

Soldier Systems Technology Roadmap- Rationale and Governance

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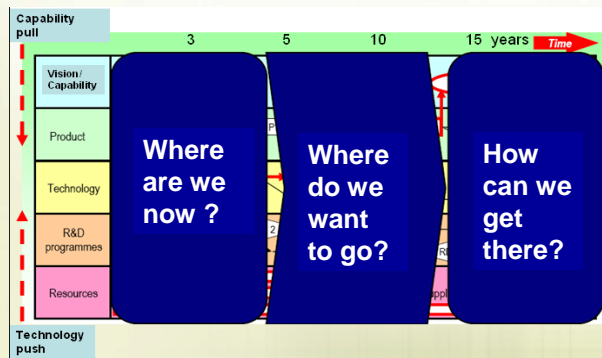
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What is Technology Roadmapping?

- Collaborative, industry-led strategic planning process for developing innovative products and processes to meet future market demands
- Features face-to-face workshops
- Key issue- what technologies can create the needed products and services to meet identified future market demands

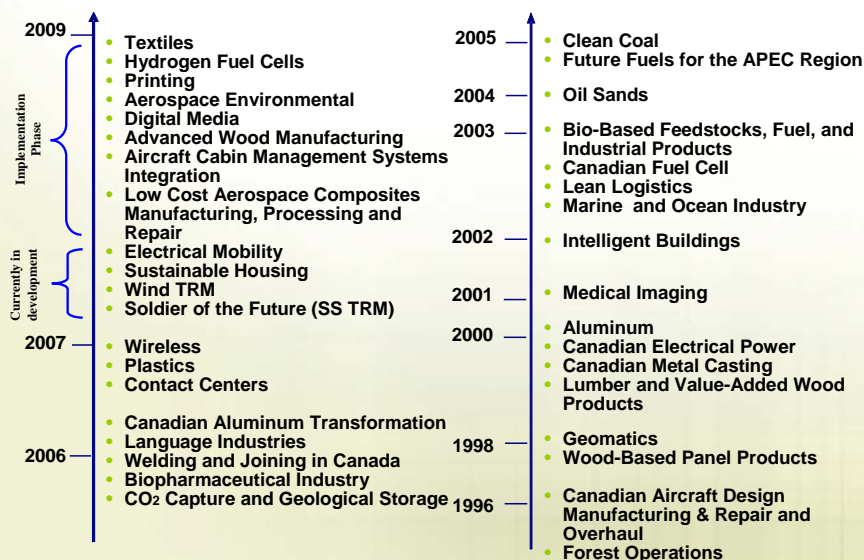


Canadian Roadmapping Experiences

- Initiated in 1995
- 33 completed to date
- 4 currently under development
- Based on a network of partnerships
 - Over 1000 industrial partners (e.g. Ballard Power Systems; Dupont Canada; Wal-Mart; Hydro-Québec; IBM, and many SMEs)
 - Over 150 non-industry partners (Universities, Research Institutes, Associations)
 - Portfolio partners – NRC, NSERC, CSA, BDC
 - Federal partners - NRCan, HRSDC, CMHC, EC, HC, DFAIT, and DND
 - Provincial partners - Ontario, Quebec, British Columbia, Alberta, New Brunswick

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Status of TRMs



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Soldier Systems TRM Objectives

