

## National Security Science and Technology Unit

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## Who is responsible for counter-terrorism in Australia?

- Australian Government departments and agencies
  - Prime Minister, Attorney General, Police, Intelligence, Transport, Customs, Defence, Health, Agriculture, ...
- State and Territory Government departments and agencies
  - Premiers, police, emergency management, health...
- Private sector
  - Transport operators, mass gathering centres, energy, water...

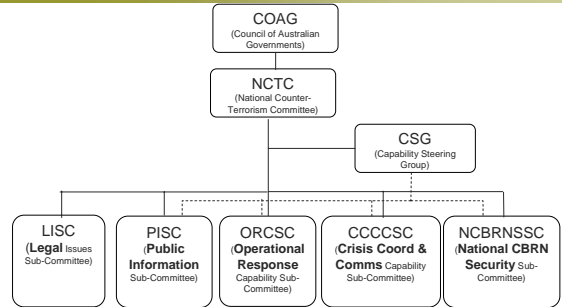


## Counter-terrorism coordination

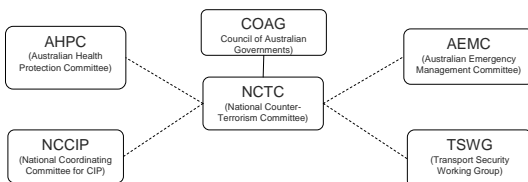
- Relies on strong cooperative, coordinated and consultative relationships
- PM&C central whole-of-government policy coordination role
  - co-chairs National Counter-Terrorism Committee (NCTC)
  - NCTC has no operational role
- Protective Security Coordination Centre (PSCC) central whole-of-government operational coordination role
- High level of cooperation and coordination required between PSCC and PM&C



## NCTC GOVERNANCE ARRANGEMENTS



## NATIONAL SECURITY COORDINATION STRUCTURES



## NCTC Capability Development

- The NCTC capability development program incorporates:
  - capability fora
  - developmental workshops
  - training courses
  - equipment acquisition and training consumables
  - research and development program
  - exercise program
  - evaluation program
- NCTC Capability Development and Review Process
  - establish the priorities of the Program
  - guide the interaction of the Program with other relevant national capabilities
  - identify changes to the scope of the Program (for example new capabilities), and
  - ensure visibility of each activity undertaken in the Program



## Australian S&T Investment

- 2001
  - Backing Australia's Ability – additional \$3B
- 2004
  - Building our Future Through Science & Innovation – additional \$5.3B
- Overall, total of \$52B investment over period 2001 – 2010-11
- S&T Base
  - 39 Universities
  - National & State Agencies
  - Private non-profit
  - Industry
- Australian government S&T investment in National Security
  - Approx \$70M/year (NSST Unit estimate)



## National Research Priorities

- Environmentally Sustainable Australia
- Promoting & Maintaining Good Health
- Frontier Technologies for Building and Transforming Australian Industries
- **Safeguarding Australia**



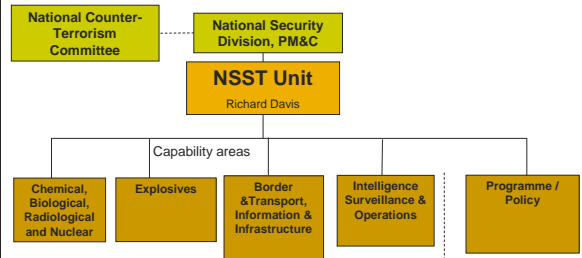
## National Research Priorities – Safeguarding Australia

1. Critical Infrastructure
  - *Protecting Australia's critical infrastructure including our financial, energy, communications, and transport systems.*
2. Understanding our Region and the World
3. Protecting Australia from Invasive Diseases and Pests
4. Protecting Australia from Terrorism and Crime
  - *anticipate threats and supports core competencies in modern and rapid identification techniques.*
  - *Focus on all phases of counter-terrorism; prevention, preparedness, detection, response and recovery.*
  - *Personal identification, information protection and the integrity of security systems, and managing significant data collections.*
5. Transformational Defence Technologies

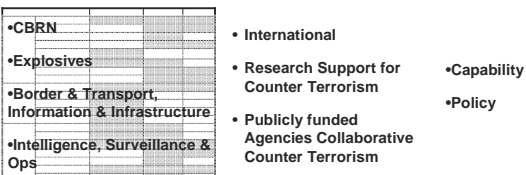
NSST Lead



## NSST Unit Structure and Governance



## NSST Overview



- |  |   |              |
|--|---|--------------|
| User agencies<br>• Federal & State/Territory<br>• NCTC oversight | Provider agencies<br>• Industry<br>• Academia<br>• Government | CT Community |
|--|---|--------------|

