Swedish Armed Forces

Network Based Defense Trends

…and the future network based defence systems...

How it started

It took 10 years to realize

Changed security environment

Changing threats

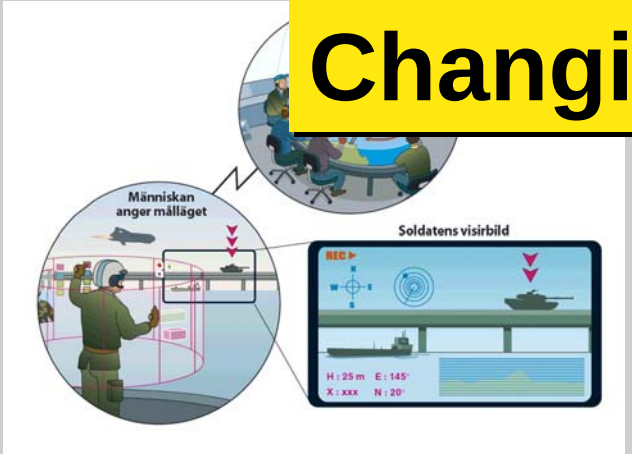
Non-state actors
- terrorism
- criminal
- cyber

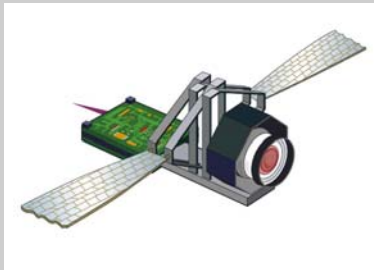
State actors
- access
- scarcity
- spillover conflicts