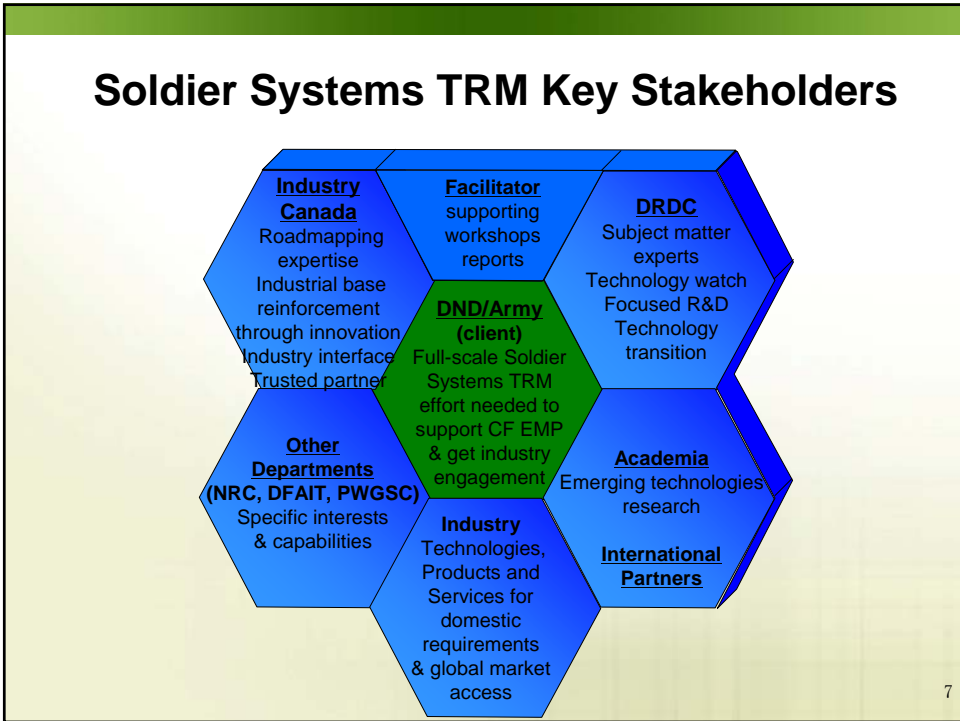
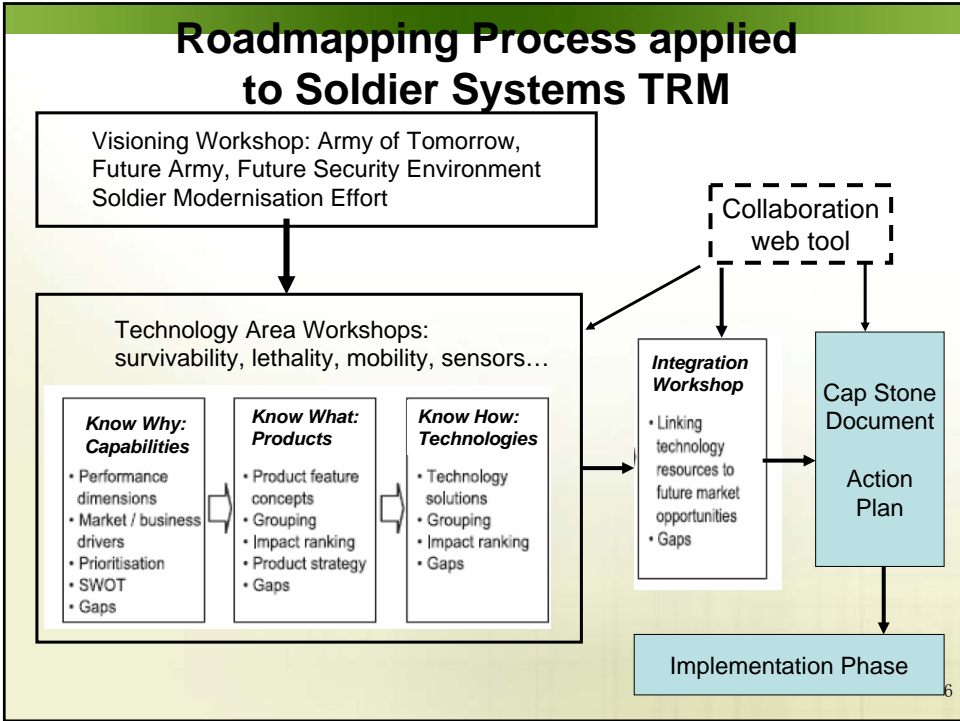
- Partnership of federal departments (IC, DND and DRDC), industry and academia working to develop a Roadmap with the objectives of:
 - Supporting the Soldier Modernization Effort
 - Providing DND insights into obtainable technologies/maturity levels
 - Proving industry with opportunity to understand DND needs/demonstrate abilities
- **Exciting as a first step in a significantly different way of working with industry**

