Implementing Strategy through P3M and Benefits Management

A Case Study of the Defence Science and Technology Group

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Never Stand Still

Introduction – persistent problem of project failure

- The problem of IT project failure has persisted over the past 50 years *(Caminer, 1958; PMI, 2016).*

  - disappointing results in all types of large projects: manufacturing, marketing and mergers and acquisitions *(Lovallo and Kahneman, 2003).*

  - projects are undertaken to implement strategy *(Kwak and Anbari, 2009)*

  - Not much evidence that strategic goals are being realised *(Kiechell, 2010; PMI, 2016; Young and Grant, 2015).*

10-year strategic goals (VIC/NSW)

- ↑ economy, ↑ jobs (↑quality)
- ↓ crime 5% & 'feel safer'
- ↑ health
  - ↓ waiting times (emergency, elective, …)
- ↑ education
  - ↑ literacy/numeracy
  - >90% yr 12
  - ↑ VET participation
- ↑ transport
  - ↓ commuting times
- ↑ environment
  - ↓ water usage 15%

Introduction – benefits management

- It is argued that increasing control can help deliver the outcomes needed to realise strategic goals (Tjahjana et al., 2009).
  - The types of controls that have been tried in the past are mainly at the project level and include project steering committees and project management methodologies and processes (Office of Government Commerce, 2009; PMI and Cleland, 2008).
  - More recently the controls that are being advocated are at the program and portfolio level and one promising development is in the area of **benefits management** (Badewi, 2016; Bradley, 2010; Breese et al., 2015; Chih and Zwikael, 2015; Ward and Daniel, 2012).
- the uptake of benefits management has been low … Breese et al. (2015) suspect there are barriers to adoption.
  - Breese et al. (2015) have suggested further research be undertaken to identify the key factors that may enable the uptake of benefits management and also to explore how benefits management fits within P3M approaches in organisations.
  - The opportunity to research these questions presented themselves when DST Group embarked on an organisation-led strategic initiative to implement P3M as its approach to investment and the viability of benefits management

Research Methodology

- An action research methodology was adopted because DST Group has a practical problem that needs a solution which may be better delivered by trialling or testing the viability of the approach rather than by theoretically based academic research *(Brydon-Miller et al., 2003).*
  - Furthermore, the theory on project failure has been found to be ineffective.
  - More specifically the action based research methodology is appropriate as it allows for theory to emerge as the intervention is adapted to the specific context of the issue to be addressed and as the participants reflect on their theories-in-use *(Eden and Huxham, 1996; Schön, 1983).*

- Research was conducted in 4 stages:
  - STAGE 1: Clarification
  - STAGE 2: Planning: development of a benefits management framework.
  - STAGE 3: Act & Observe: benefits management framework was presented to key stakeholders
  - STAGE 4: Reflect: Benefits management and P3M theories were developed based on the degree that the actions matched expectations.

Case Study: Defence Science & Technology Group

Stage 1: Clarification

- DST Group provides scientific advice and innovative technologies to meet Australia's Defence and National Security challenges.
  - DST Group is part of the Department of Defence and DST Group is Australia's second largest publicly funded research organisation with approximately 2,100 scientists, engineers, IT specialists and technicians.
  - DST Group is organised into 37 Major Science and Technology Capability (MSTC) areas that have been developed to deliver outcomes against Defence and National Security strategies.


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Case Study: Defence Science & Technology Group

Stage 1: Clarification

- DST Group provides value through its capacity to reduce and mitigate strategic and operational risks and to create and maintain a capability edge.

    – DST Group has a need to explain how it adds value and an audit report found that "**it is difficult for the Group to demonstrate quantitatively the extent to which its portfolio of work aligns with Defence's strategic priorities**."(ANAO, 2015, p. 10).

    – In addition, the 2016 Defence First Principles review identified a recommendation that DST Group "be **required to clearly articulate its value proposition**".

- DST Group makes considerable effort to liaise with each of the Defence and National Security client domains.

    – The client feedback is positive but issues related to prioritisation of the DST Group capabilities and the research program have been raised.

    – In the past DST Group scientists prioritised work in consultation with clients using primarily a bottom-up process across a large number of requirements (over 1000 in total).

    – The large number of client requirements made it difficult to evaluate and agree the overall priorities across a large number of Defence stakeholders.

