that strengthening culture reform outcomes could enhance the program's comprehensive effectiveness and long-term legacy across both primary domains.

## 3.6 Impact — Long Term

This section synthesises internal and external perspectives on the potential long-term impacts of the Defence Trailblazer (DTB) program. These impacts represent the highest-order results in the program logic, typically manifesting over longer timeframes (7-10 years) and extending beyond direct participants to affect broader systems or sectors. Given the program's relative length, this analysis focuses on emerging indications of potential impact rather than realised transformations.

### 3.6.1. Views Common to All Stakeholders

#### Sustainable Collaborative Relationships

Both internal staff and external stakeholders identify the establishment of sustainable collaborative relationships between universities and industry as a fundamental intended impact of the program. Internal perspectives emphasise how the program's various elements are designed to create relationship structures that outlive specific projects and funding cycles. External stakeholders similarly recognise relationship sustainability as a critical long-term objective, though many express more qualified expectations about whether current approaches will generate truly enduring partnerships.

*"A lot of the industry partners are through Trailblazer, now happy to work with universities because the IP and commercialisation stuff is far more industry leaning... and be there, seeing things working at pace." (Industry partner)*

This shared vision suggests that relationship sustainability represents a well-understood and broadly valued impact goal. Both implementers and participants recognise that the program's ultimate success will depend on whether it catalyses collaborative patterns that persist beyond its funded lifespan.

#### Enhanced Defence Capabilities

Strong alignment exists regarding the program's intended impact on Australia's defence capabilities. Internal staff articulate how the

program aims to strengthen sovereign capability through successful commercialisation of defence technologies. External stakeholders, particularly those with defence backgrounds, similarly emphasise the national strategic importance of enhancing defence capabilities through improved university-industry collaboration.

This convergence suggests that the defence capability enhancement vision resonates across stakeholder groups, providing a shared ultimate purpose that connects shorter-term outputs and outcomes to broader national objectives. Both implementers and participants can articulate how the program's activities relate to this long-term capability goal, even as they may differ in their assessment of progress toward it.

*"We should have really been building up to that the whole time and advancing our sovereign capability, because they say you fight tomorrow's war with today's Defence Force. We're not ready. We're absolutely not." (Industry partner)*

#### Integrated Innovation Ecosystem (Culture and IP)

Both internal and external perspectives recognise the development of a more integrated innovation ecosystem as an important long-term impact objective. Internal staff describe how the program aims to create improved pathways for knowledge flow and technology development across academia, industry, and defence. External stakeholders similarly value the potential for a more connected ecosystem, though with varying expectations about the program's ability to catalyse such systemic integration.

*"I believe Defence Trailblazer has definitely fulfilled a gap that industry, businesses like ours, have seen was missing. So that's a really good start. I do believe though, the next level is being able to have connection, and I think this is a bigger challenge – actually having some connection point within the prime." (Industry partner)*

This shared conceptualisation suggests broad agreement on the importance of ecosystem integration as a long-term impact goal. Both implementers and participants recognise that sustainable innovation requires connected systems rather than isolated collaborations, even as they may differ in their assessment of the current trajectory toward such integration.

## 3.6.2. Themes Relating to Differing Views

### Balancing Short-term Delivery and Long-term Change

A significant divergence appears in perspectives on balancing immediate outputs with long-term transformation. Internal staff emphasise the importance of demonstrated early achievements in building momentum and stakeholder confidence, suggesting that visible short-term outputs can create the foundation for longer-term impacts. External stakeholders, particularly those with experience of previous initiatives, more often emphasise the risks of prioritising quick wins over deeper systemic change, expressing concern that short-term output focus may come at the expense of more fundamental transformation.

*"From an industry perspective, you'll find the immediate short-term quick wins, and there's some people that are really happy and engaged. From an academic perspective, it's those guys on R&D projects who can publish and show they're getting funding in. That's where you're going to find it, but apart from that, I can't tell you yet."* (DTB staff)

This difference reflects varying theories of change regarding how best to achieve lasting impact. Program staff, operating within defined timeframes and accountability structures, naturally emphasise the importance of tangible outputs that demonstrate progress. External stakeholders, especially those with longer historical perspective, more often question whether such outputs will translate into sustainable impacts without deeper institutional reform.

### Institutional Reform Considerations

Internal and external perspectives differ regarding the institutional reform requirements for sustainable impact. Internal staff, while acknowledging the importance of institutional change, tend to emphasise how program activities can progressively influence institutional practices through demonstration effects and success stories. External stakeholders, particularly academics, more strongly emphasise the need for fundamental reforms to core university incentive structures, promotion criteria, and resource allocation models to enable lasting cultural transformation.