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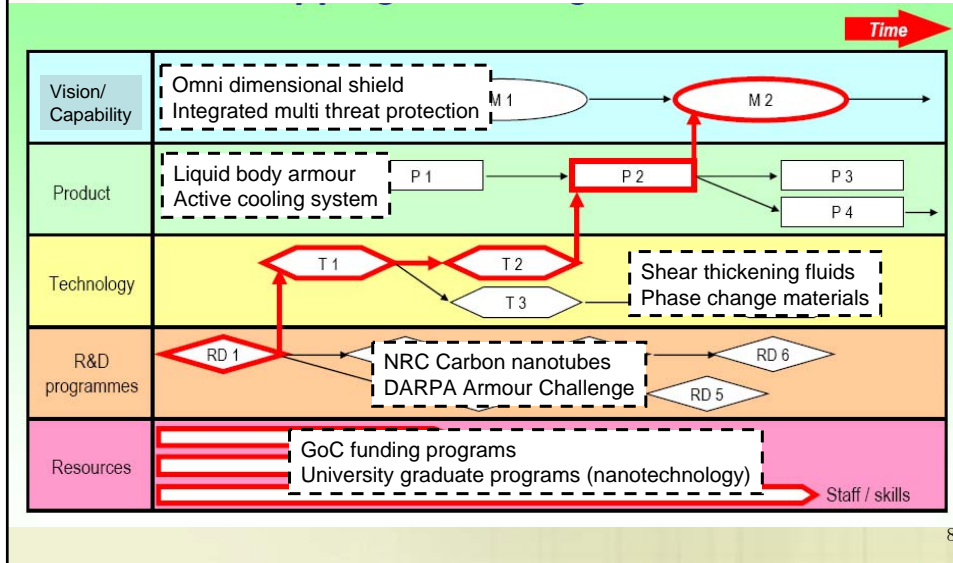
TRM Phases & Foci

- **Definition phase**
 - Governance
 - Collaboration tool development
- **Development phase**
 - Workshops
 - Validating the vision
 - Finding/validating gaps and niches
 - Establishing the links between technology and capability needs/timings
 - Recommendations for future R&D projects addressing gaps/needs
- **Implementation phase**
 - Annual Soldier Systems Conference
 - Continued dialogue with Collaboration tools
 - Sponsored/Unsolicited focused R&D projects
 - Revision of roadmap plan to adapt to change of vision or external drivers as needed

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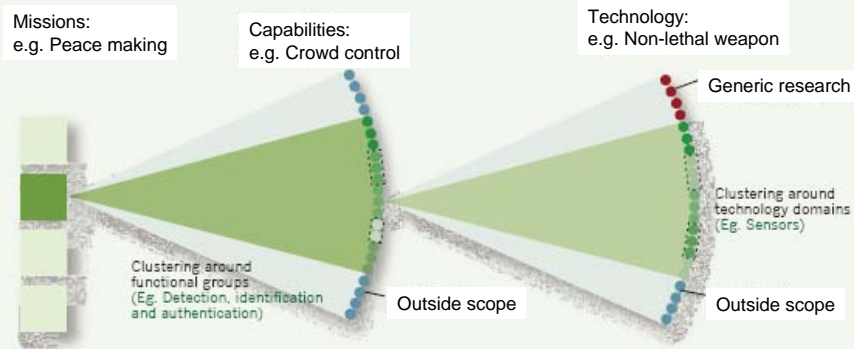
Soldier Systems TRM Example



