

Inside Fighter Jet Procurement in Canada



28 March 2022 -
Canadian Government Announces Intent to
Procure the F-35A to Replace the CF-18



28 March 2022 -
Canadian Government Announces Intent to
Procure the F-35A to Replace the CF-18



...again!

16 July 2010 -
Canadian Government Announces Intent to
Procure the F-35A to Replace the CF-18



16 July 2010 -
Canadian Government Announces Intent to
Procure the F-35A to Replace the CF-18



So why a delay of more than 12 years??

Defence Procurement 101: Rational Choice?



Defence Procurement 101: Rational Choice... or Political Football?



Defence Procurement 101: Rational Choice... or Political Football?

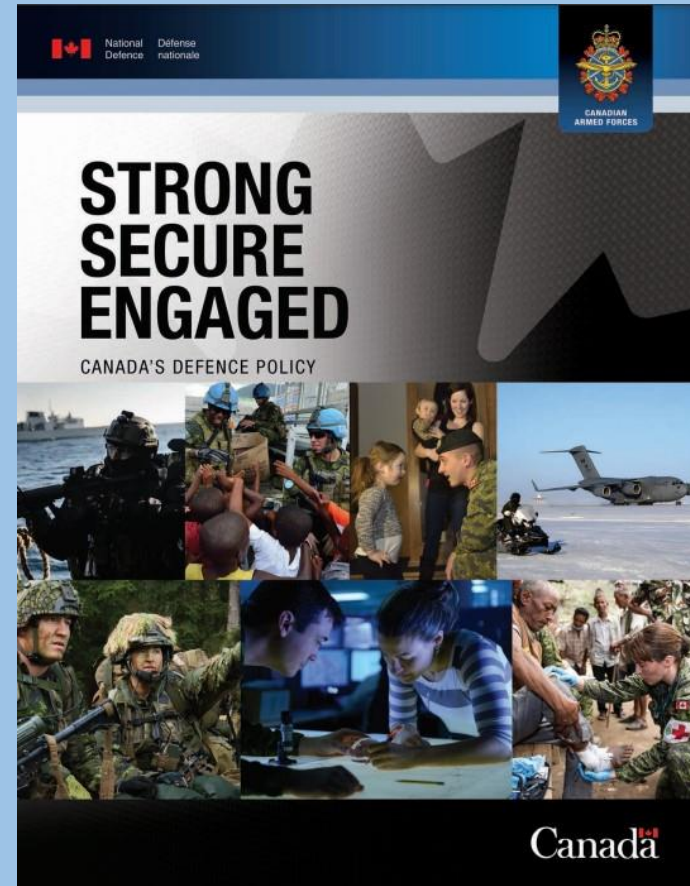


**Spoiler Alert...
It's a bit of both!**



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - External factors
 - Internal factors



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - External factors:
 - changing threats (access to Arctic, cyberwarfare, drones)



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - External factors:
 - changing threats (access to Arctic, cyberwarfare, drones)
 - demands of allies (BMD, invasion of Iraq, NATO spending)



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - External factors:
 - changing threats (access to Arctic, cyberwarfare, drones)
 - demands of allies (BMD, invasion of Iraq, NATO spending)
 - major crises (9-11, war in Ukraine, climate change consequences)



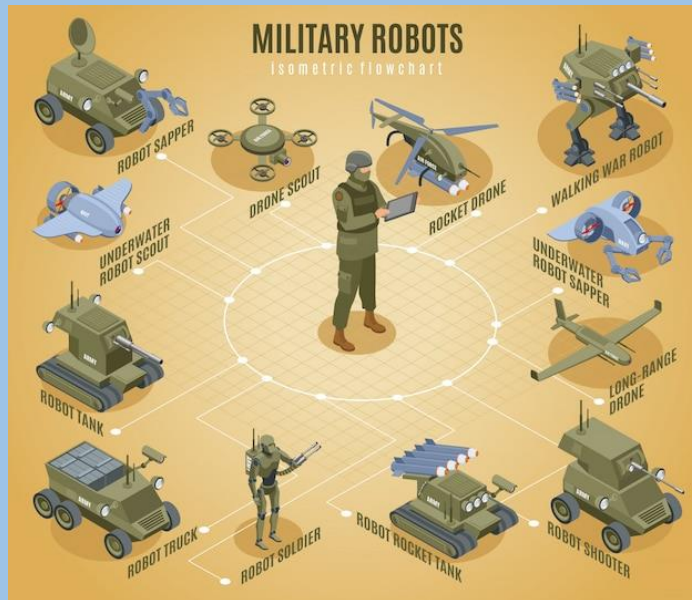
Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - Internal factors:
 - obsolescence (increasing cost vs decreasing capability/survivability)



