



DMTC

**Capability through
collaboration**

Manufacturing

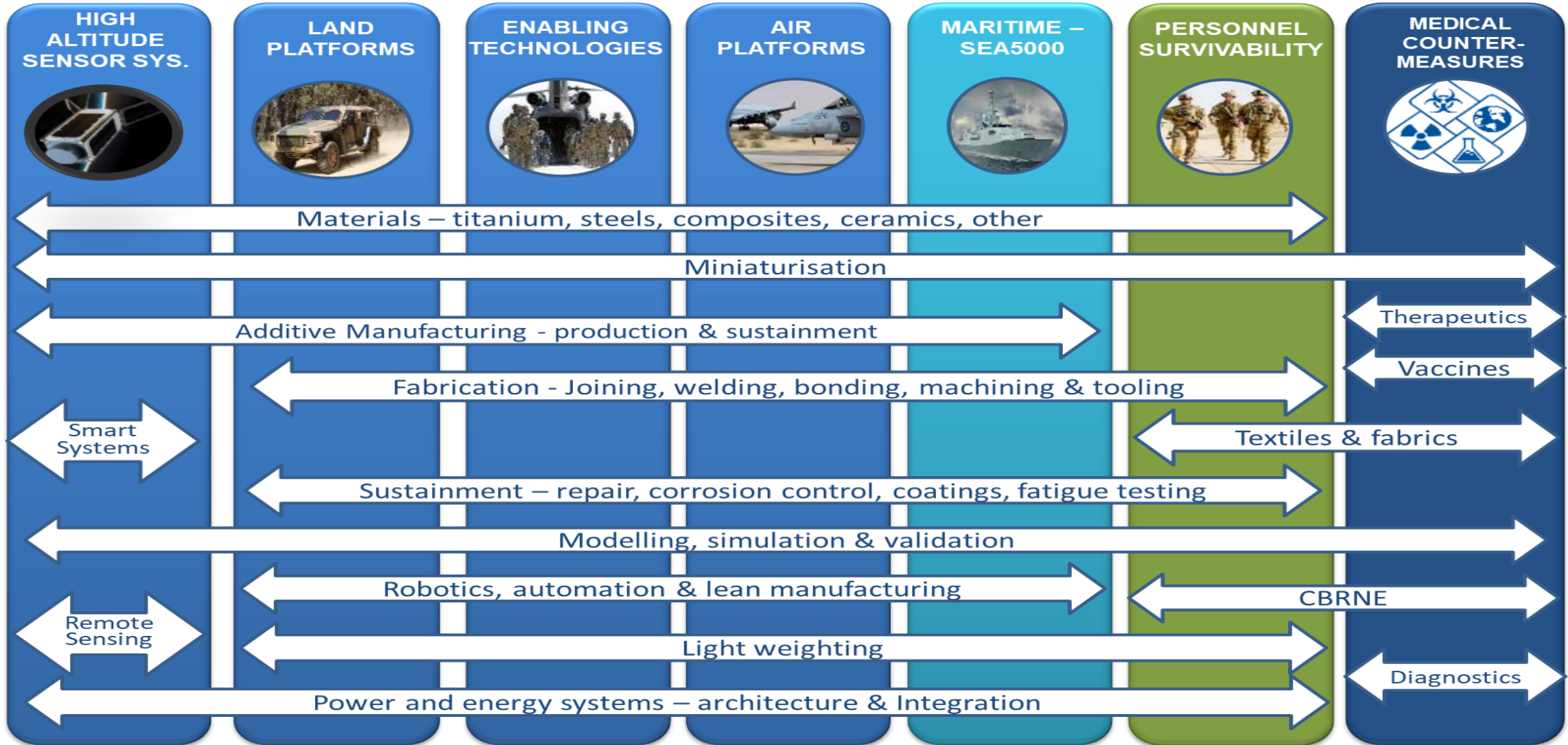
Sovereign Capability

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Charlotte Morris – Program Leader (Industry Capability Development)