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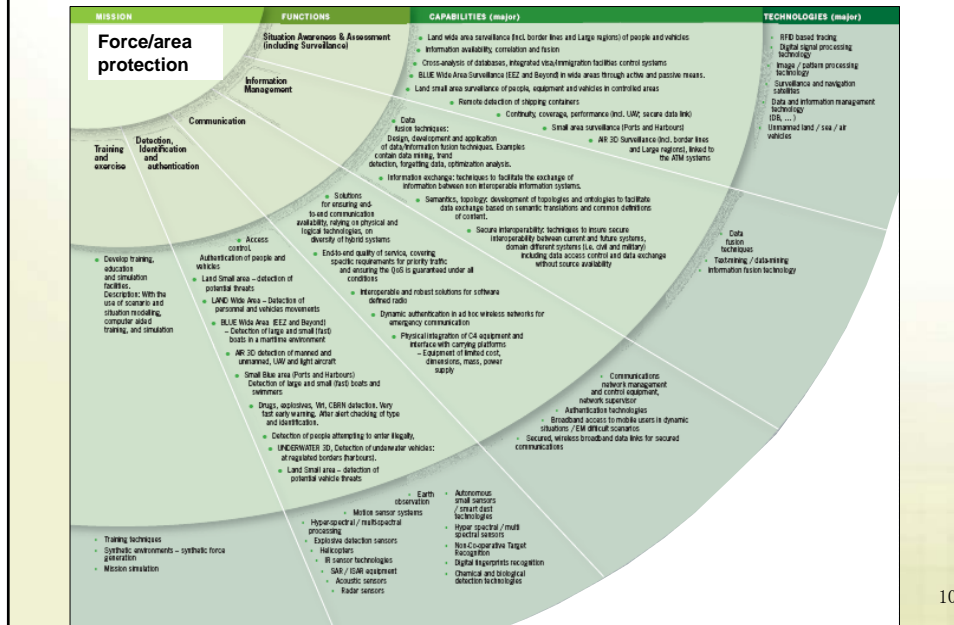
Capability Based Approach

Mission to Capabilities to Technologies



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Missions- Functions- Capabilities- Technologies



Soldier Systems TRM Project Enablers

- **Collaboration Tool**
 - Novel software developed by CIO to list DND needs and collate industry expertise
 - WIKI used for discussion and collaboration amongst industry
- **Roadmapping Software**
 - Visual depiction of Roadmap development
 - Captures synergies between technologies and Roadmaps
- **Visioning and technical workshops**
 - Face to face meetings with industry and academia
 - Rationale for the Roadmap

Present situation

- **Preparations have lasted about 18 months**
- **Ready to move**
 - Senior management in government departments briefed
 - Legal status of all parts of the project confirmed
 - Communication strategy and products in place
 - Collaboration Tool in final stages
- **Development stage now underway**

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Governance of Soldier Systems TRM

- **Executive Steering Committee (ESC)**
 - 9 industry and 9 government, 2 support and 1 facilitator
 - co-chairs from industry and government
 - to provide direction and general guidance for the development of the TRM
 - forum for exchange of views
- **Six industry positions on the ESC filled by industry co-chairs of the Technical Sub-Committees**

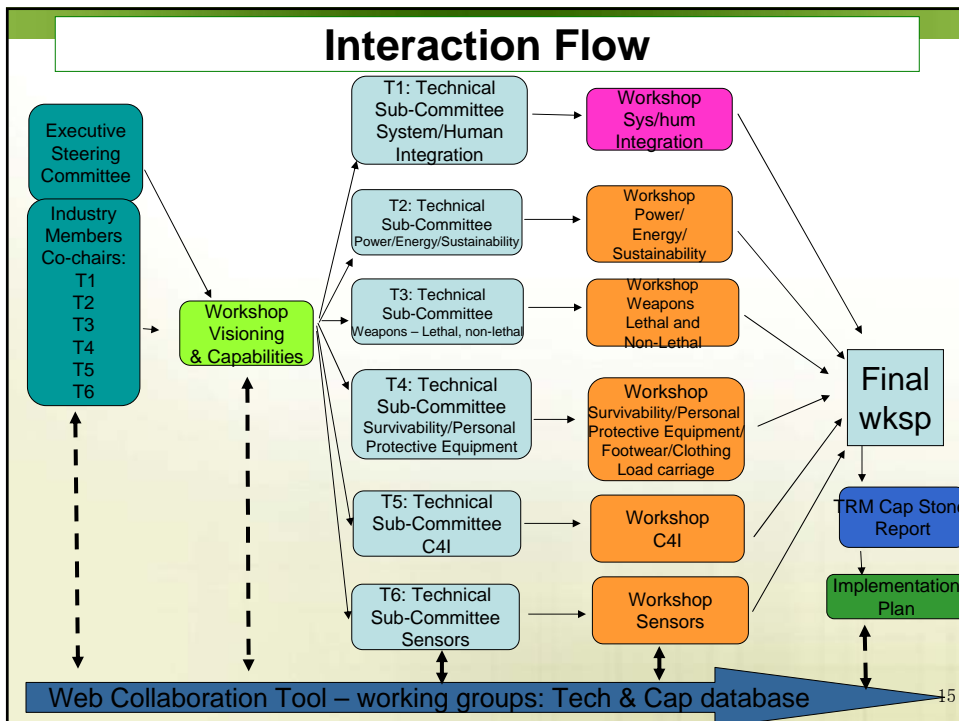
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Executive Steering Committee Members