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - Internal factors:
 - obsolescence (increasing cost vs decreasing capability / survivability)
 - emerging capabilities (AI/robotics, drone applications, cyber, space)



UKRAINIAN SEA DRONES ATTACK RUSSIAN SHIP



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - Internal factors:
 - obsolescence (increasing cost vs decreasing capability / survivability)
 - emerging capabilities (stealth, drone applications, cyber)
 - Innovation (morphing roles...CP-140: from ASW to C4ISR)



Defence Procurement 101: Rational Choice – The Internal DND Process

- In the beginning...the strategic planning process
 - Internal factors:
 - obsolescence (increasing cost vs decreasing capability / survivability)
 - emerging capabilities (stealth, drone applications, cyber)
 - Innovation (morphing roles...CP-140 > MSW to C4ISR)
 - new government – renewed support (rare, but big impact)



Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...



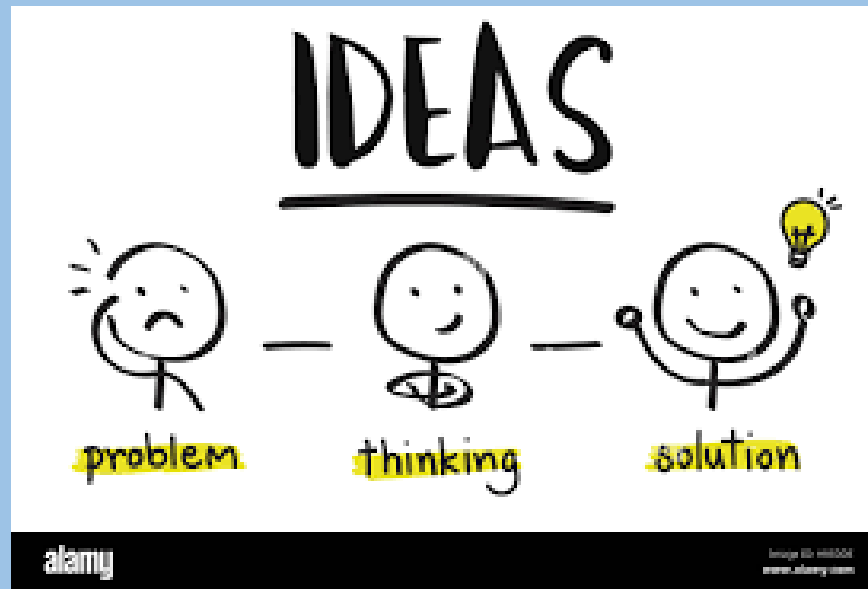
Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Driven by persistent scarcity of resources
 - Remember the “Decade of Darkness”??



Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Project evolution: From Initiative to DND Project Approval



Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Project evolution: From Initiative to DND Project Approval
 - Identification (evolves from Air Force strategic planning process)
 - We had the CF-18 since early 1980s...but by 2007...
 - Airframe wearing out – costly & timely maintenance
 - Avionics obsolescing (Op Allied Force – Kosovo 1999)
 - Aircraft lost – smaller fleet post mid-life upgrade



Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Project evolution: From Initiative to DND Project Approval
 - Identification (evolves from Air Force strategic planning process)
 - Concept Development (preliminary “joint” review via CFD)
 - Requirement for joint integration
 - Ability to advance C4ISR
 - Army & Navy support in return for support of their pet projects



Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Project evolution: From Initiative to DND Project Approval
 - Identification (evolves from Air Force strategic planning process)
 - Concept Development (preliminary “joint” review via CFD)
 - Options Analysis (the “bun fight begins”...)
 - Seek guarantees for training & operational support
 - Close Air Support (Army)
 - TASMO (Navy)
 - Compatibility of equipment
 - Weapon capabilities
 - Scrutinization of cost, scope & timelines

Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Project evolution: From Initiative to DND Project Approval
 - Identification (evolves from Air Force strategic planning process)
 - Concept Development (preliminary “joint” review via CFD)
 - Options Analysis (the “bun fight begins”...)
 - Definition
 - Statement of Requirements
 - Project Charter
 - Project Leader - CAS for the Fighter Replacement project
 - Project Manager - ADM(MAT)

Defence Procurement 101: Rational Choice – The Internal DND Process

- The inescapable trade-off negotiations – Land, Sea, Air, Space, Cyber, Logistics...
- Project evolution: From Initiative to DND Project Approval
 - Identification (evolves from Air Force strategic planning process)
 - Concept Development (preliminary “joint” review via CFD)
 - Options Analysis (the “bun fight begins”...)
 - Definition
 - Preliminary Project Approval
 - Final scrutiny by the Senior Review Board (still internal to DND)
 - Initial contact with industry (RFP process to focus interest/bids)
 - ...then the “fun” begins beyond DND...

Defence Procurement 101: Rational Choice – The Internal DND Process

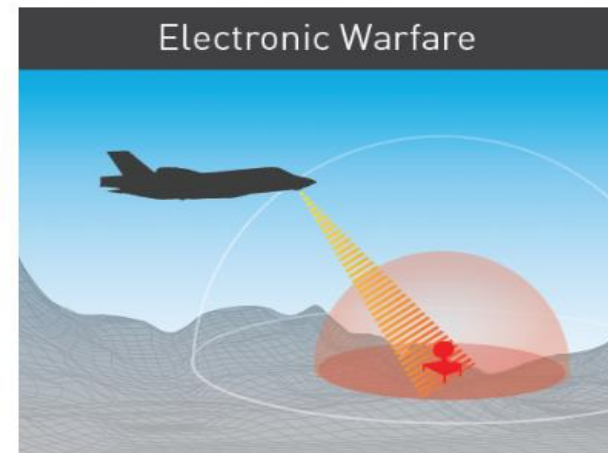
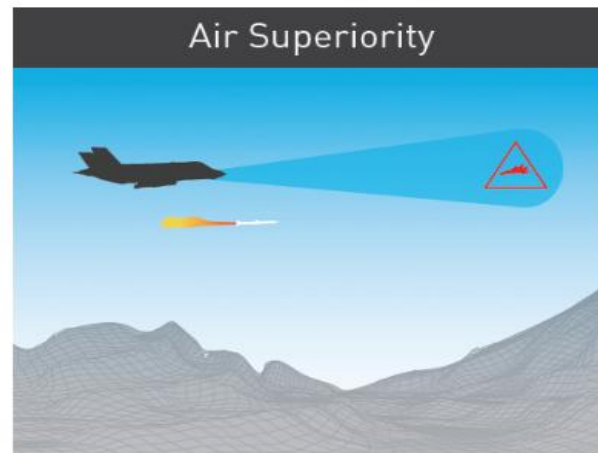
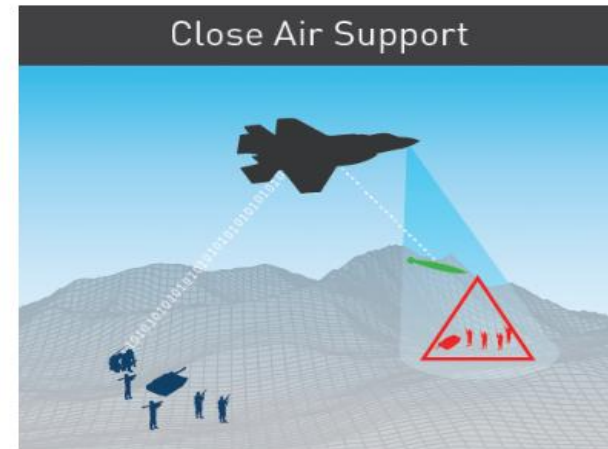
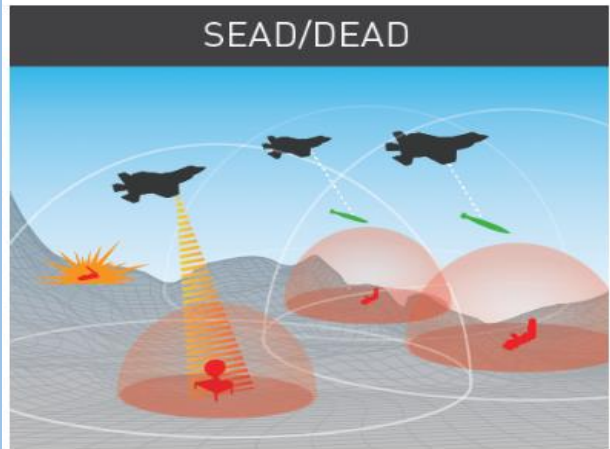
- So how did the Air Force succeed in achieving buy-in for a \$9B* project?