Changing Society

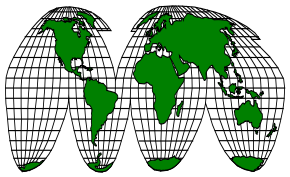
Globalization
Information
Mass-media

Changing technology

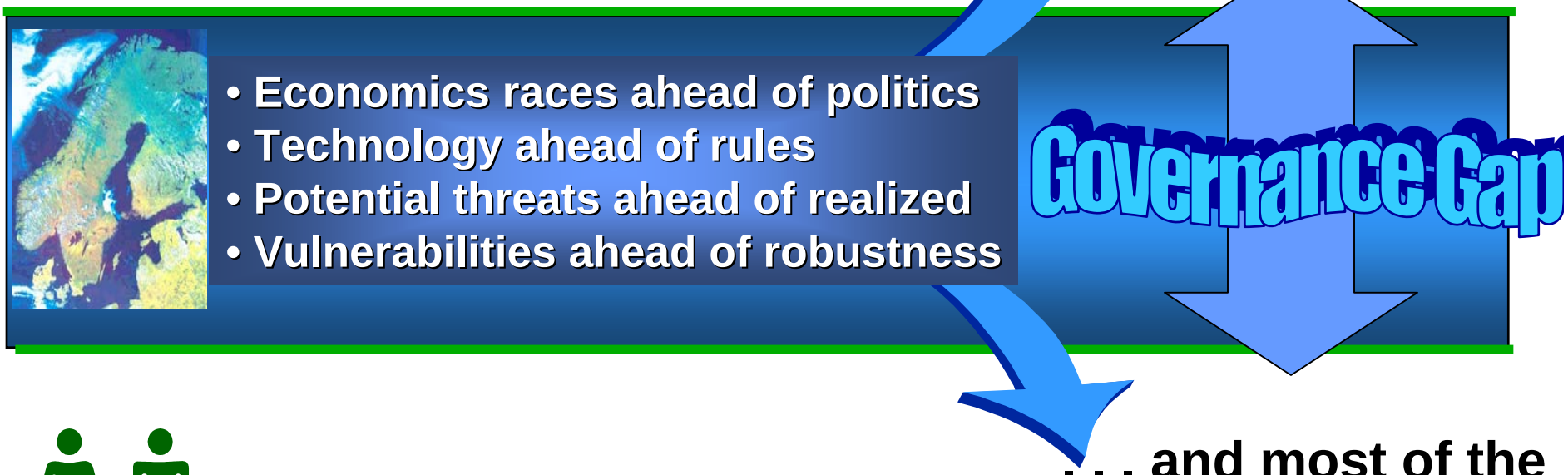


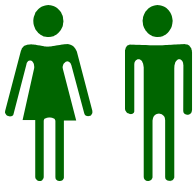


Violence in the Globalization Era



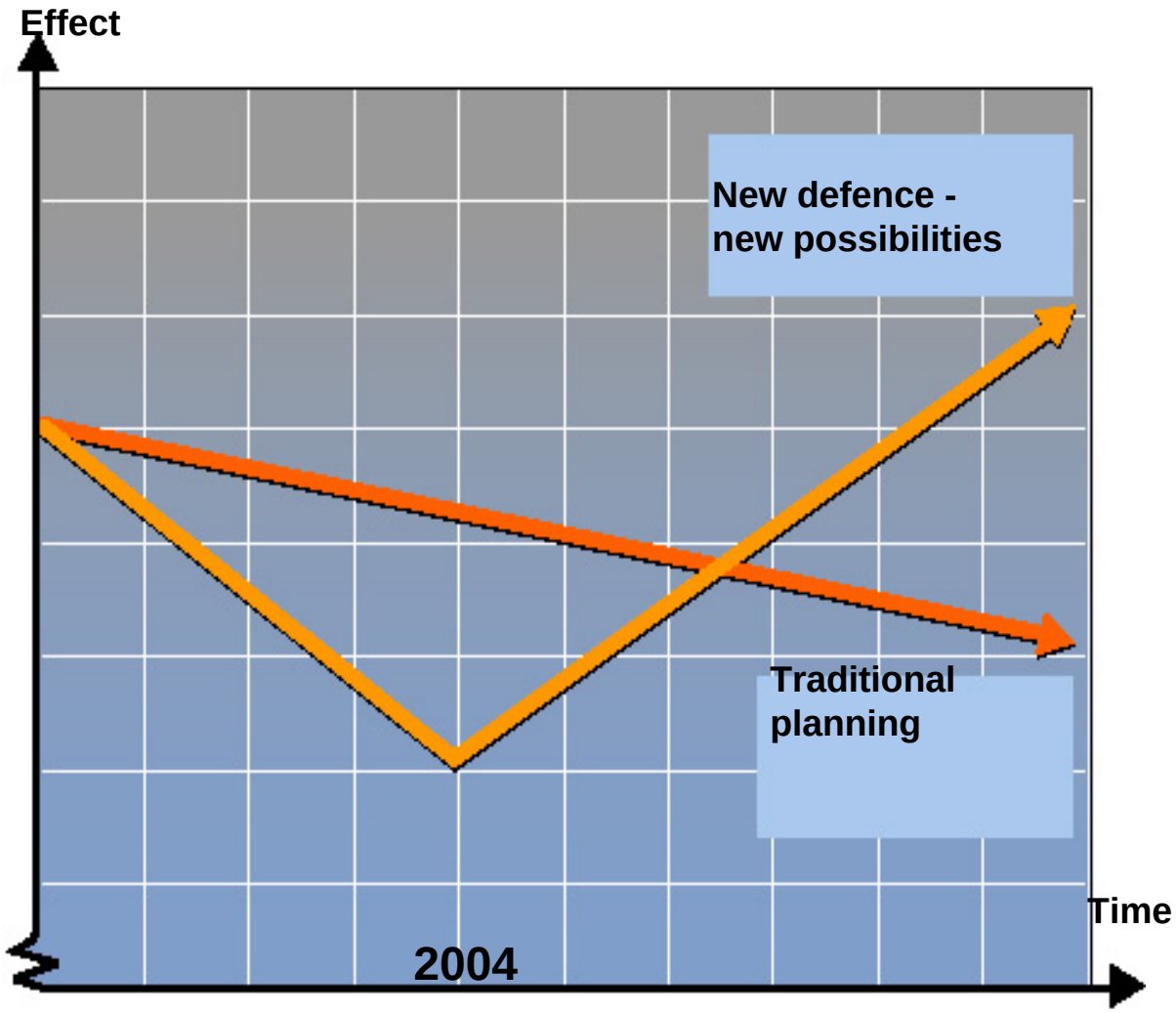
But most of system's power and competition are up here . . .