Executive Steering Committee (ESC) Members				
TRM Position	Name	ESC function	Organization	
G1	Co-Chair DND	LCol. M. Boéner	Core member	DND (DLR-5)
I1	Co-Chair Industry	Mr. T. Page	Core member	President CADSI
G2	Dept of National Defence representative	LCol M. Prud'homme	Core member	Acting DSSPM
G3	Defence R&D Canada representative	Mr. C. Carrier	Core member	Chief Scientist DRDC Valcartier
G4	Defence R&D Canada representative	Mr. P. Labbé	Core member	Head DRDC S&T Capability Management
G5	Industry Canada representative	Mr. D. Duguay	Core member	Director, Industrial & Regional Benefits Directorate, ADMB-IC
G6	Industry Canada representative	Mr. G. McGee	Core member	Director, Defence & Marine Directorate, ADMB-IC
G7	Foreign Affairs & Int. Trade (DFAIT) representative	Mr. B. Préfontaine	Core member	Director Sector B Global Opportunities Bureau
G8	Public Works & Government Services Canada (PWGSC) representative	Mr. G. Simpson	Core member	Senior Director Electronics, Munitions & Tactical Systems Proc. Directorate
G9	National Research Council (NRC) representative	Mr. K. Hayes	Core member	Business Development Officer
T2	Technopole Defence Security (TDS) representative	Mr. A. Fecteau	Core member	President Technopole Defence Security (TDS)
I3	Other Industry Association or Academia representative	Dr. J. Mlynarek	Core member	President CTT Group
I4	Technical Sub-Committee Co-Chair: - System and Human Integration	TBD	Industry member T1	TBD
I5	Technical Sub-Committee Co-Chair: - C4I	TBD	Industry member T2	TBD
I6	Technical Sub-Committee Co-Chair: - Sensors	TBD	Industry member T3	TBD
I7	Technical Sub-Committee Co-Chair: - Survivability/Mobility/Sustainability/Clothing	TBD	Industry member T4	TBD
I8	Technical Sub-Committee Co-Chair: - Lethality/Weapons	TBD	Industry member T5	TBD
I9	Technical Sub-Committee Co-Chair: - Power/Energy	TBD	Industry member T6	TBD
S1	Project Manager - IC	M. G. Nizmo	Support member	Industry Canada
S2	Project Manager - DND	Mr. G. Pageau	Support member	DND
S3	Facilitator	Mr. P. Carr	Support member	Center for Public Management

Note: G: government member, I: Industry member, S: Support member

Interaction Flow



Next Steps

- **Series of Technical Workshops**
- **Guided by Technical Sub-Committees and DND technology needs, the workshops are:**
 - Power/Energy, Vancouver, September 22/23, 2009
 - Lethal/Non-Lethal/Weapons, Toronto, November 18/19, 2009
 - C4I/Sensors, Calgary, January 27/28, 2010
 - Survivability/Clothing/Footwear, Ottawa, May/June 2010
 - Human and System Integration, Halifax, September 2010
 - Roadmap strategic plan- Ottawa, November 2010

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