* Budget estimate in 2007 (based on 65 jets...now 88 jets)

Multi-role, Joint Support Capabilities Paradigm Shift!

Transforming the Battlespace



Canada's Engagement in the F-35 Project

- 1997: Commit \$10M to X-35 Concept Demo
- 2001: LM wins JSF competition vs Boeing
- 2002: Invest \$150M in System Development & Demo phase
- 2006: Sign MOU to participate in Production (sub-contracts & purchase)
 - Early opportunities & benefits for Cdn aviation industry!
- 2008: Canada 1st Defence Strategy
- 2008: The “Great Recession” – impact on Cdn economy...



Defence Procurement 101: Political Football – The External Process

- Treasury Board Secretariat
 - Earmarking of funding
 - Major Crown Projects (>\$100M get special scrutiny)

Defence Procurement 101: Political Football – The External Process

- Treasury Board Secretariat
- **Senior Project Advisory Committee**
 - Interdepartmental rivalries
 - PCO monitor – back channel to PMO
 - PWGSC influence contract considerations
 - Industrial Regional Benefits targeted (lobbying influence)
 - **ACOA**
 - **WED**
 - **EDA**

Defence Procurement 101: Political Football – The External Process

- Treasury Board Secretariat
- Senior Project Advisory Committee
- **Memorandum to Cabinet**
 - Bargains & trade-offs behind the scenes
 - Formal Project Approval in principle
 - TSB approves funding!

Defence Procurement 101: Political Football – The External Process

- Treasury Board Secretariat
- Senior Project Advisory Committee
- Memorandum to Cabinet
- **Contract Awarding**
 - Based on competitive assessment
 - Sole source option (C17, Chinook, and F-35A)
 - Inevitable CITT follow-up

16 July 2010 - Canadian Government Announces Intent to Procure the F-35A to Replace the CF-18

- Treasury Board Secretariat
- Senior Project Advisory Committee
- Memorandum to Cabinet
- **Contract Awarding!!**



16 July 2010 - Canadian Government Announces Intent to Procure the F-35A to Replace the CF-18

- Treasury Board Secretariat
- Senior Project Advisory Committee
- Memorandum to Cabinet
- **Contract Awarding**



So why a delay of more than 12 years??

The Rhetoric Begins!

- 2011: Report by Parliamentary Budget Officer
- 2011: Federal election (media, industry, and political inputs)
- 2012: Audit General report (new 30-year benchmark)
- 2012: Sent for inter-dept Committee to review (can't trust DND)
- 2014: SOR sent to NRC for reconsideration (game changer)



New Government – Another Review

- 2015: Election issue – Trudeau's vow
- 2015: Inter-departmental Committee disbanded – new approach by Liberals
- 2016: Decision on 18 Super Hornets
- 2017: Decision rescinded (Bombardier)
- 2017: Decision to purchase used F-18A/B
- 2019: Competition launched



World Events Intervene!

- 24 Feb 2022: Russia attacks Ukraine
- 28 Mar 2022: Canada announces intent to purchase 88 F-35A jets

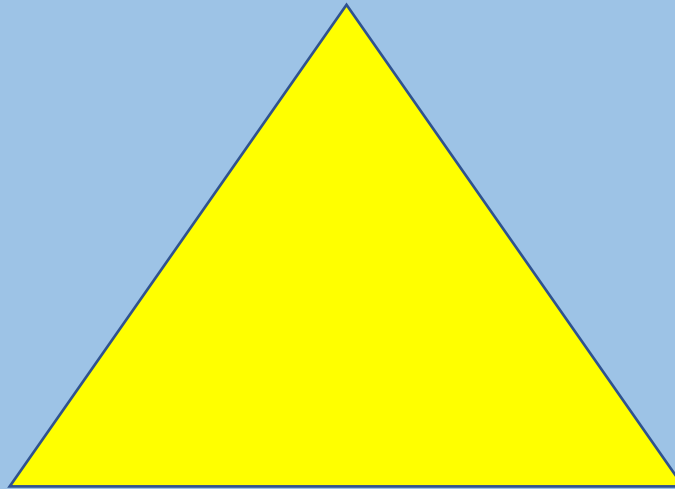


So there you have it...questions??