. . . and most of the violence and "threats" are down here

A strategic opportunity



Dynamic Engagement

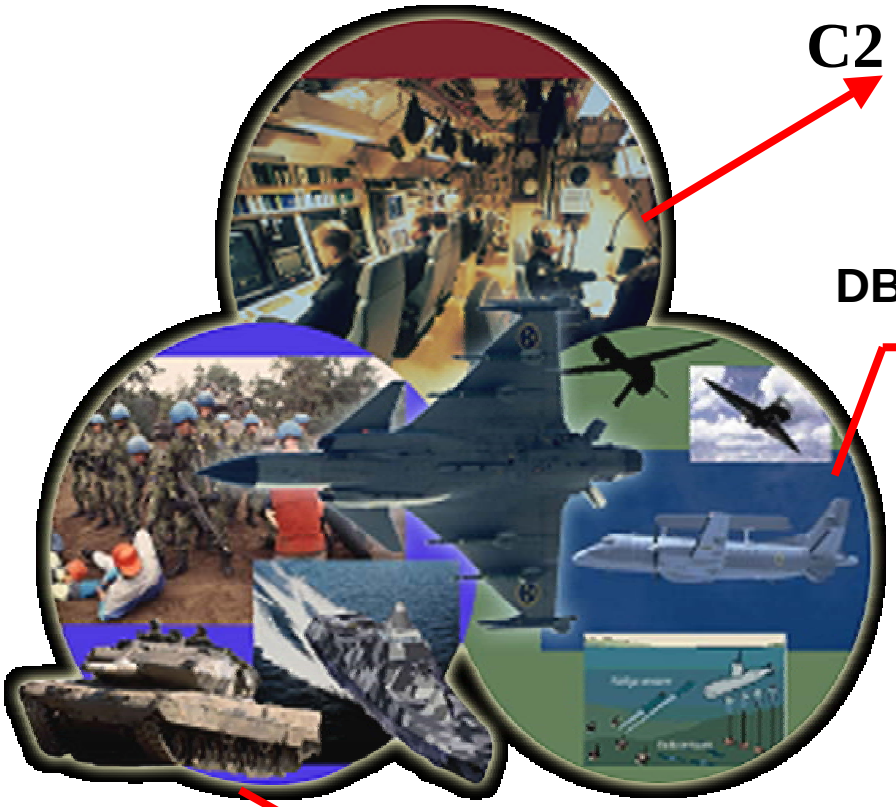
Platform-centric force

Massing Forces

Network-based force

Massing Effects

What We Have Done



C2 study 1999 → New C2 Structure

DBA study 1998 → New strategy for C4ISR

- Architecture
- Sensors
- Datafusion
- Telecommunication
- Command Posts
- UAV systems
- Sensor platforms