Project, Program and Portfolio Management (P3M)
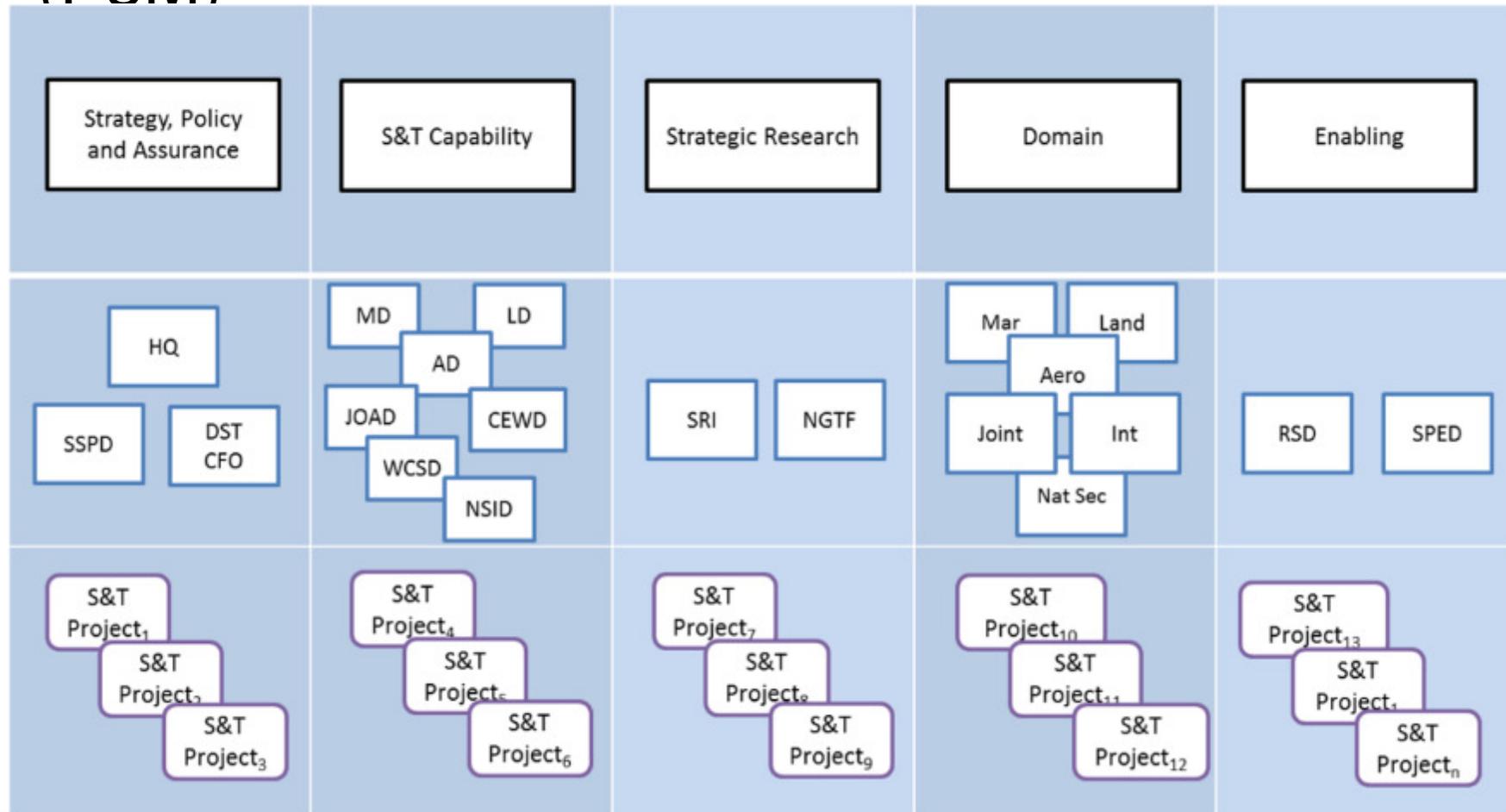
Case Study: Developing a Benefits Framework
Stage 2: Planning

- The investment process is being supported by using Investment Logic Maps (ILM), a tool that had been developed by the Victorian Government in the early 2000s, to provide a standard means to outline the business case for investment proposals (Jenner, 2012).

- The researchers in this project realised they may add value by developing a benefit framework that could be used as an input for developing the ILMs or business cases.

- The researchers turned to the Defence White Paper to look for an organisation-wide set of benefits.
  - The White Paper states an objective to have a regionally superior defence force
    - Preparedness, Capability and Future Capability as criteria for measuring superiority.
  - The White Paper also highlighted an innovative defence industry and international engagement as objectives

Overview of Defence strategy

Regionally
superior ADF
- More prepared
- More capable, agile, potent
  - *Superior Maritime, Air, Land, Cyber capabilities*
- Future capability