<http://thepearsoncentre.ca/platform/a-legacy-decision-for-future-generations-of-canadians-the-long-term-strategic-considerations-for-the-cf-18-replacement-project/>

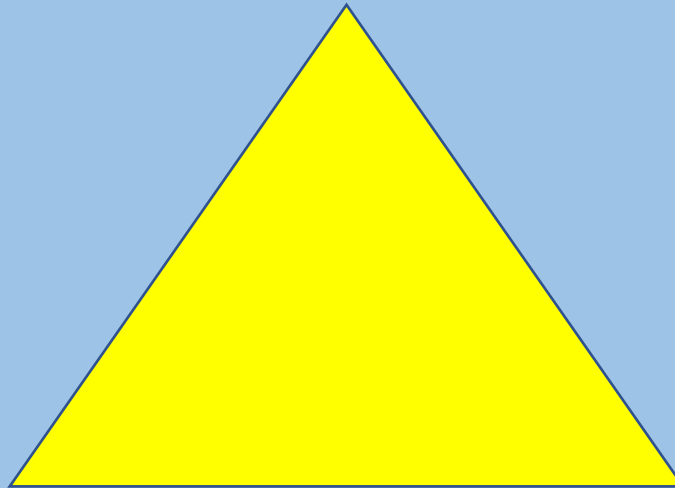
Why is the F-35A Canada's Best Choice?



Why is the F-35A Canada's Best Choice?

Interoperability

Equipment, Weapons & Infrastructure



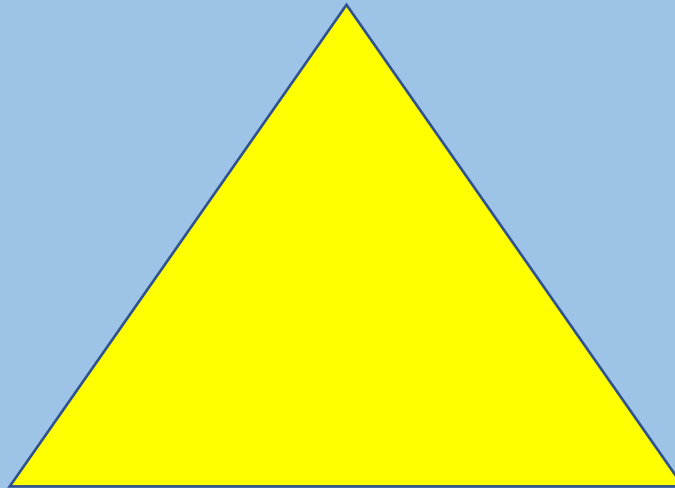
Lockheed Martin Production & Testing Facility (Fort Worth, Texas)



Why is the F-35A Canada's Best Choice?