Dynamic Engagement study, Network Based Defence

Swedish Armed Forces development Strategy

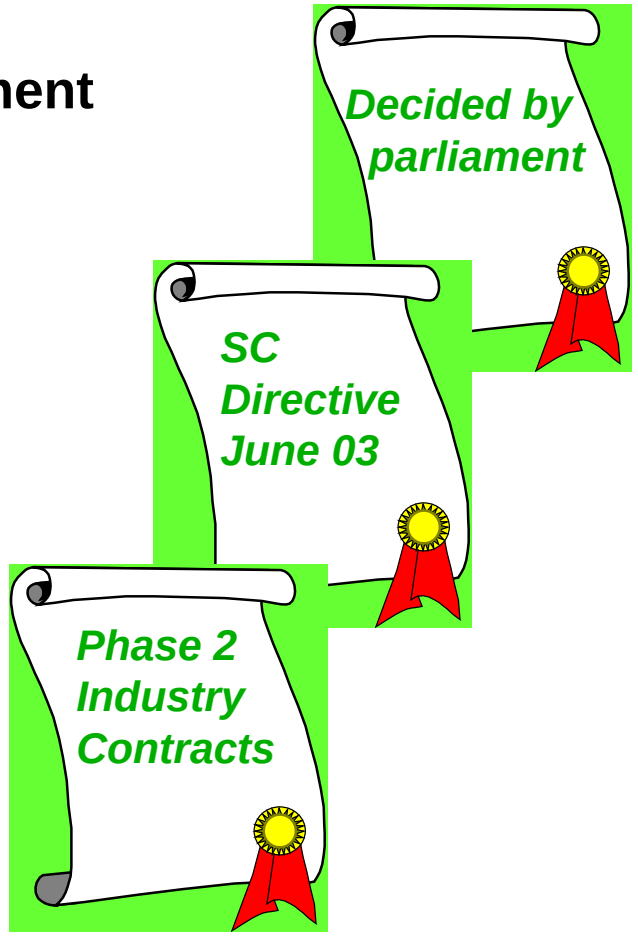
is

based on Network Based Defence concept

- **Backed up by the Parliament and Government**

- **Supremes Commanders directives and guidelines to the organization**

- **Deliverables 2003-2006**
  - Doctrine &C2 methods
  - Joint Architecture
  - Design principles
  - Demonstrations
  - Experimentations
  - Training&Exercises



Networked characteristics

- Distribution of resources for a significantly changed modus operandi
  - **Move information not physical objects**
  - **Create self synchronized systems**
  - **Market behavior – not rigidity**
  - **Value in the combinations and relations not in "things"**

- Create a shared understanding to create innovation

A Service Based Defense Concept

Sensor Services
Target Aq services

SIGINT Service..
IMINT Service..
COMs Service..
NAV Services (GPS..)