May 2022

- About DMTC
- Sovereign Capability Context
- DMTC Experience
- SME Context

- Vision:** To provide technology solutions enabling industry to enhance Australian Defence and national security capability.
- Mission:** DMTC leads, facilitates and manages cooperative research and development in the defence and related sectors in manufacturing, engineering and applied science to create and enhance Australian industrial capability. The Defence and national security customers, industry and research sectors are key stakeholders.
- Intent:** CAPABILITY THROUGH COLLABORATION
- Structure:** Public Company. Not for Profit. Limited by Guarantee



Sovereign Capability Context

- “**access to, or control over, the essential skills, technology, intellectual property, financial resources and infrastructure within our defence industrial base as required**”¹
- “**the ability to ensure, full national control, without reliance on any direct foreign assistance, of certain capabilities identified as vital to national security**”²
- “**high-quality and sustainable manufacturing nation that helps to deliver a strong, modern and resilient economy for all Australians**”³

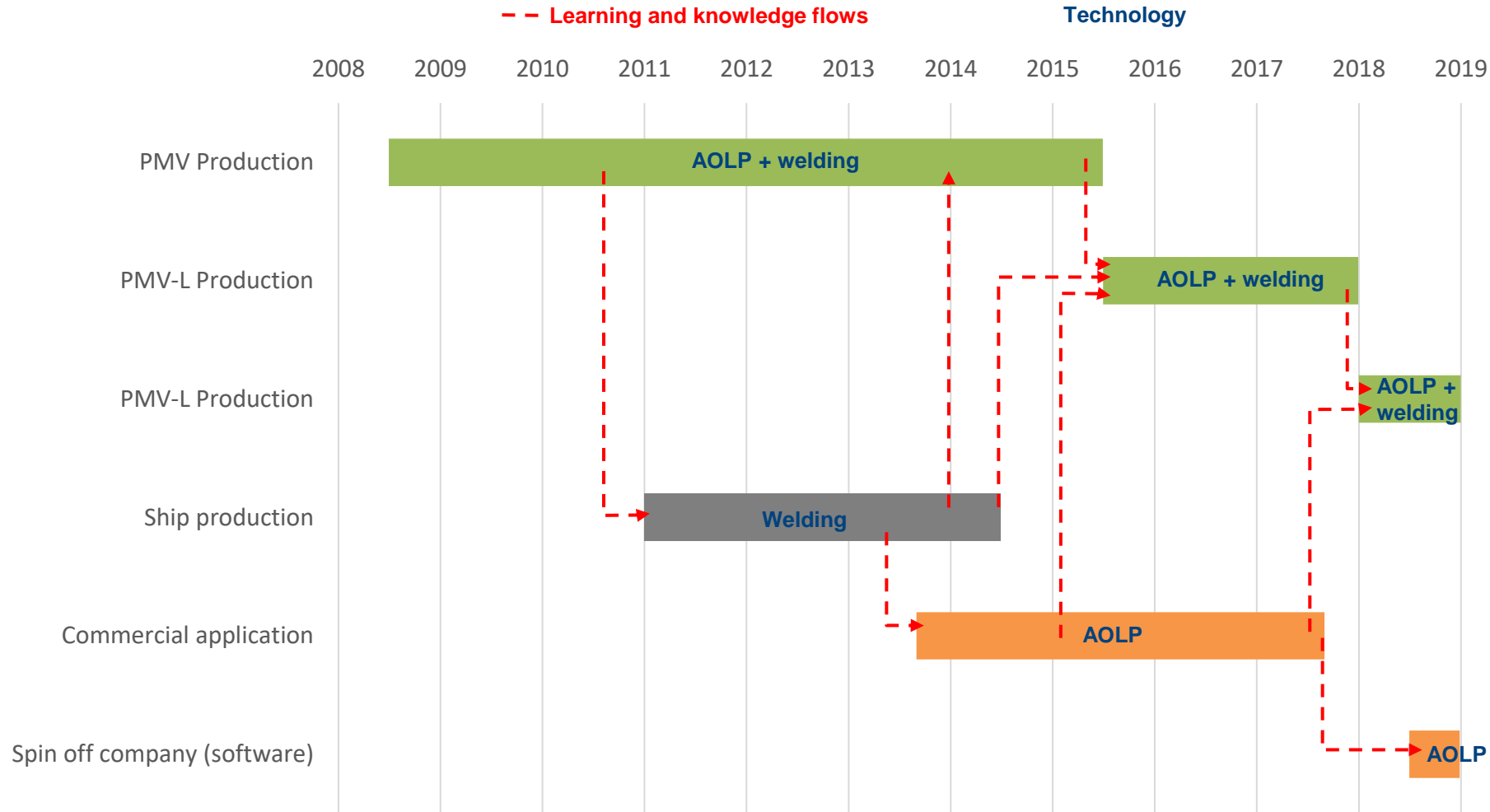
1. <https://www.defence.gov.au/business-industry/capability-plans/sovereign-industrial-capability-priorities>