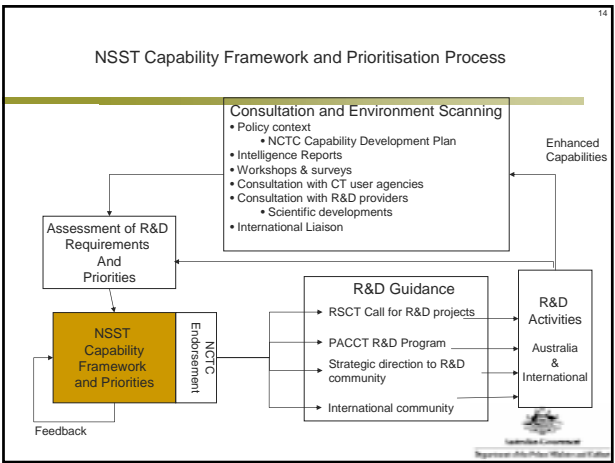


## Capability Framework



R&D Capability Framework – endorsed, 2006 13

Capability Requirement	Prevention & Preparedness	Response	Recovery
Chemical, Biological, Radiological, Nuclear and Explosives	Detection / identification		
	Protection (people and equipment)		
	Inspect, render safe, mitigate devices		
	Decontamination		
	Threat analysis		
	Effects		
	Medical treatment		
Physical and Information Security	Forensic analysis		
	Identity confirmation		
	Infrastructure modelling		
	Physical infrastructure protection		
	Information infrastructure protection		
Intelligence, Surveillance and Operations	Icons and mass gathering protection		
	Intelligence collection, analysis, dissemination		
	Smart surveillance		
	Object / personnel location and tracking		
	Command, control, communications interoperability, evaluation		
	Tactical response support		
	Sociological and human aspects of terrorism		
Forensic Analysis			



The S&T Capability Framework 15

CBRN Requirements

Requirement	Prevention & Preparedness	Response	Recovery
Detection / identification	Prevent CBRN incidents (e.g. detecting at borders, perimeter or choke points)	Identify material at site of device or source	Support cleanup of site
Protection (people and equipment)		Safety of public and first responders and their equipment during incidents	Safety of personnel during cleanup
Decontamination		Decontamination of first responders, victims, equipment and evidence	Decontamination of site of incident or material or people from incident
Threat analysis	Understanding nature of threat, its use, indicators and warnings, etc.		
Effects	Understanding effects of device or material for planning and preparation	Understanding effects of device or material for decision support	
Medical treatment	Preventive treatment such as vaccines	Treatment of immediate victims of incident	Ongoing treatment of victims
Forensic analysis		Safe collection of evidence at scene and transport	Forensic capabilities to support investigations

- Biosecurity Related S&T: 16
- Rapid Detection of Chemical and Biological Contaminants in Water by Surface Enhanced Raman Scattering
  - Infra-red & Raman Micro-Spectroscopic Analysis of Food Content & Integrity
  - Hand-held analyser for characterisation of CB agents
  - Development of technology for rapid detection of pathogenic airborne particles
  - Spray-on hydrogel for first responders to contain and analyse CB agents
  - Psychosocial Best Practice Guidelines for Responding to CBRN Incidents

- Biosecurity Related S&T: 17
- Interactive online DSS for terrorism preparedness & response
  - Development of Decision Support for Population Behaviour during CBR Events
  - Vulnerability of Indoor Air to Airborne threats Released inside a building
  - Countermeasures for Contamination of Urban Water Supplies\*\*
  - Dual Use Dilemma in the Biological Sciences\*\*
- \*\* Recently completed

International 18

### Bilateral agreements with United States

- Agreement between the Government of Australia and the Government of the United States of America on Cooperation in Science and Technology for Homeland/ Domestic Security Matters.
- Technical Support Working Group (TSWG) Memorandum of Understanding (MOU) between the US Department of Defence and PM&C.