National Infrastructure Services
•Comms Backbone Services

Communication Services

Weather Services

C2 Services

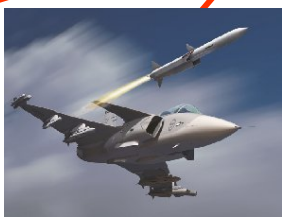
Wargaming Services

Intelligence Services

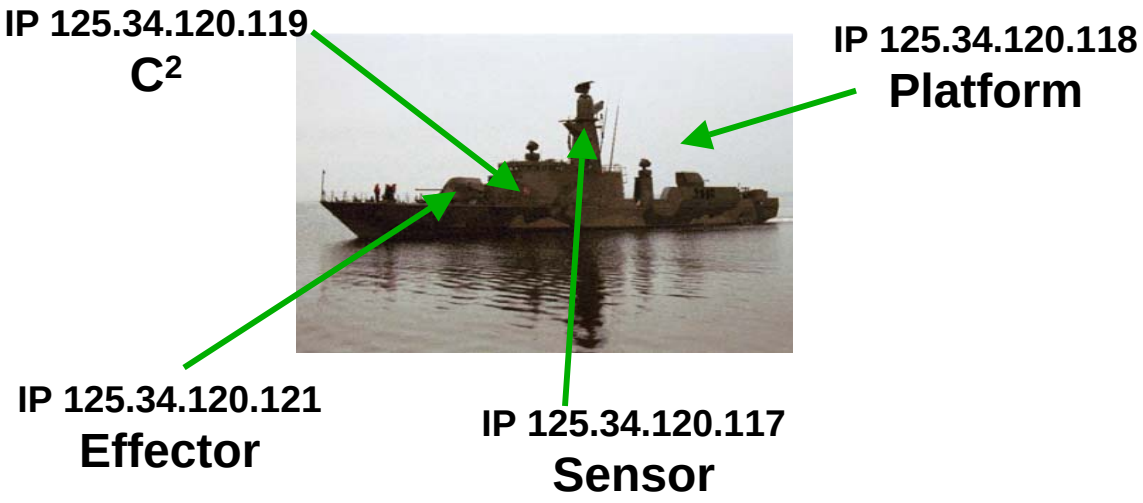
Map Services

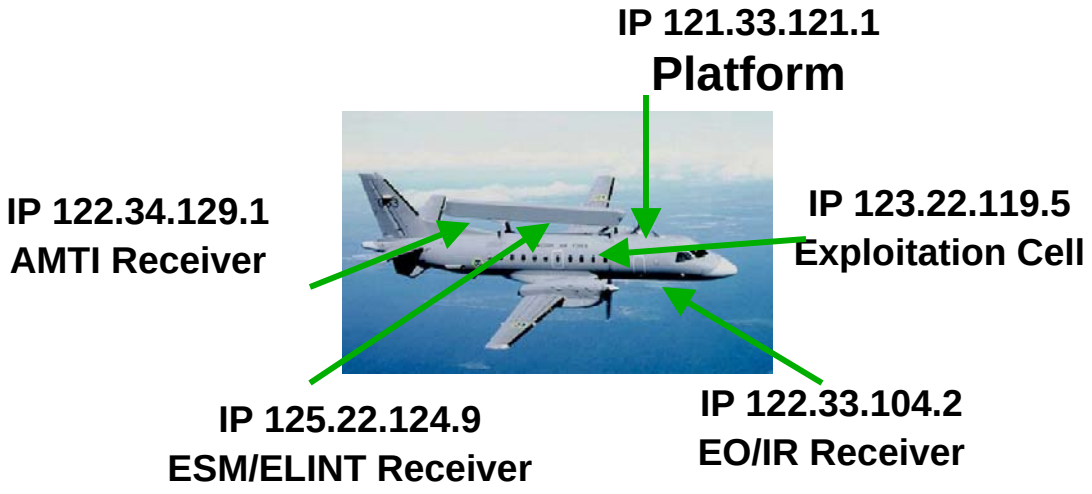
Platform Services

Engagement Services



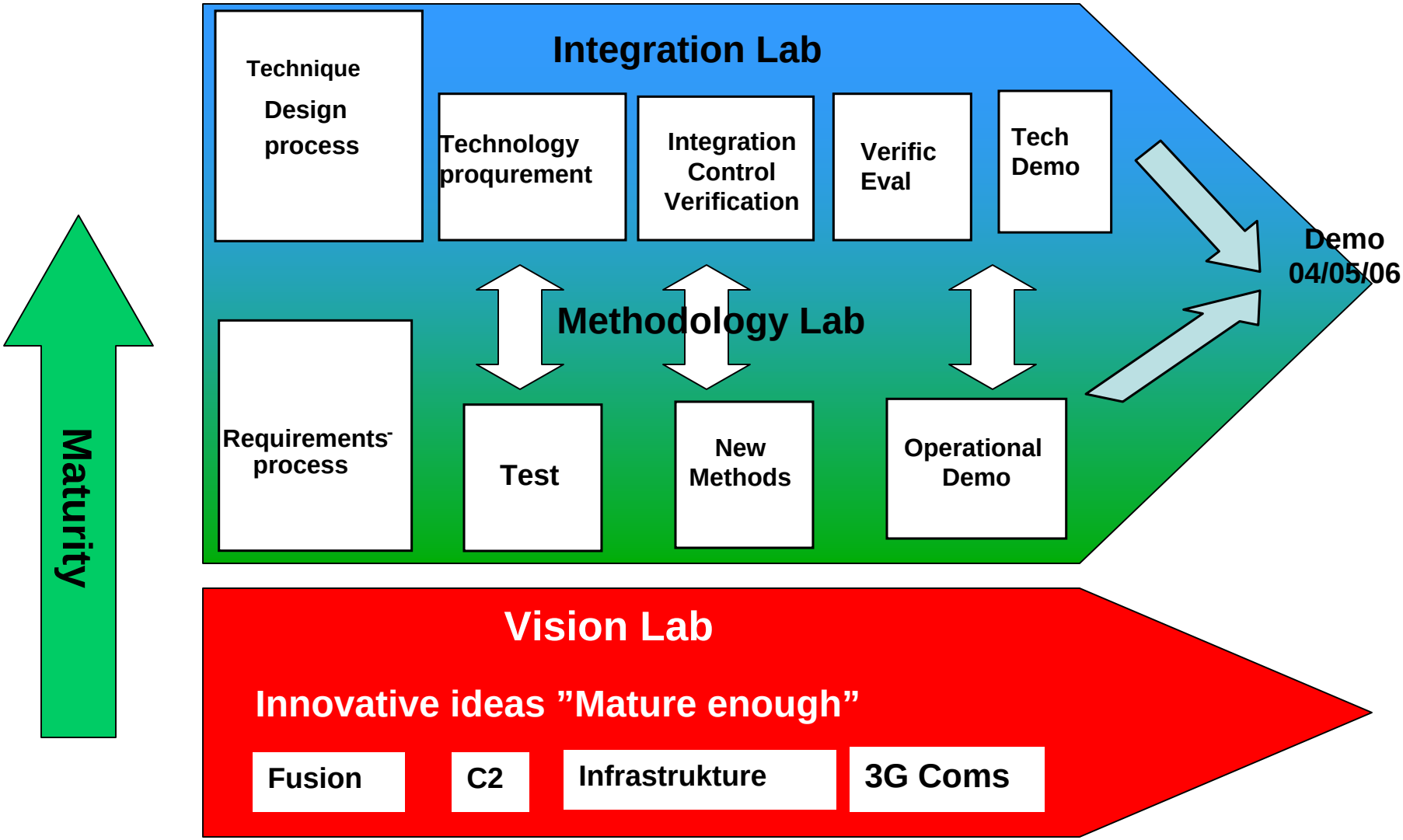
….Individual Addressability to access NBD effects from platform….