This divergence suggests different assessments of how deeply embedded the barriers to collaboration are within existing institutional structures. While program staff approach institutional change as a gradual process that can be influenced through targeted interventions, many external stakeholders view it as requiring more fundamental restructuring of core academic systems and values.

*"There is no way in the Australian system that makes any sense for a university academic or post-doc because none of the metrics inside the university have got anything to do with efficient transfer of information into some external entity."* (Academic participant).

### Sustainability Planning for Impact

A notable difference emerges in perspectives on sustainability planning requirements. Internal staff identify various mechanisms for embedding program elements within ongoing institutional practices, emphasising the role of formal structures like the People and Culture Action Group in institutionalising program lessons. External stakeholders express stronger concerns about sustainability planning, with many questioning who will take responsibility for maintaining university-industry facilitation once program funding ends.

*"I think where the opportunity arises for Defence Trailblazer to promote university collaboration is when you work closely with other agencies that have the same KPI to promote sovereign capability, such as Austrade, TDA, different agencies."* (Industry partner)

This difference reflects varying assessments of the program's current sustainability trajectory. While internal staff can identify specific continuity mechanisms, external stakeholders appear less convinced about their adequacy, suggesting potential gaps in how sustainability planning is being communicated or implemented.

## 3.6.3. Impact Trajectory Patterns

### Commercial Defence Technology Enterprises

Both internal and external stakeholders identify the establishment of viable commercial enterprises delivering defence technologies as a potential long-term impact of the program. Internal staff highlight how various

commercialisation support activities are designed to develop sustainable businesses that can deliver sovereign capabilities. External industry stakeholders, particularly from ventures demonstrating early commercial traction, also recognise this potential, though with varying assessments of the timeframes and support required.

*"Commercialisation into defence means you stand on your own merit because you provide a product that defence is looking for. Once you get into defence and prove yourself, you can grow sideways and expand. That's what we call the holy grail in terms of successful sales – being able to commercialise on your own merit with a standalone contract." (Industry partner)*

The generally positive alignment on this potential impact suggests that the program's commercialisation activities appear to be establishing foundations for enterprise development. Both implementers and participants can identify emerging ventures and technologies that have potential to develop into significant commercial entities, though with recognition that substantial further development is required.

### **Institutionalised IP Processes**

Internal perspectives emphasise the potential for institutionalisation of more effective IP management processes within universities, creating sustained changes in how these institutions approach IP in industry collaborations. External stakeholders also recognise potential for such institutionalisation, though with more qualified expectations about the depth and permanence of procedural reforms without deeper cultural change.

This qualified alignment suggests that while the program has developed improved IP approaches, their long-term institutionalisation remains uncertain. Both internal and external perspectives acknowledge that translating current practice improvements into permanent institutional change will require sustained attention beyond current program implementation.

*"I think being clear and upfront at the beginning for both the university and us – that's what we tried to do in Accelerating Sovereign Industrial Capabilities. We were pretty transparent that industry would own the IP by default, not the universities. That was signed off at quite a high level.*

*But whether that communication and messaging has filtered down to other parts of the university, I don't know that it has." (DTB staff)*

### **Transformed Academic Culture**

A more divergent pattern emerges regarding potential impacts on academic culture. Internal staff, while acknowledging the challenges of cultural transformation, identify various indicators that suggest potential for longer-term cultural shifts, particularly through changing perceptions and demonstrating collaborative benefits. External academic stakeholders, however, express more scepticism about fundamental cultural transformation given the persistence of traditional incentive structures and institutional priorities.

*"How much influence do you think an intermediary entity can have on culture? I think less than it might think it will. In a large organisation, you've got to follow the money. So, inherently, I am about lowering expectations for cultural change given the sheer size and scale of the university." (Academic participant)*

This divergence suggests more limited confidence in cultural impact compared to commercial impact. While both internal and external stakeholders recognise the importance of academic culture transformation for sustainable collaboration, many external participants question whether current approaches will generate the depth of cultural change required without more fundamental reforms to academic reward and recognition systems.

### **Defence-Aware Academic Pipeline**

Both internal and external perspectives acknowledge potential impact on developing a more defence-aware academic pipeline through student engagement and early career researcher involvement. Internal staff highlight the investment in various student engagement initiatives and PhD programs as contributing to this pipeline development. External stakeholders, both academic and industry, similarly recognise the value of student involvement in creating future academics with greater defence industry awareness.

*"There's been very good benefit for the younger folks at the coalface – probably more cultural than technical, to be honest.*

*It's the first time that young engineers actually get to learn that. Until you've lived the experience, because they're engineers and scientists, they'll put technology first. But it's only through going through these experiences and understanding that actually it's about the relationships. I think that's very valuable. And that's long-term, right, because you're changing someone's mindset, you're changing someone's perception." (Industry partner)*

This alignment suggests that pipeline development represents a recognised potential impact area with positive indicators. Both implementers and participants can identify concrete examples of student engagement that may influence future academic capabilities and orientations, creating human capital that extends beyond current program participants.