### Agreements with US

	DHS Treaty	TSWG MOU
<b>Timescale</b>	Short - Medium term (0-5)	Short term (0-3)
<b>Scope</b>	All hazards, capability oriented	Counter terrorism, technology oriented
<b>Budget</b>	Not specifically allocated (US\$1B/yr budget)	\$100M/ 10 years



### Research Support to Counter Terrorism (RSCT)



### Research Support for Counter-Terrorism Programme

- Initially \$7.2M over four years 2004/05 -> 2007/08
- Budget Update, \$5M per annum starting in 2007/08
  - Includes ~\$1.4 M per annum for international collaborative projects
  - Co-investment leverage - \$10-15M/year equivalent
- Initial short term focus, now include some medium term
- Seek multi-agency contributions – highlights priority
- Next call for proposals - 15 June 2007
- To date 40 Projects, approx value = \$23M



### CT community engagement



### PACCT Publicly-funded Agencies' Collaborative Counter-Terrorism research programme



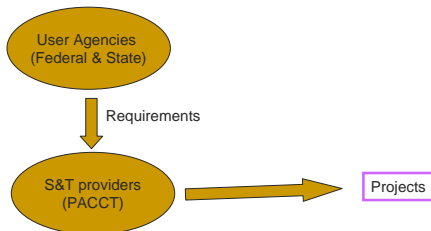
## PACCT Research Programme

### Publicly funded Agencies' Collaborative Counter Terrorism

- Co-ordination and collaboration by government R&D labs.
  - CSIRO, DSTO, ANSTO, GA (~\$1.5B resource)
  - Leveraging existing skills and capabilities
  - Develop programme rather than series of projects
- Governed by Steering Committee
  - Chair: PM&C, Secretariat: NSSTU
  - Membership: Government research providers, Defence, end users.



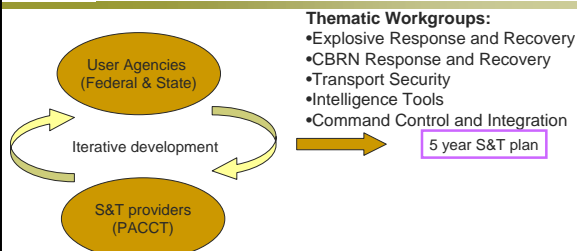
## The initial approach....



- Practical difficulties:
- Short term focus for Users
  - S&T providers may not deliver what is really required



## Current approach....



- Thematic Workgroups:**
- Explosive Response and Recovery
  - CBRN Response and Recovery
  - Transport Security
  - Intelligence Tools
  - Command Control and Integration

- Working well to date;
- Creative synthesis between user and provider
  - Better understanding of each other's domain
  - Generates enthusiasm!



## Australian networks

- Public Agencies Collaboration for Counter-Terrorism (PACCT)
- Research Network for a Secure Australia (RNSA)
  - 29 Universities across Australia <http://www.secureaustralia.org/>
- Trusted Information Sharing Network (TISN)
  - <http://www.tisn.gov.au/>
- National Institute of Forensic Science (NIFS)
  - <http://www.nifs.com.au/>
- National Collaborative Research Infrastructure Strategy (NCRIS)
  - [http://www.dest.gov.au/sectors/research\\_sector/policies\\_issues\\_reviews/key\\_issues/ncris/](http://www.dest.gov.au/sectors/research_sector/policies_issues_reviews/key_issues/ncris/)
- Energy Networks Australia
  - <http://www.ena.asn.au/>
- Securities Industry Research Centre of Asia-Pacific (SIRCA)
  - 25 Universities <http://www.sirca.org.au/>



## Some informal comparisons.....

### Defence

- Defence Dept
  - One department with external influences
- Defence Industry
  - Structures in place
- Capability Development
  - CDE and DMO
- Time Horizon
  - 10 year DCP
- Science and Technology
  - DSTO (2,500 staff)

### National Security

- Whole of Government
  - Multiple departments & jurisdictions
- National Security Industry
  - Ad hoc
- Capability Development
  - NCTC Working Groups
- Time Horizon
  - Short - medium
- Science and Technology
  - NSST (8 staff)



## Conclusions

- S&T for Counter Terrorism is new & evolving
- Organisational constructs exist for Government (eg NCTC), University (eg RNSA) & Industry (eg TISN)
  - ...but potential for greater development
- Welcome comments on Capability Framework
- ... and mechanisms to engage with Industry peak bodies



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**Further information:**

- NSST Unit Website (just Google "NSST" or "NSST Unit")  
<http://www.pmc.gov.au/nsst>
- National Security Website  
<http://www.nationalsecurity.gov.au>
- *Protecting Australia Against Terrorism*  
[http://www.dpmpc.gov.au/publications/protecting\\_australia/index.htm](http://www.dpmpc.gov.au/publications/protecting_australia/index.htm)
- *About PM&C*  
<http://www.pmc.gov.au>

**Thank you**

