The need for a common defence ontology

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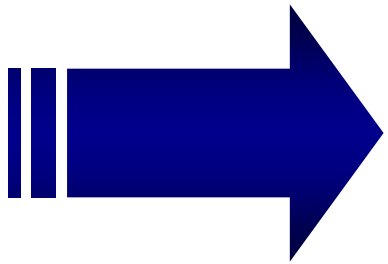
Future of the Military

Transforming Capabilities

20th Century	21st Century
Static	Agile
Reactive	Proactive
Regional	Global
Mass	Maneuver
Attrition	Precision
De-confliction	Coherence
Supply Point Logistics	Integrated Logistics
National Intelligence	Fused Intelligence



Holistic Approach

New and Broader Missions

- Conflict Prevention and Crisis Management
- Peacekeeping - Humanitarian Operations -Disaster Relief
- Support to Stabilization and Reconstruction

Alliance Nations' Instruments of Power

Political

Military

Civil

Economic

EBAO

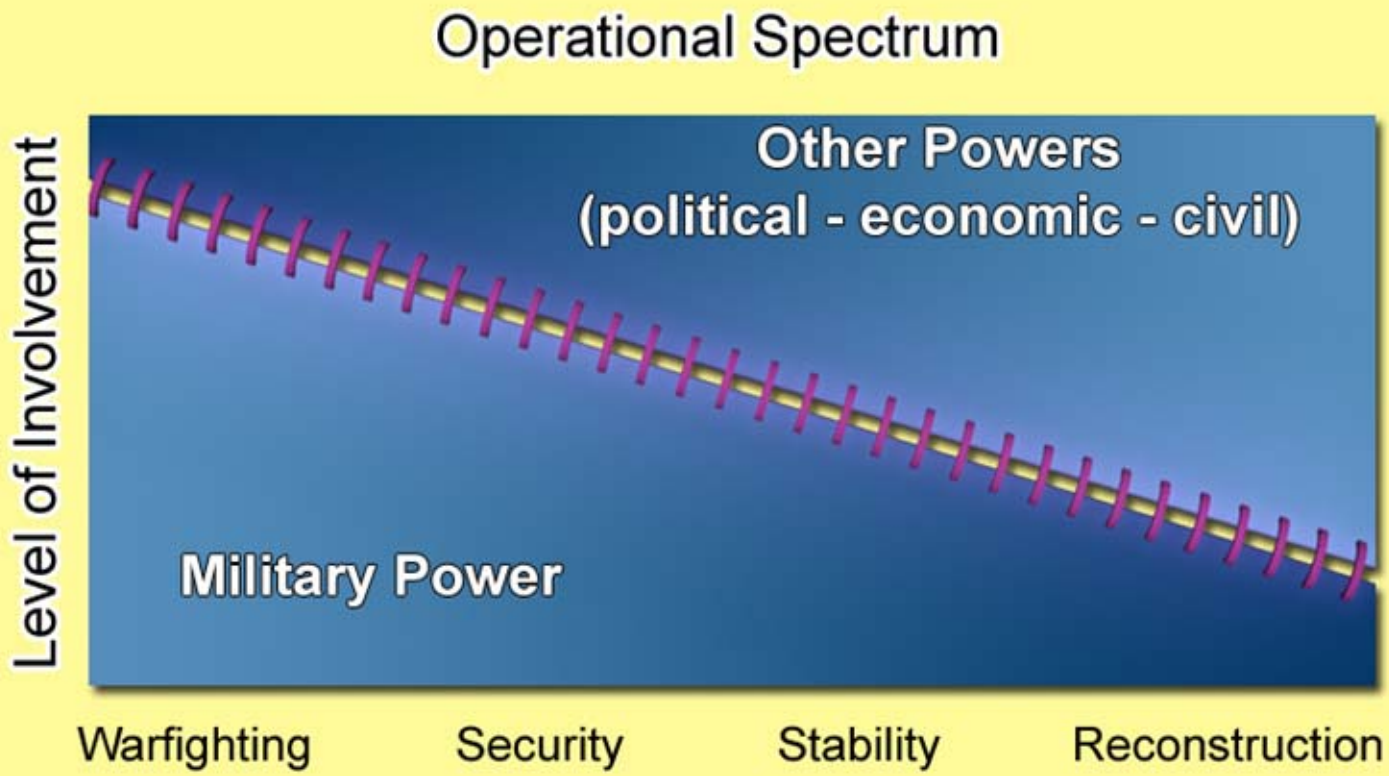
Effects-Based Approach to Operations (EBAO)