Defence industry
& innovation

International
Engagement

Deter, deny, defeat any threats

Support security *[of neighbours]*

Provide meaningful contribution

Secure resilient Australia

Secure nearer region

Stable Indo-Pacific region and rules based Global order

Defence is prepared to respond with military force
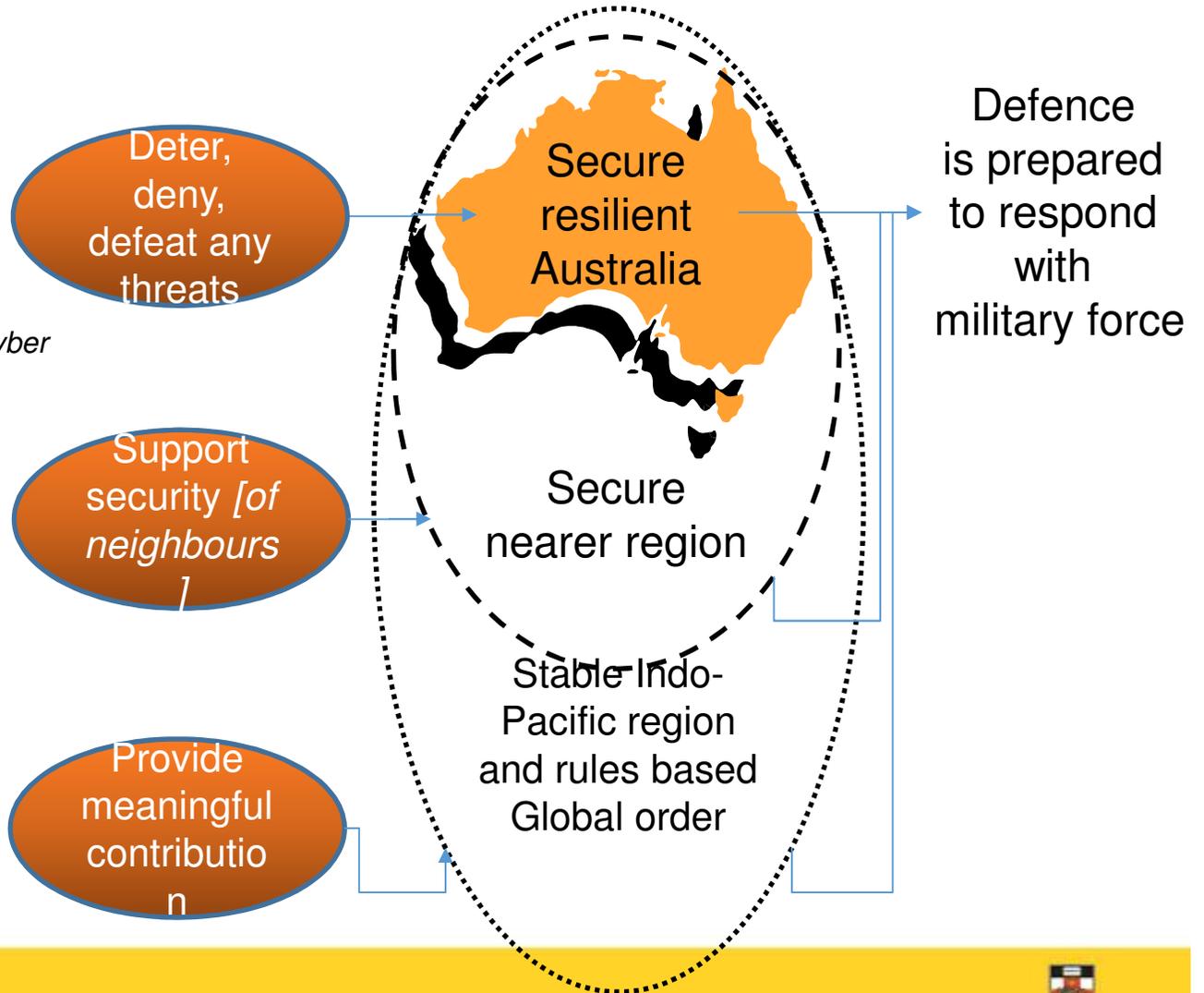
Capability Framework