Interoperability

Equipment, Weapons & Infrastructure



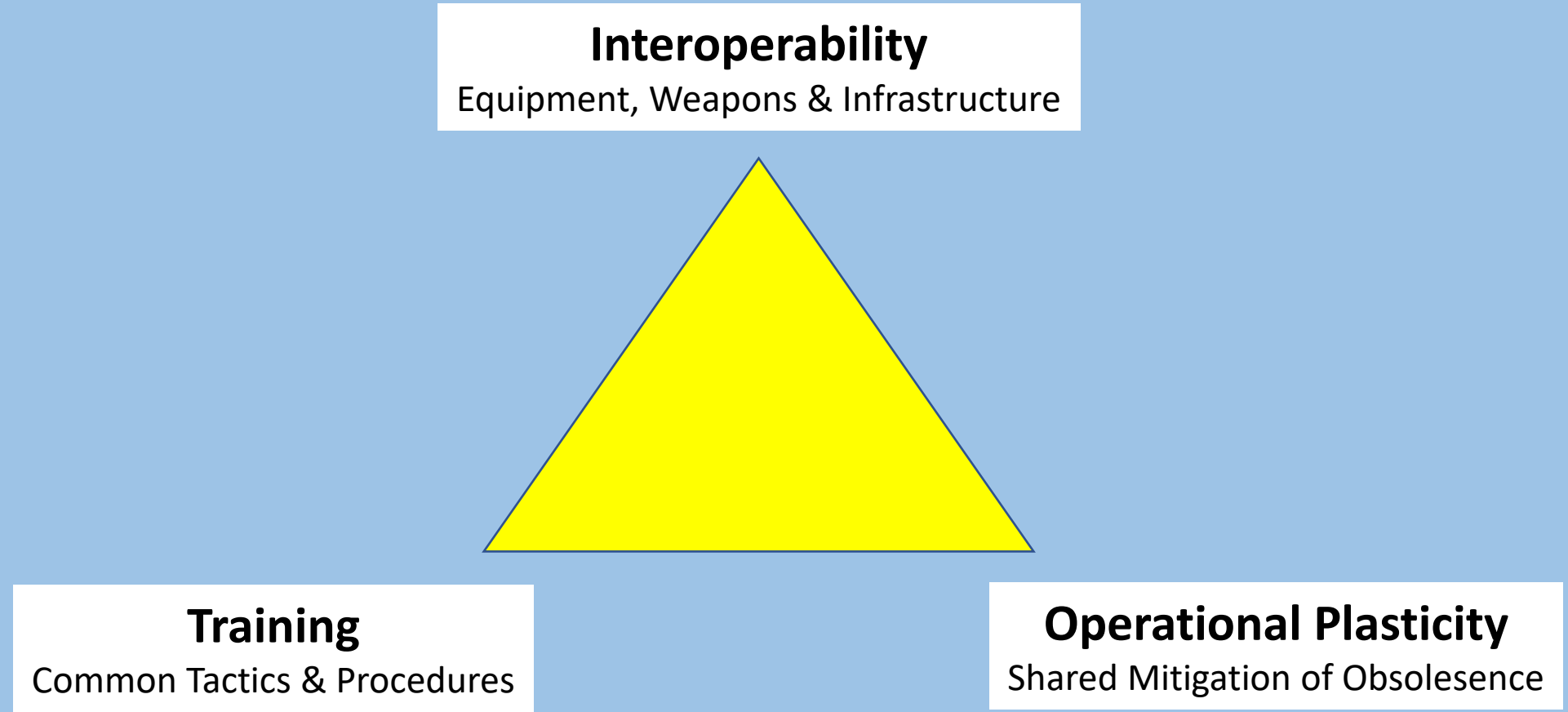
Training

Common Tactics & Procedures

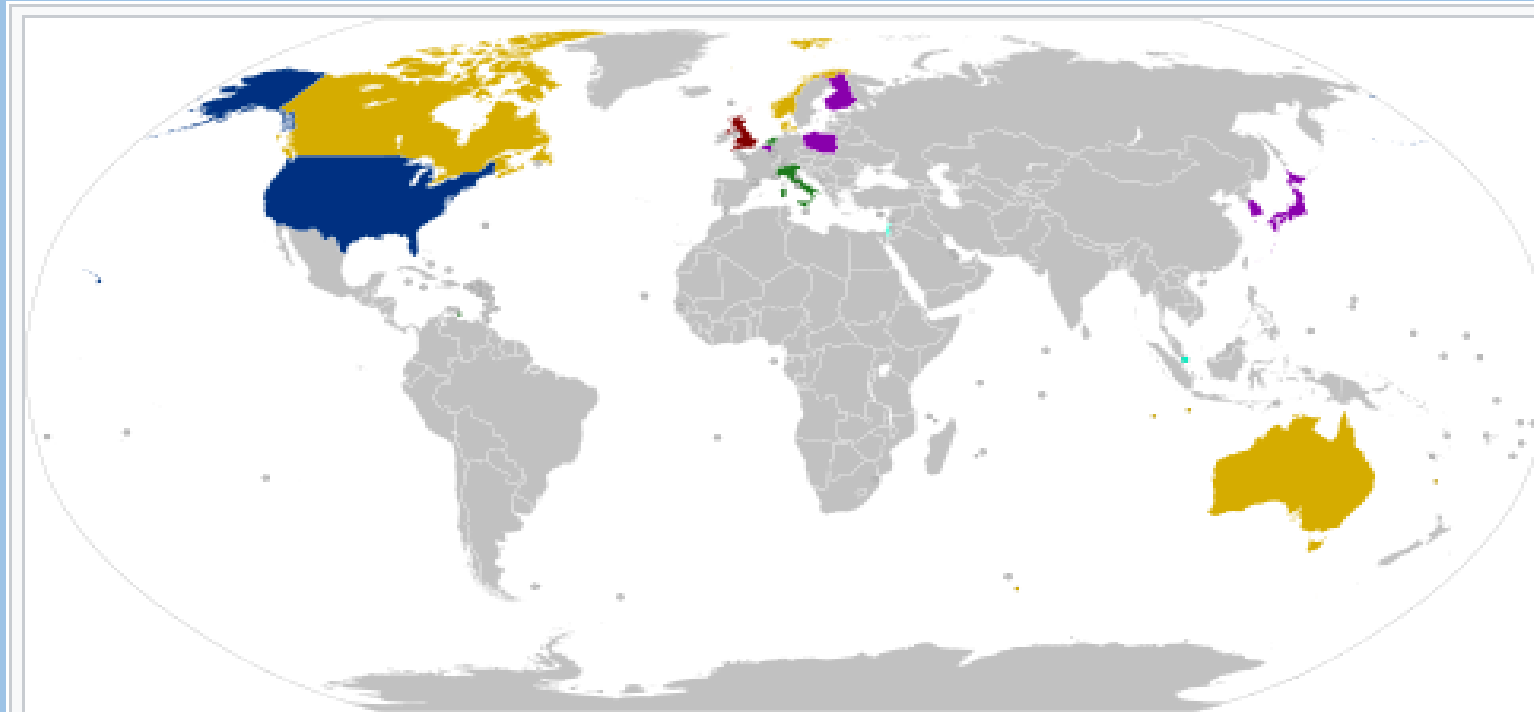
JHMCS Helmet System



Why is the F-35A Canada's Best Choice?



Participant Countries (4 of “5 Eye” Partners)



Participant nations:

- Primary customer:  United States
- Tier 1 partner:  United Kingdom
- Tier 2 partners:  Italy •  Netherlands
- Tier 3 partners:  Australia •  Canada •  Denmark •  Norway
- Security Cooperative Participants:  Israel •  Singapore
- Foreign Military Sales Participants:  Belgium •  Finland •  Poland •
 Japan •  South Korea •  Switzerland •  Germany



Configuration 240-4

CTOL	STOVL	CV
Span (ft) 35 Length (ft) 51.4 Wing Area (ft ²) 460	Span (ft) 35 Length (ft) 51.1 Wing Area (ft ²) 460	Span (ft) 43 Length (ft) 51.4 Wing Area (ft ²) 668
Weight Empty (lb) 29,036 * Internal Fuel (lb) 18,480	Weight Empty (lb) 32,161 * Internal Fuel (lb) 14,003	Weight Empty (lb) 32,072 * Internal Fuel (lb) 20,085
All Mission Fuel Internal -- Very large Fuel Fraction Support Extended Range Requirements In VLO		

Suite of 5th Generation Capabilities



VLO Stealth

With stealth designed in from day one, the F-35 has an unmatched ability to evade enemy detection and enter contested airspace.



Weapons Capacity

The F-35 carries weapons internally in stealth configuration, or externally in permissible environments with greater than 18,000 pounds of total ordinance.



Supersonic Speed and Extended Range

The Pratt & Whitney F135 is the most powerful fighter engine in the world. At Mach 1.6, the F-35 is a long range, supersonic fighter, even with a full compliment of internal weapons and fuel.



Sensor Fusion

F-35's advanced sensor fusion creates a single integrated picture of the battlefield that greatly enhances awareness, survivability and lethality.



Network Enabled Ops

The F-35 serves as an information and communications gateway, sharing its operational picture with the ground, sea and air assets.



Electronic Warfare System

Advanced EW capabilities to locate/track enemy forces, jam radars and disrupt attacks.