- Opens the door for others to participate
- Looks at effects of an action to achieve a desired result

Harmonise efforts with Others

- **International Organisations (IOs)**
- **National Governments**
- **Non-Government Organisations (NGOs)**
- **Industry**

Operating in the New Strategic Environment



Need to transform both forces and capability

The Evolution of a Transforming NATO Force

Deconflict Services & Cultures

Stitch Nation Seams

Integrate NATO Response Force

Effects-Based, Collaborative, Network Enabled and Interdependent

Deconfliction

Coordination

Integration

Coherence

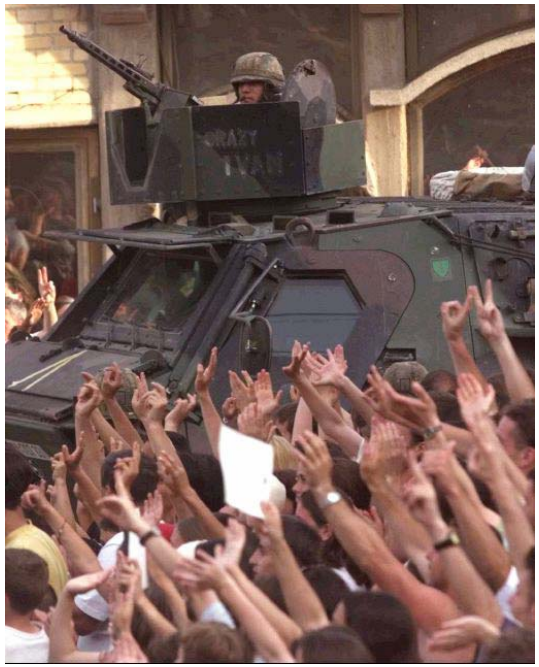
To include non-military capabilities

Transformation is about Culture and Product

The Evolution

NATO operations in the Balkans

- Capability Gap



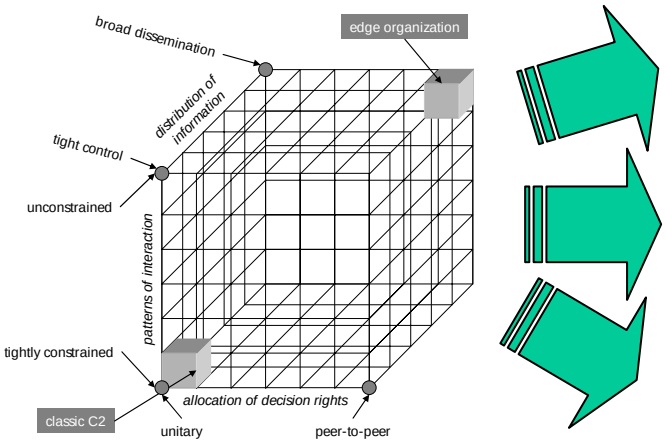
More capable.....