Capability Streams: Prioritisation
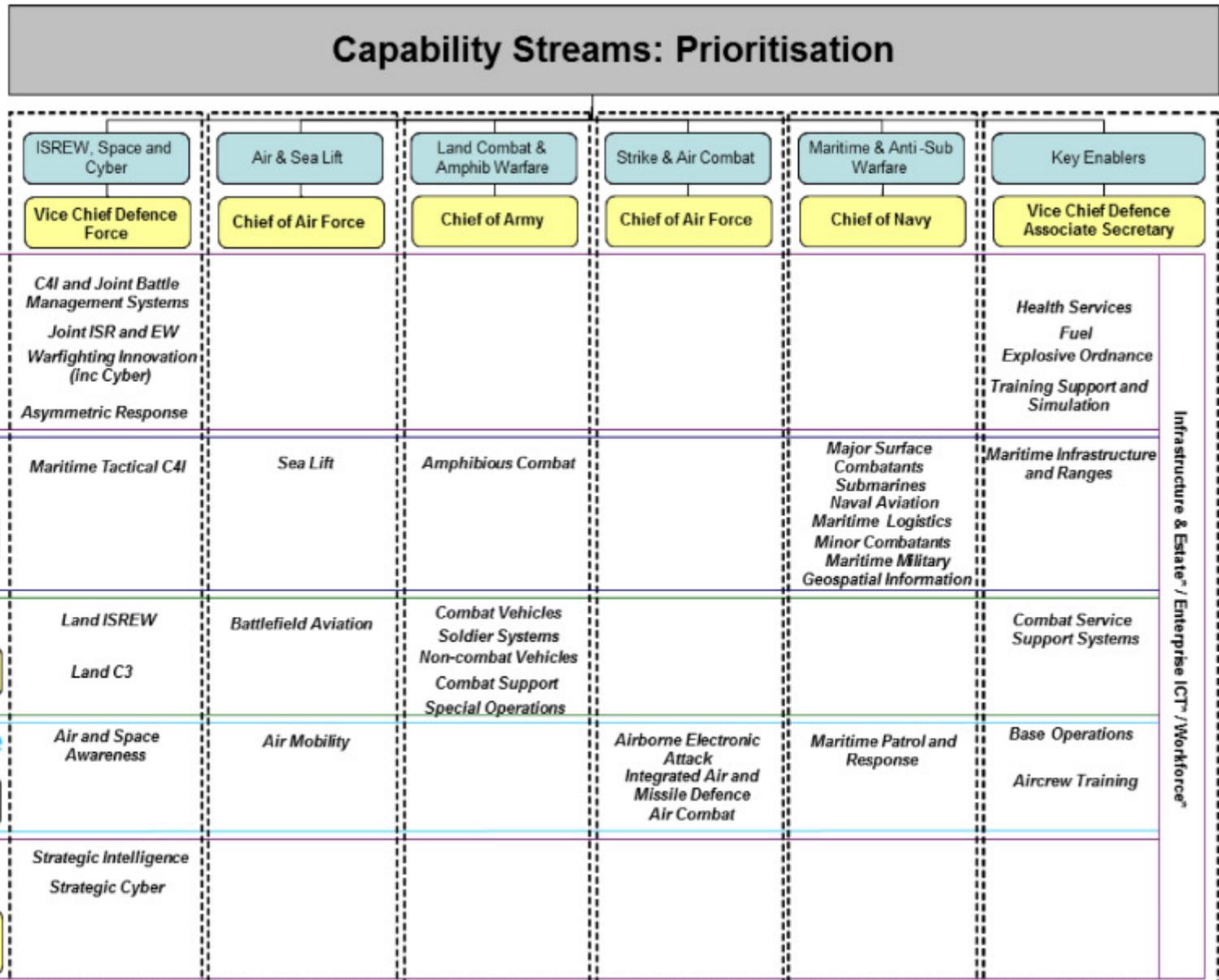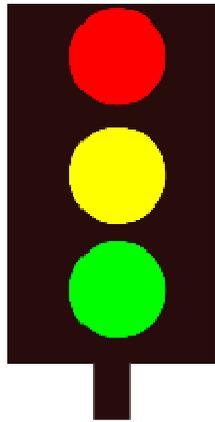
Capability Manager Domains	ISREW, Space and Cyber — Vice Chief Defence Force	Air & Sea Lift — Chief of Air Force	Land Combat & Amphib Warfare — Chief of Army	Strike & Air Combat — Chief of Air Force	Maritime & Anti-Sub Warfare — Chief of Navy	Key Enablers — Vice Chief Defence Associate Secretary
Joint Integration — Vice Chief Defence Force	C4I and Joint Battle Management Systems; Joint ISR and EW; Warfighting Innovation (inc Cyber); Asymmetric Response					Health Services; Fuel; Explosive Ordnance; Training Support and Simulation
Maritime — Chief of Navy	Maritime Tactical C4I	Sea Lift	Amphibious Combat		Major Surface Combatants; Submarines; Naval Aviation; Maritime Logistics; Minor Combatants; Maritime Military Geospatial Information	Maritime Infrastructure and Ranges
Land — Chief of Army	Land ISREW; Land C3	Battlefield Aviation	Combat Vehicles; Soldier Systems; Non-combat Vehicles; Combat Support; Special Operations			Combat Service Support Systems
Air & Space — Chief of Air Force	Air and Space Awareness	Air Mobility		Airborne Electronic Attack; Integrated Air and Missile Defence; Air Combat	Maritime Patrol and Response	Base Operations; Aircrew Training
Intelligence & Cyber — Deputy Secretary Strategic Policy and Intelligence	Strategic Intelligence; Strategic Cyber					