2. <https://www.lawinsider.com/dictionary/sovereign-capability>

3. <https://www.industry.gov.au/data-and-publications/make-it-happen-the-australian-governments-modern-manufacturing-strategy>

- Weld high hardness steels
- Weld long sections
- Robot programming capability
- Weld complex geometries





*Automated Offline Programming

THALES

Bisalloy Steels

University of Wollongong



BLUESCOPE STEEL

Australian Government

Department of Defence
Defence Science and
Technology Group



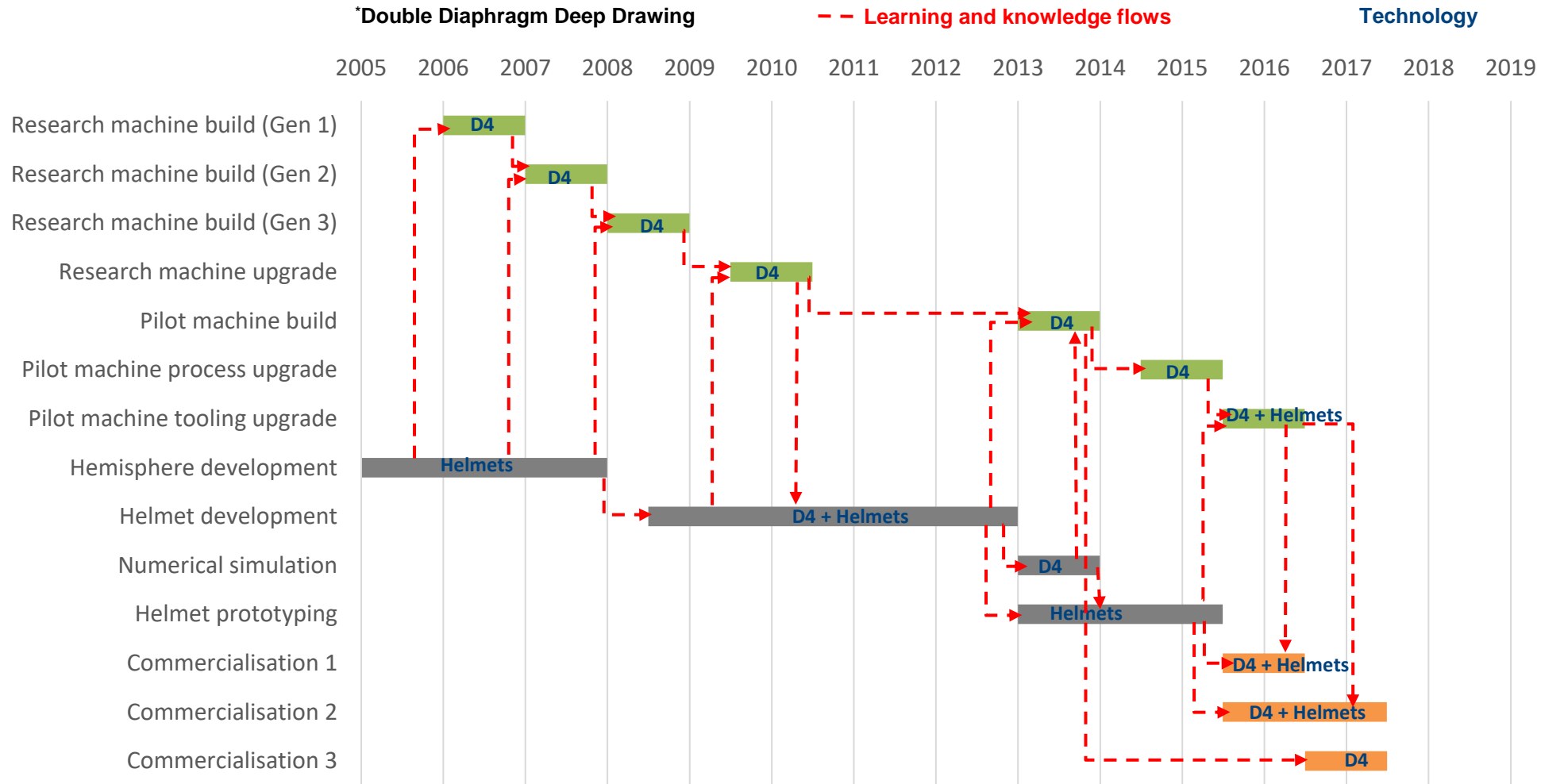
Australian Government

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- Highly curved shapes
- Rapid production time
- Cost effective