### **3.6.4. Synthesis: Impact Potential**

The comparison of internal and external perspectives on long-term impacts reveals a nuanced picture of the program's transformative potential. The DTB program has established foundations for various potential impacts across both IP/commercialisation and culture reform domains, with particularly strong progress toward commercial enterprise development and defence capability enhancement.

The most widely recognised impact potential appears to be in areas with clearer pathways from current activities to future transformations. Commercial enterprise development, enhanced defence capabilities, and student pipeline development demonstrate relatively strong alignment between internal and external assessments of potential, suggesting these

represent plausible impact trajectories based on current program implementation.

However, the comparison also reveals important impact challenges that may affect the program's long-term legacy. Cultural and institutional impacts, particularly those related to deeper academic structures and practices, appear less certain given current approaches and timeframes. This pattern suggests that while the program is establishing foundations for technological and commercial impacts, broader systemic transformation may require extended timeframes and additional reform mechanisms.

The analysis also indicates a potential impact emphasis pattern that mirrors the resource allocation, activity, output, and outcome patterns identified previously. IP and commercialisation impacts appear more likely and imminent compared to deeper cultural and institutional impacts. While this may reflect the inherently longer timeframes required for cultural transformation, it also raises questions about whether current program configurations will ultimately deliver the comprehensive transformation required for truly sustainable university–industry collaboration.

A critical question emerging from both internal and external perspectives concerns impact sustainability beyond the program's funded lifespan. While the program has established various continuity mechanisms, both implementers and participants express uncertainties about who will maintain the university–industry facilitation role once program funding concludes. This shared concern suggests that sustainability planning represents a critical focus area for ensuring that the program's various impacts endure beyond its formal conclusion.

## 4. Conclusion

This report presents a comprehensive comparative analysis of the Defence Trailblazer (DTB) program, examining how internal program staff and external stakeholders understand and experience its implementation. The analysis reveals important insights about program effectiveness and opportunities for enhancement.

### Key Findings

A consistent pattern emerges across the program where resources, activities, outputs, and outcomes demonstrate greater visibility and effectiveness in intellectual property and commercialisation compared to culture reform initiatives. While commercial objectives show encouraging progress with strong stakeholder recognition, cultural transformation efforts are developing more gradually and require sustained attention.

The program demonstrates notable success in creating structured innovation pathways, improving collaboration processes, and facilitating technology development. However, based on the data, it is evident that the most persistent barriers are structural and systemic in nature - including university bureaucracy, temporal mismatches between sectors, and academic reward system conflicts - while DTB's greatest successes centre on relational and facilitative functions such as direct access, funding leverage, and network building. This pattern suggests, deeper cultural barriers related to academic incentive structures remain persistent challenges, suggesting that procedural improvements alone may not generate sustainable collaboration without more systematic attention to underlying institutional factors.

The dual-university structure, whilst offering benefits in expertise and reach, introduces coordination complexities affecting stakeholder experiences. The evidence indicates DTB has been most effective as a bridge and broker between sectors rather than as a system transformer, successfully facilitating connections while structural institutional barriers persist. Limited marketing and communications capacity

constrains program visibility and engagement, particularly impacting culture reform initiatives that require sustained communication to influence established practices.

### Stakeholder Perspectives

Notable differences exist between how program staff perceive activities versus how external stakeholders experience them. What appears as operational constraints to implementers can represent significant business or career risks to participants. Early-career researchers and startup enterprises often experience more substantial benefits compared to established academics or larger organisations.

Both internal and external stakeholders express concerns regarding program sustainability beyond 2026, highlighting the importance of embedding successful elements within ongoing institutional practices.

### Strategic Opportunities

The comparative analysis identifies several development opportunities: enhanced communication capacity, more systematic attention to culture reform, addressing dual-university coordination challenges, and strengthened sustainability planning. The program's demonstrated strengths in pragmatic process improvement provide a solid foundation for addressing these areas.

### Looking Forward

DTB has established significant foundations for enhanced university-industry collaboration in defence technology commercialisation. Its experience offers valuable insights for similar initiatives, demonstrating effective approaches to bridging sectoral boundaries while highlighting important considerations for institutional change programs.

By building on demonstrated strengths whilst addressing the opportunities identified through this analysis, DTB can maximise its contribution to Australia's defence innovation ecosystem across both immediate collaboration outcomes and longer-term transformational objectives.



## ANNEX A: References

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