Infrastructure & Estate" / Enterprise ICT" / Workforce"

Benefits-Outcomes Framework

Pie chart segments:
- More influence internationally
- Preparedness and sustainable
  - Reliability,
  - Availability,
  - Maintainability
- More Capable, Agile, Potent
  - Lethality
  - Survivability
  - Resilience
  - Reduce Cost, Increase Safety
- More innovative defence industry
- Increased National Security
- Develop future capability

Regionally **superior** ADF
- More prepared
- More capable, agile, potent
  - *Superior Maritime, Air, Land, Cyber capabilities*
- Future capability

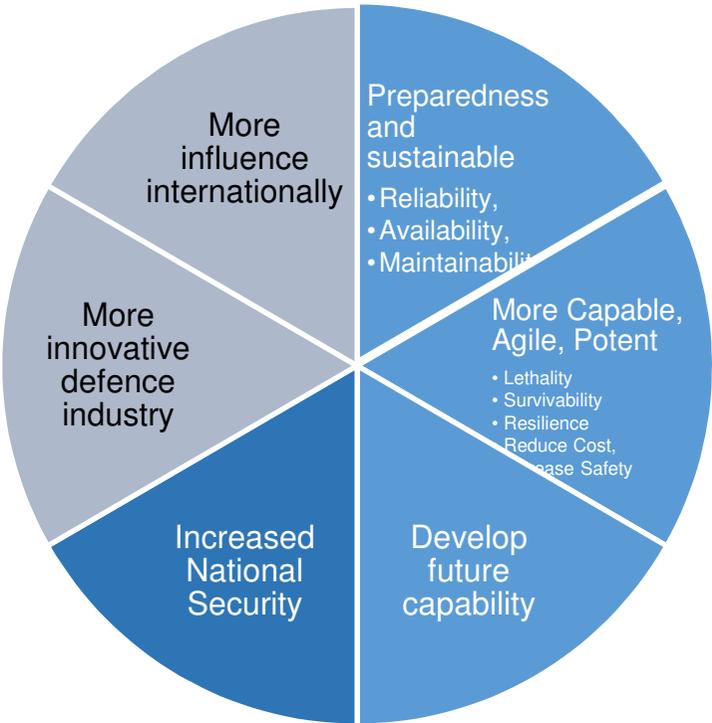Defence industry & innovation
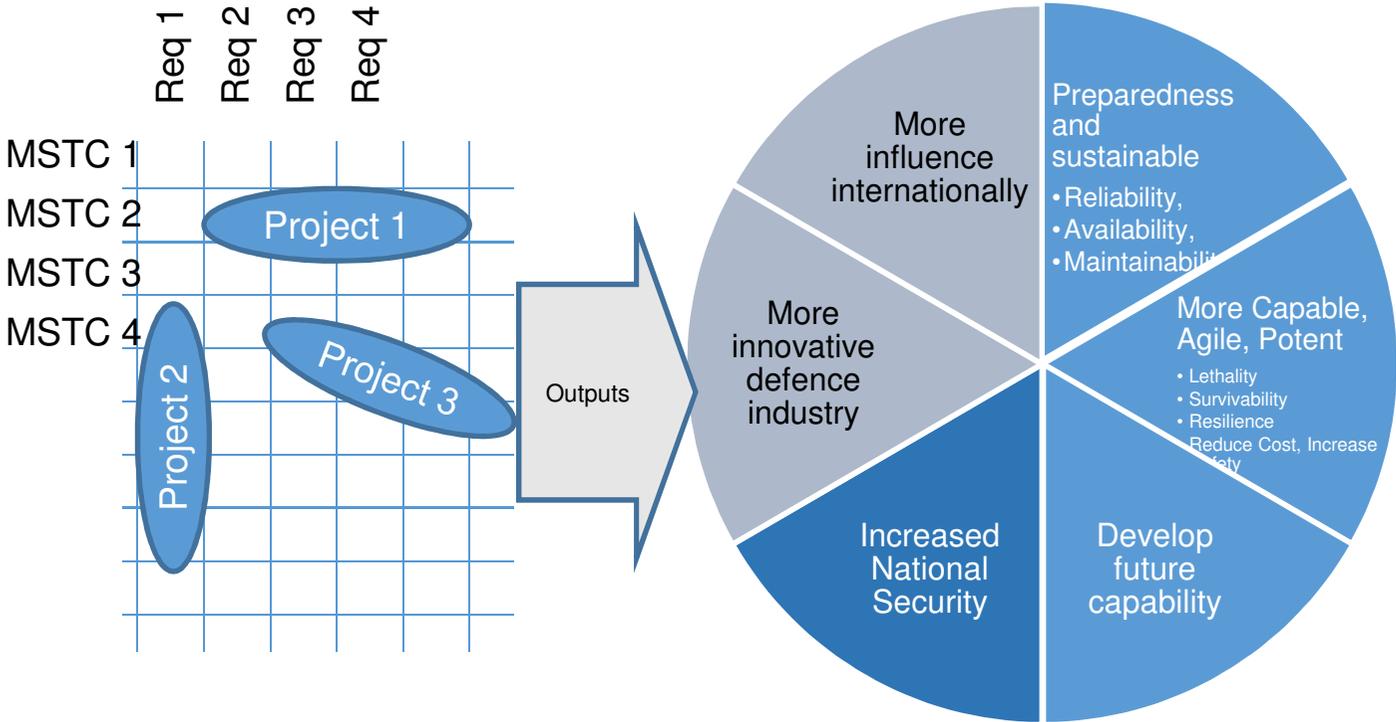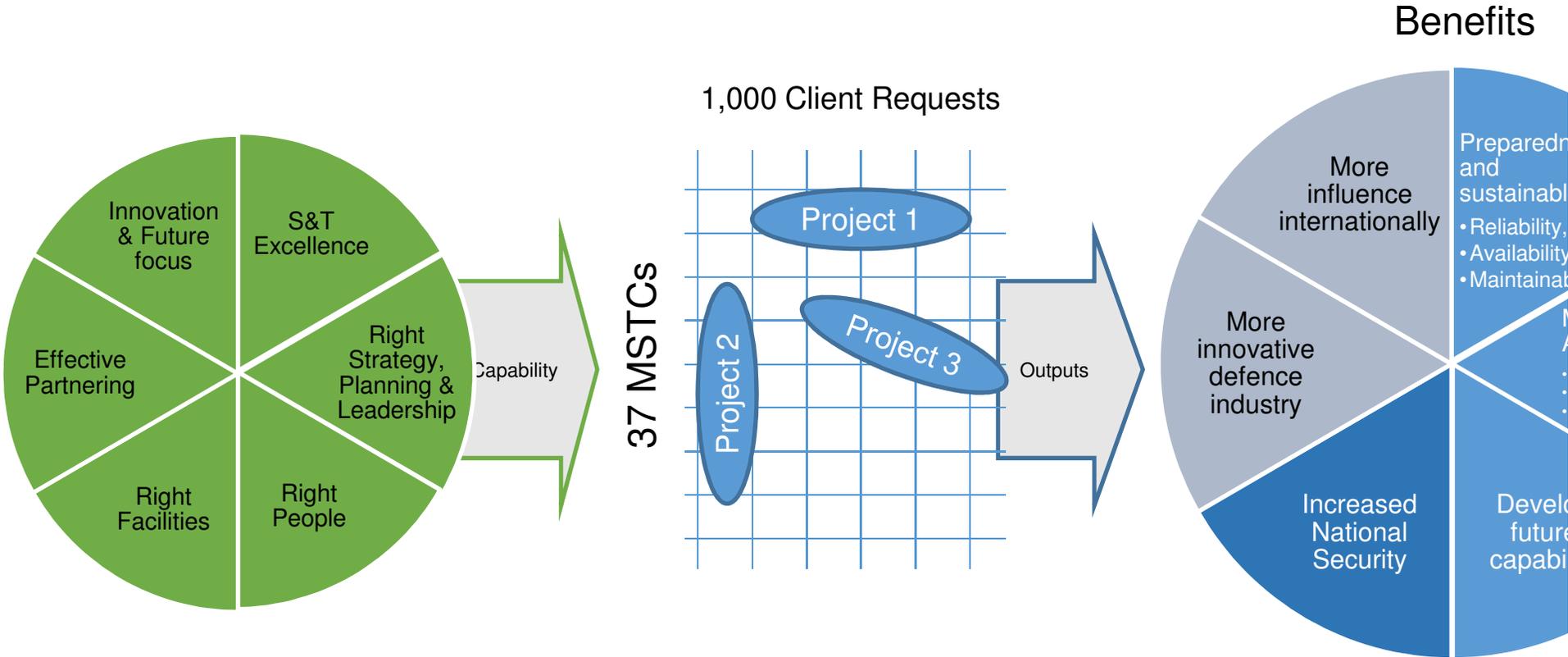
International Engagement