Diggerworks
FOR THE WARFIGHTER

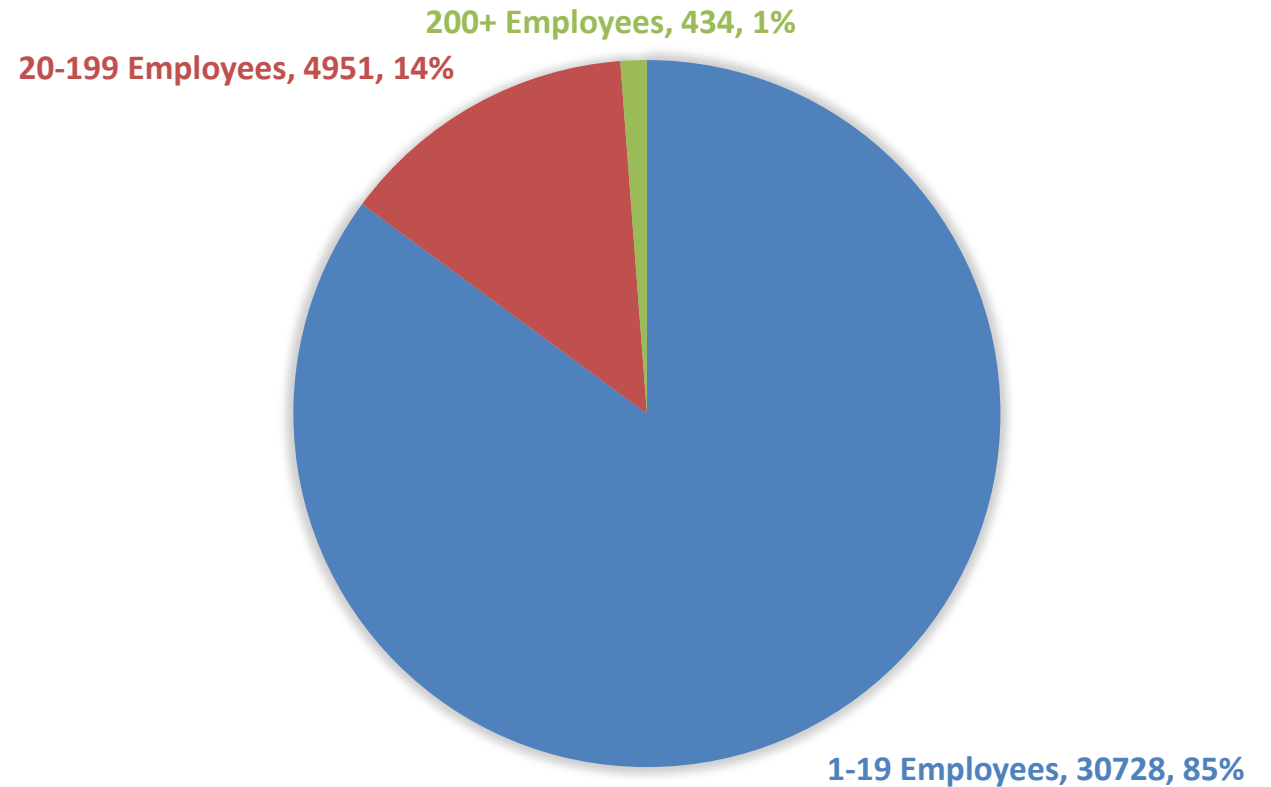


Australian Government
Department of Defence
Science and Technology



- **Complex development path**
 - Cannot plan in advance
 - Have to learn and pivot
- **Non-linear path**
 - Need multiple skills
 - Collaboration is key
- **Long term investment**
 - Be prepared to stop and start
 - Funding support is essential

COUNT OF MANUFACTURING FIRMS, AUGUST 2021



Industry Capability Development



Industry Capability Development



Benchmarking
Knowledge
Collaboration
Productivity Improvements
Defence Industry Culture