- **Harness emerging technology**
- **Interoperable Forces**
  - Joint and Multinational
- **Coherent Efforts**
  - In thought
  - In action

Transformation Fundamentals

- **Continuous process – not an End State**
- **New mindset**
  - Intellectual and cultural
- **Innovation – experimentation – conceptual development**
- **Comprehensive change**
  - Organisation
  - Processes
  - Policy - doctrine - strategy
  - Training and Education
  - Interoperability

NATO OTAN e-generation



C2 Maturity

NNEC Capability

C2 Maturity	NNEC Capability
Agile C2	Transformed ("Coherent") Operations
Collaborative C2	Integrated Operations
Coordinated C2	Coordinated Operations
De-conflicted C2	De-conflicted Operations
Conflicted C2	Stand Alone Operations

NATO Military Transformation

NATO Network-Enabled Capabilities

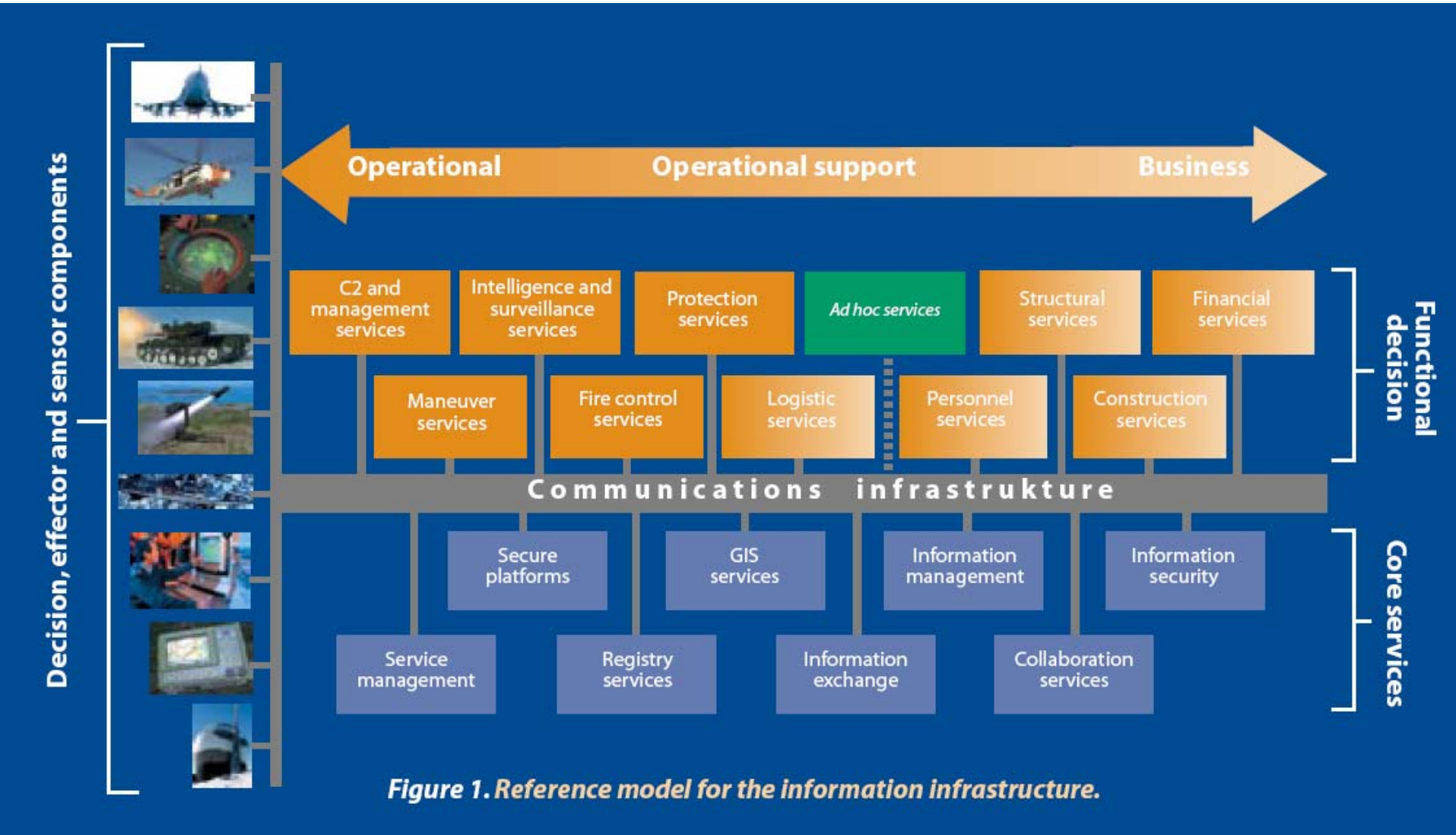
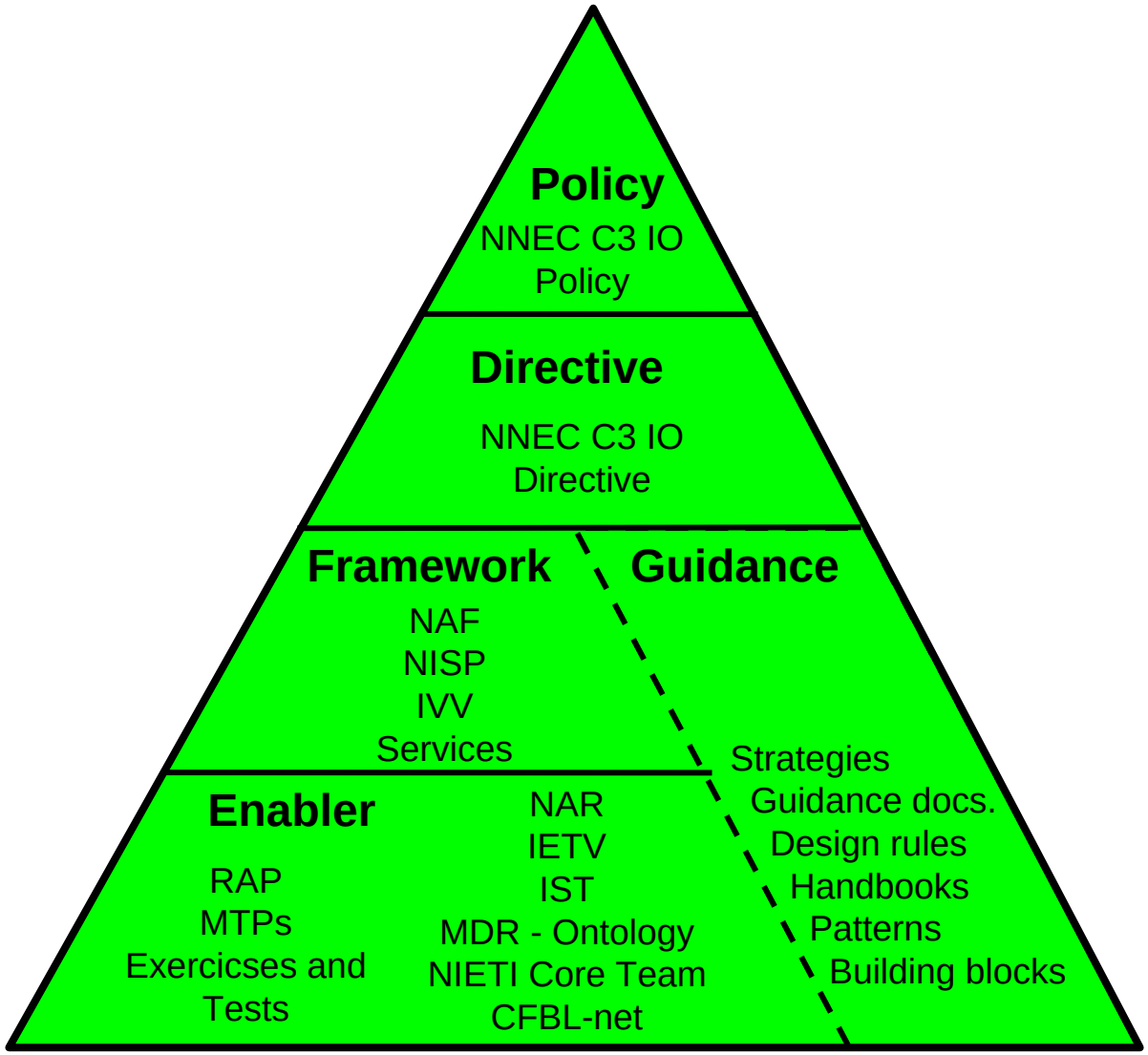


Figure 1. Reference model for the information infrastructure.