Deter, deny, defeat any threats

Support security *[of neighbours]*

Provide meaningful contribution

DST Group contribution to Defence strategy
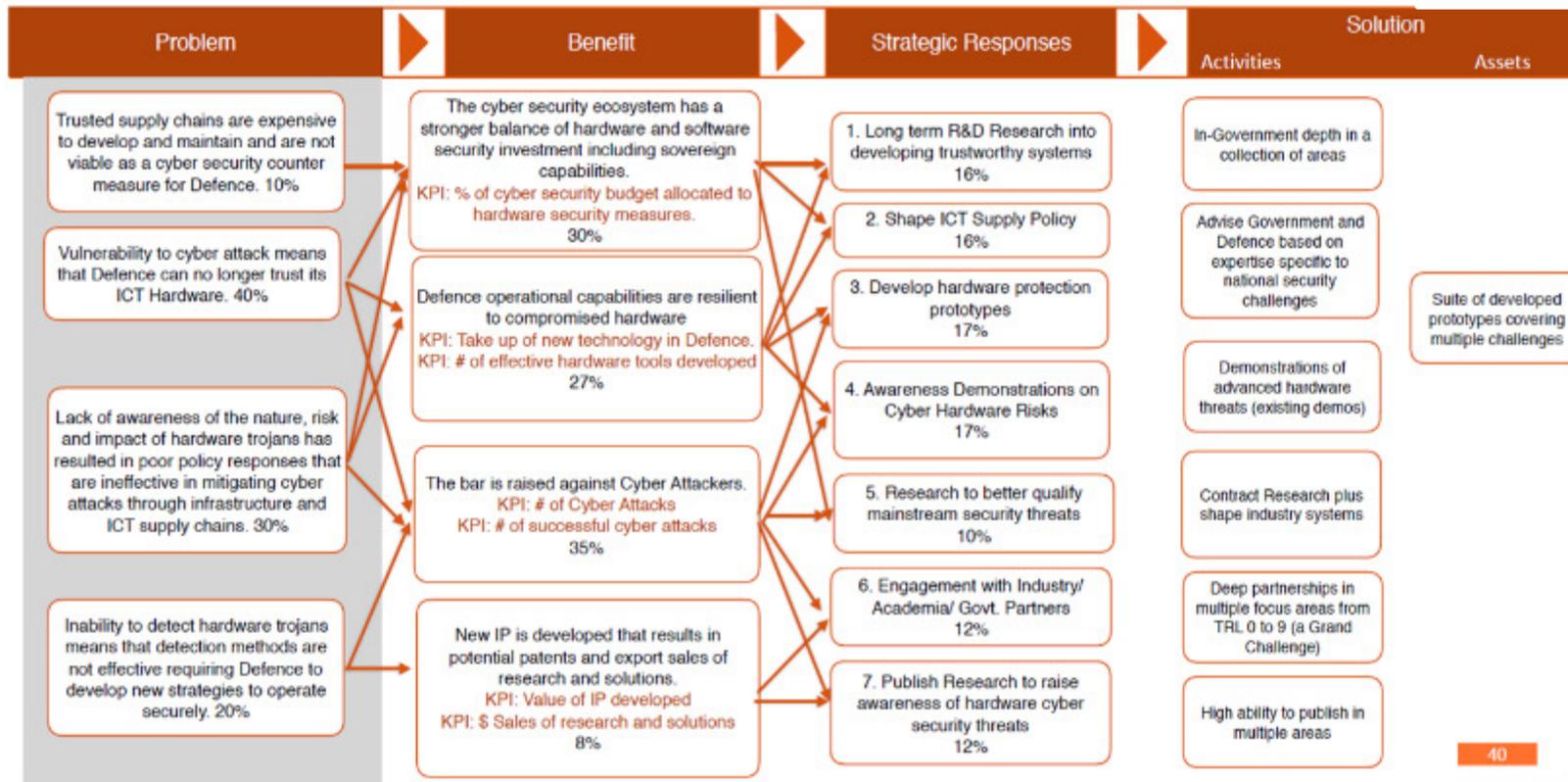
MSTC Fundamental Inputs to Capability