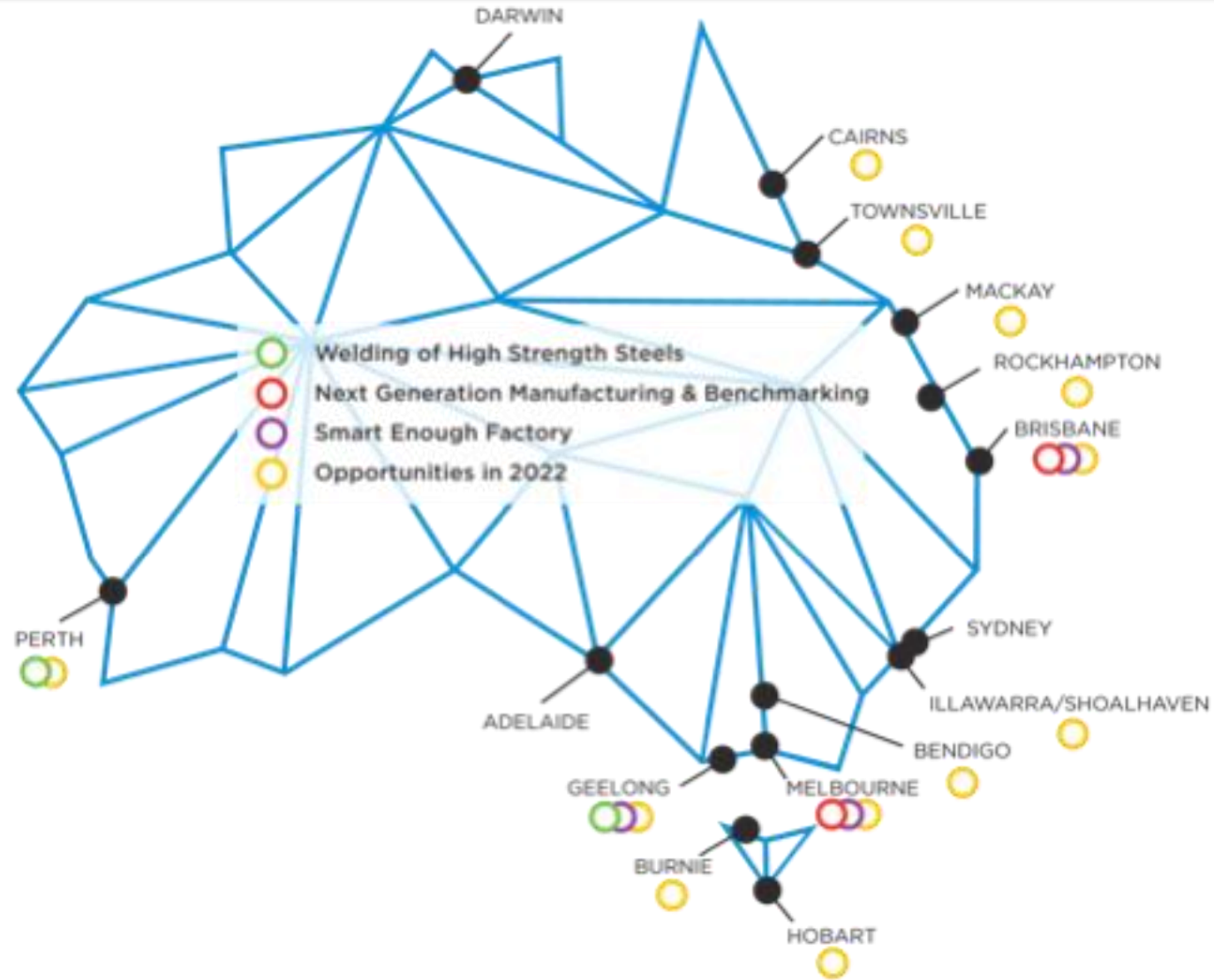
Capability Mapping
Engagement
Increased Utilisation