NNEC C3 Interoperability Environment



Semiotic Interoperability Model

The usage of symbols to convey knowledge.
Stamper (1992) defines 6 levels to analyse symbols.
These are:

Physical = Physical media and the use of physical media for transferring of symbols.

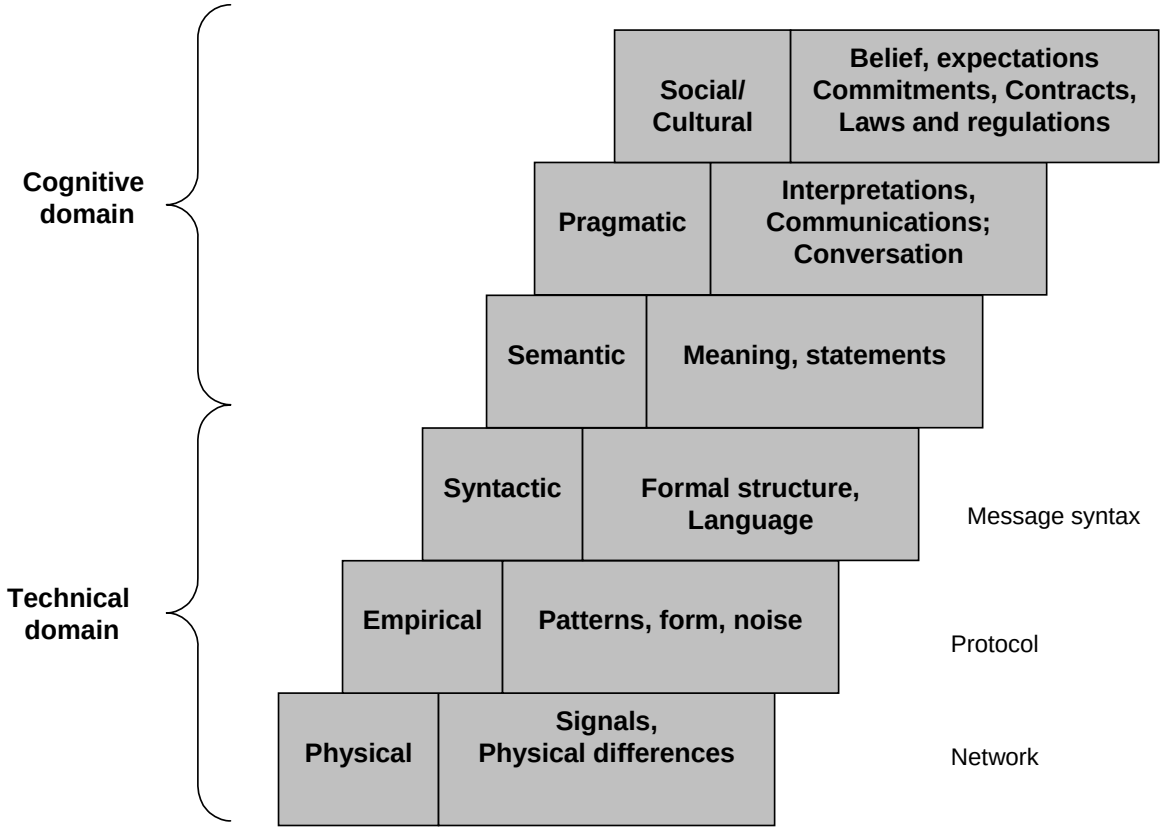
Empirical = At the second interoperability level, the empirical, the communication of a signal over the physical connection is established. That means that the transmitter´s signal could be re-created without errors at the receiver end.