Case Study: Benefits and Investment Logic Maps

Investment Logic Map - Trustworthy ICT

Problem	Benefit	Strategic Responses	Solution — Activities	Assets
Trusted supply chains are expensive to develop and maintain and are not viable as a cyber security counter measure for Defence. 10%	The cyber security ecosystem has a stronger balance of hardware and software security investment including sovereign capabilities. KPI: % of cyber security budget allocated to hardware security measures. 30%	1. Long term R&D Research into developing trustworthy systems 16%	In-Government depth in a collection of areas	Suite of developed prototypes covering multiple challenges
Vulnerability to cyber attack means that Defence can no longer trust its ICT Hardware. 40%	Defence operational capabilities are resilient to compromised hardware KPI: Take up of new technology in Defence. KPI: # of effective hardware tools developed 27%	2. Shape ICT Supply Policy 16%	Advise Government and Defence based on expertise specific to national security challenges	
Lack of awareness of the nature, risk and impact of hardware trojans has resulted in poor policy responses that are ineffective in mitigating cyber attacks through infrastructure and ICT supply chains. 30%		3. Develop hardware protection prototypes 17%	Demonstrations of advanced hardware threats (existing demos)	
	The bar is raised against Cyber Attackers. KPI: # of Cyber Attacks KPI: # of successful cyber attacks 35%	4. Awareness Demonstrations on Cyber Hardware Risks 17%		
		5. Research to better qualify mainstream security threats 10%	Contract Research plus shape industry systems	
Inability to detect hardware trojans means that detection methods are not effective requiring Defence to develop new strategies to operate securely. 20%	New IP is developed that results in potential patents and export sales of research and solutions. KPI: Value of IP developed KPI: $ Sales of research and solutions 8%	6. Engagement with Industry/ Academia/ Govt. Partners 12%	Deep partnerships in multiple focus areas from TRL 0 to 9 (a Grand Challenge)	
		7. Publish Research to raise awareness of hardware cyber security threats 12%	High ability to publish in multiple areas	

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Project, Program and Portfolio Management (P3M)

Case Study: Results to date
Stage 3: Act and Observe

- Moved away from 1000 CRs to approx. 10-11 'strategic' projects

- Use of voting criteria allowed a judgement to be made on the overall 'value' of a given ILM
  - Scoring criteria
  - Aggregation based on 'crowdsource'
  - Voting outcome was universally agreed
  - Rich set of comments from the evaluation panel was fed back to the presenters

- Clients were able to see the 'strategic picture' when between 10-15 projects were presented rather than hundreds of individual requirements

- A sense of 'shared benefit' meant we were able to identify better ways of marshalling resources from both the client side and from DST
  - Shared asset ('ship available for use')
  - Need to move staff with similar skills to area of greater need
  - More collegiate approach to sharing resources across boundaries where greater benefit was identified

- Mix of 'quality' – some presenters and ILMs were able to articulate benefit and value better than others – more training is planned to improve this 'skill'

STAGE 4: Reflection

Organisational Change

- DST Group had a major driver to implement P3M and benefits management: they want to avoid any negative findings from future audits and Defence reviews.

- The senior management group had bought into the P3M initiative, but the case suggests a lot more is required than a superficial level of top management support (TMS).
  - The P3M initiative was part of a broader strategic initiative called 'D2 - Strategic engagement with client focus' and was led and managed by two senior executives.
  - The strategic initiative was given significant management support and resources and was subject to scrutiny through quarterly progress reviews.
  - The team responsible for the D2 Strategic initiative placed a high degree of emphasis on communication and consultation with staff at all levels within the organisation to identify how P3M may be successfully adopted.
  - A change management plan was also developed which included an emphasis on organisational culture. The executive leadership team also requested briefing sessions on how the new P3M processes would work and they thoroughly discussed all of the details before committing to continue with the initiative.

- The case confirms previous findings that TMS is crucial for projects to succeed and provides a specific example of the need for TMS for P3M and benefits management projects *(Young and Jordan, 2008; Young and Poon, 2013)*.

STAGE 4: Reflection

Key factors in the uptake of Benefits Management

- The P3M initiative at DST Group is a work-in-progress and it is not yet possible to claim Benefits Management has been adopted.

- The case suggests that the holistic implementation of benefits management is quite difficult.

  - It was possible to develop a benefits framework, but to develop a framework which would gain widespread acceptance was difficult.

  - The researcher had theorised that the benefits framework would emerge from a reconciliation of all the existing strategy documents. What was found was that there were a large number of strategy documents that were difficult to reconcile

  - The benefits framework guided some business cases and was not used for other business cases. It is not yet clear whether business unit business cases can align with high-level Defence objectives in the way the framework assumes or whether benefits need to be set at a more tactical level.

- What this experience highlights is that the development of a useful benefits management framework is likely to be technically difficult. A large effort is likely to be needed to socialise a benefits framework and gain widespread acceptance in an organisation.

Conclusion

- P3M and benefits management are organisation wide initiatives

- implementation is difficult because:
  - it requires a change in organisational culture driven by the top management team.
  - Technically it appears to be difficult because it is necessary to reconcile the many strategy documents produced at the various levels within a large organisation. High calibre insider knowledge is needed to identify the relevant strategy documents and reconcile them with benefits management concepts.

- Benefits management was found to be compatible with P3M approaches
  - but it seems extensive technical training is necessary to introduce benefits management tools into an organisation.

- Despite these difficulties, the case study is producing promising results and further research is needed to form a definitive view on the key factors for the uptake of benefits management.