Informed Policy



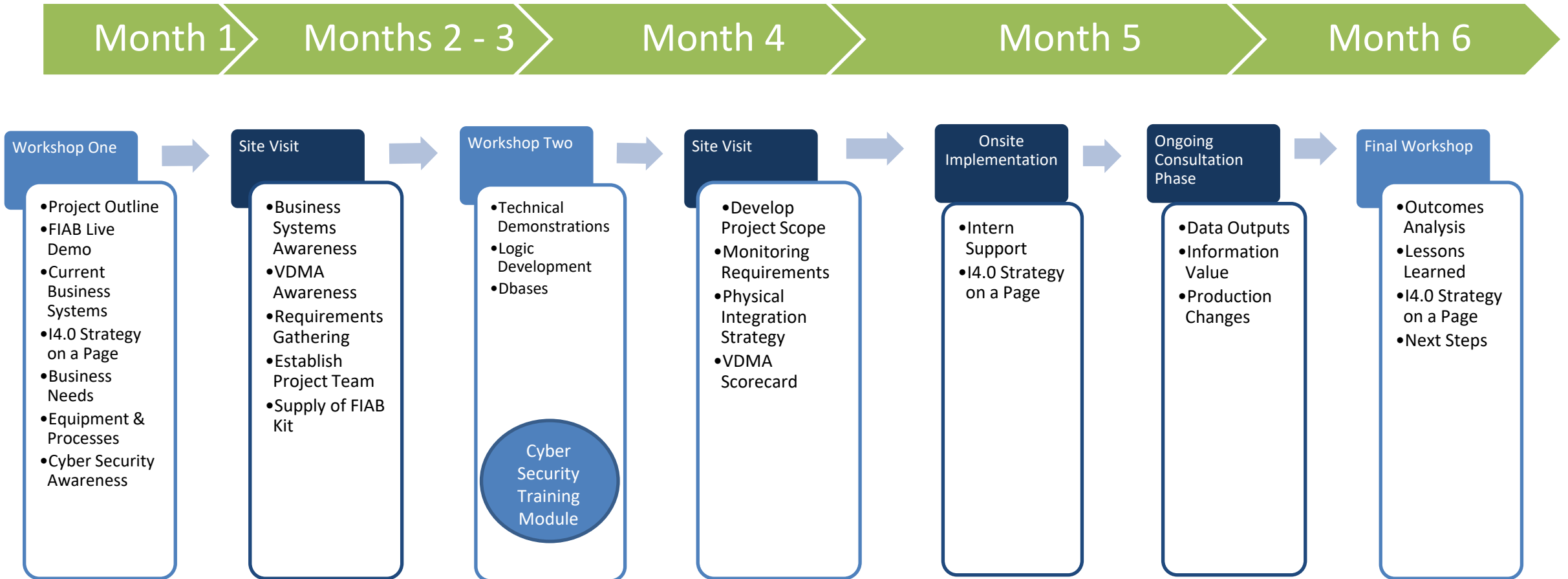
Sovereign Capability
Capacity
Value for money