Syntactic

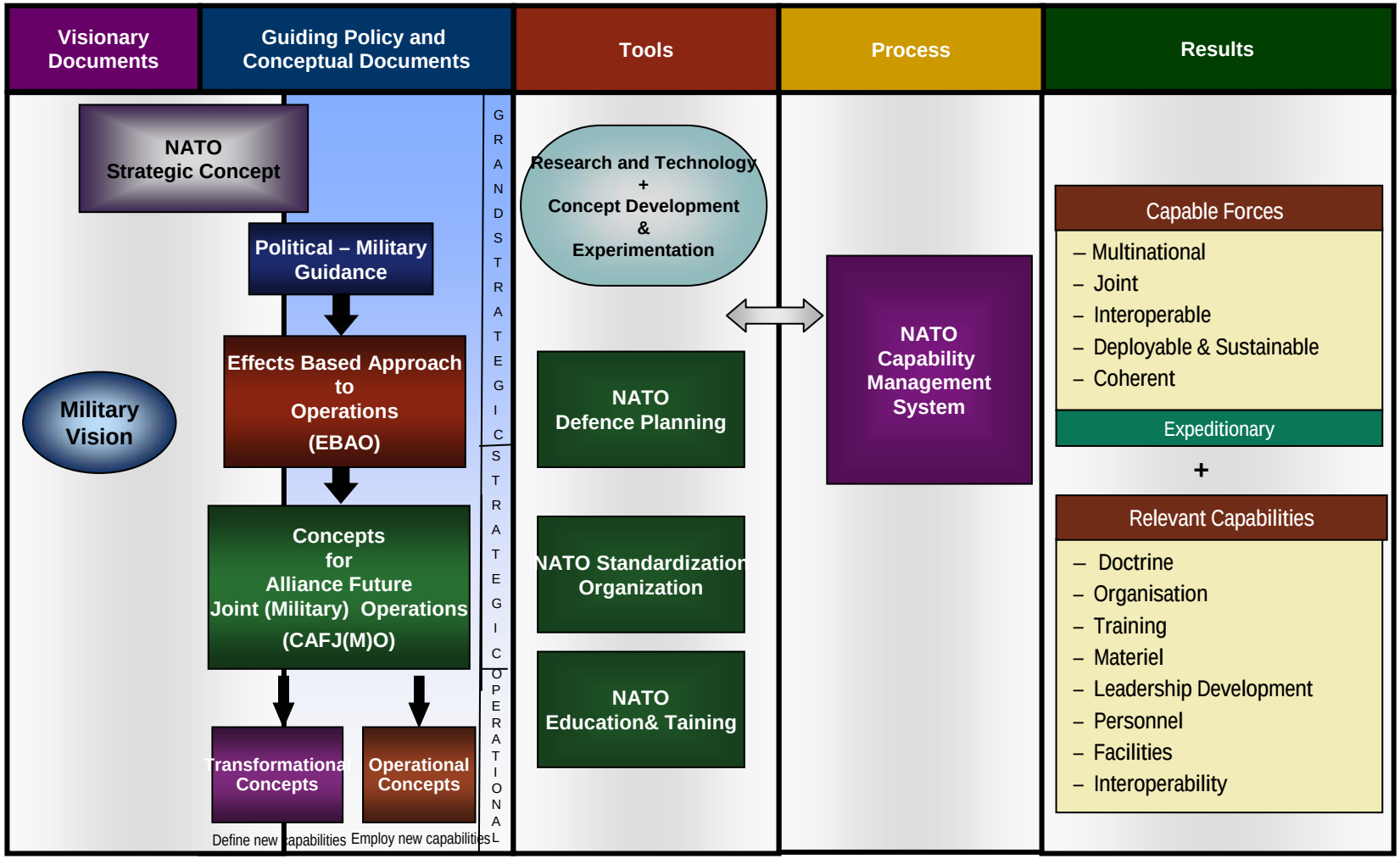
Semantic

Pragmatic

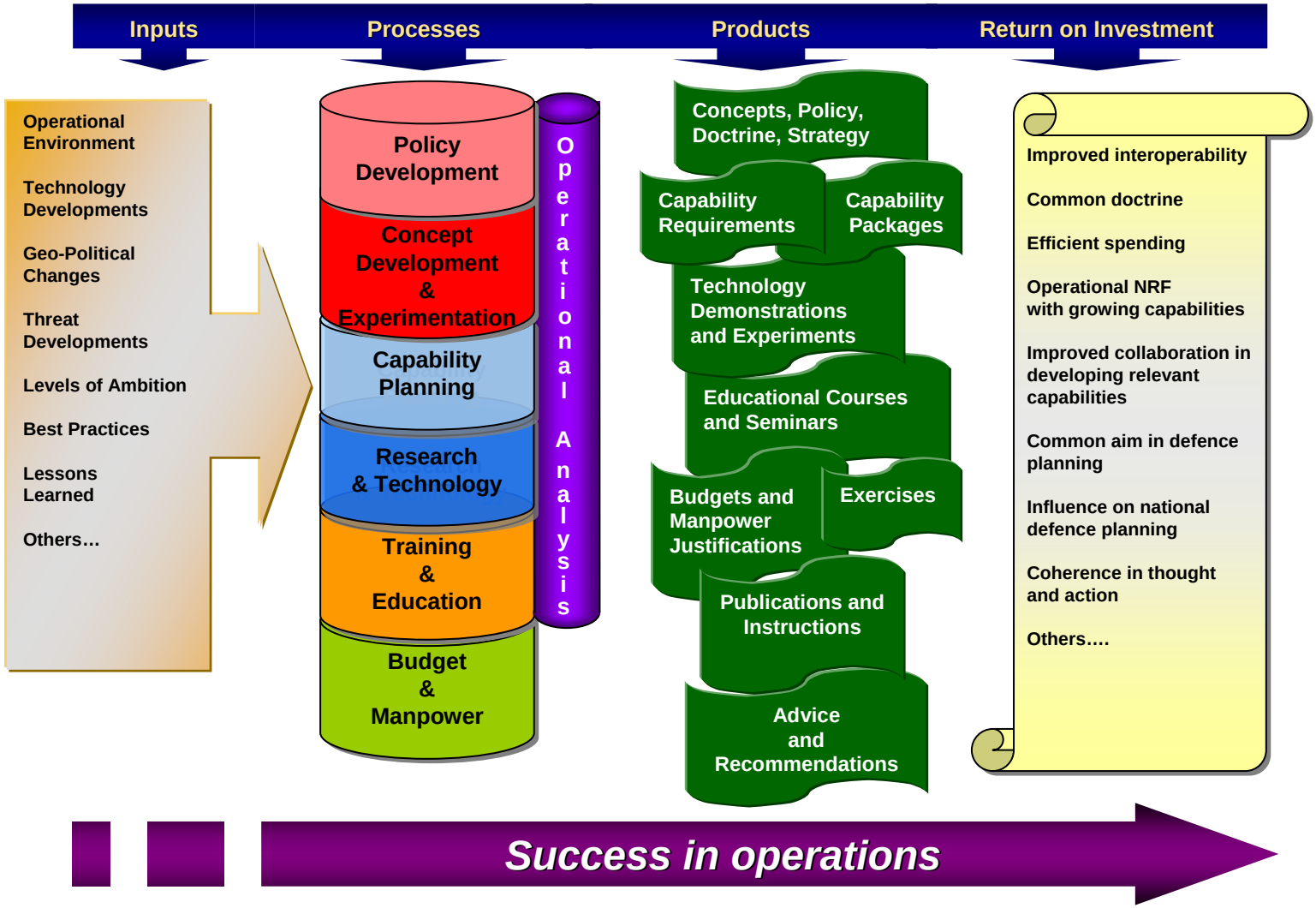
Social



Transformation Drivers



Return on Investment



Conclusion

Keys to *Success to Transform*

- Interoperability, Interoperability, Interoperability…