A highly capable and comprehensive industrial supply chain

Capability through Collaboration



Typical delivery model



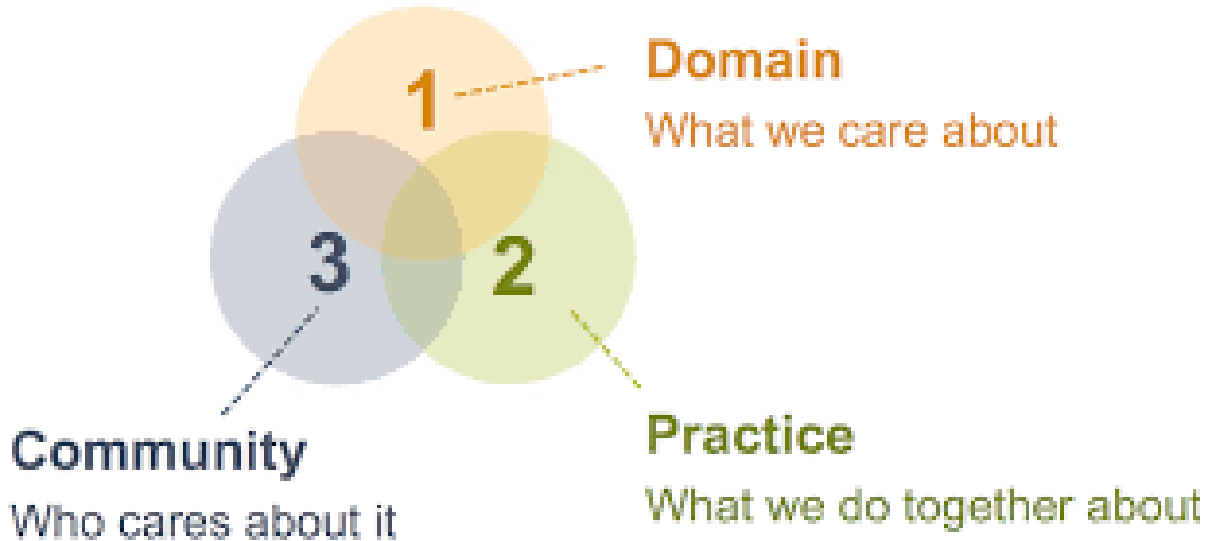


Land Forces 2021 – ICD Delegation Day

- 18 SMEs
- ICD & SEF Briefings
- Guided Tour
- Networking
- CASG
- Hanwha/Rheinmetall
- State Govts
- CDIC



Community of Practice



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Definition:

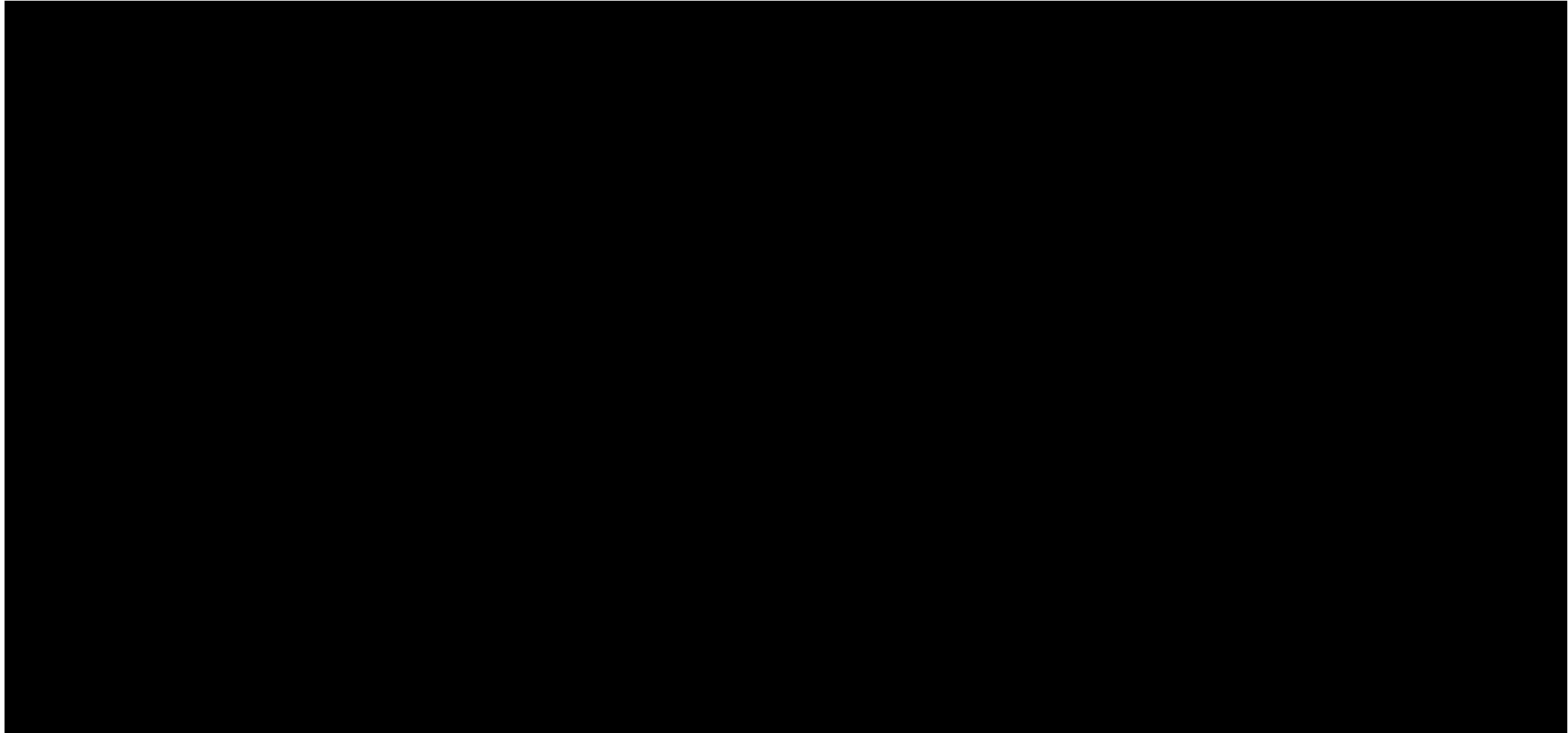
‘groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis’

Wenger, et al, 2001



Community of Practice





Future Opportunities



- Composites
- Smart Enough Factory
- Welding High Strength Steel
- Additive Manufacturing
- And more





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