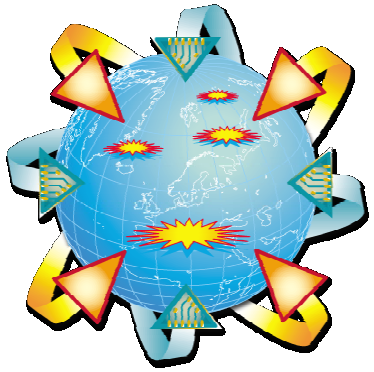
IP Addresses are Notional

Demonstration and Experimentation Building Blocks



Global and Regional Trends for Conflict

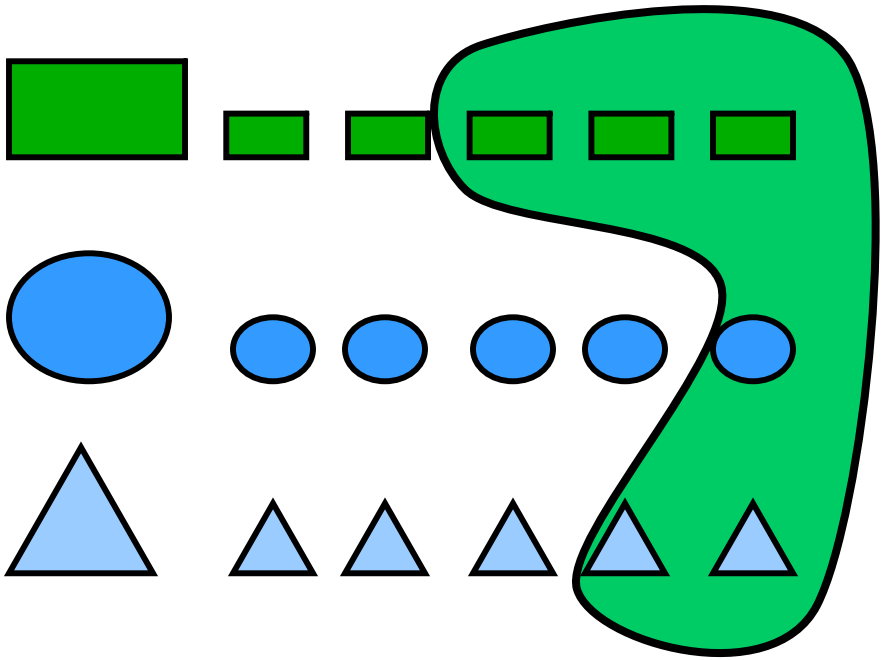
These Trends Demand New Thinking, New Education, and New Training



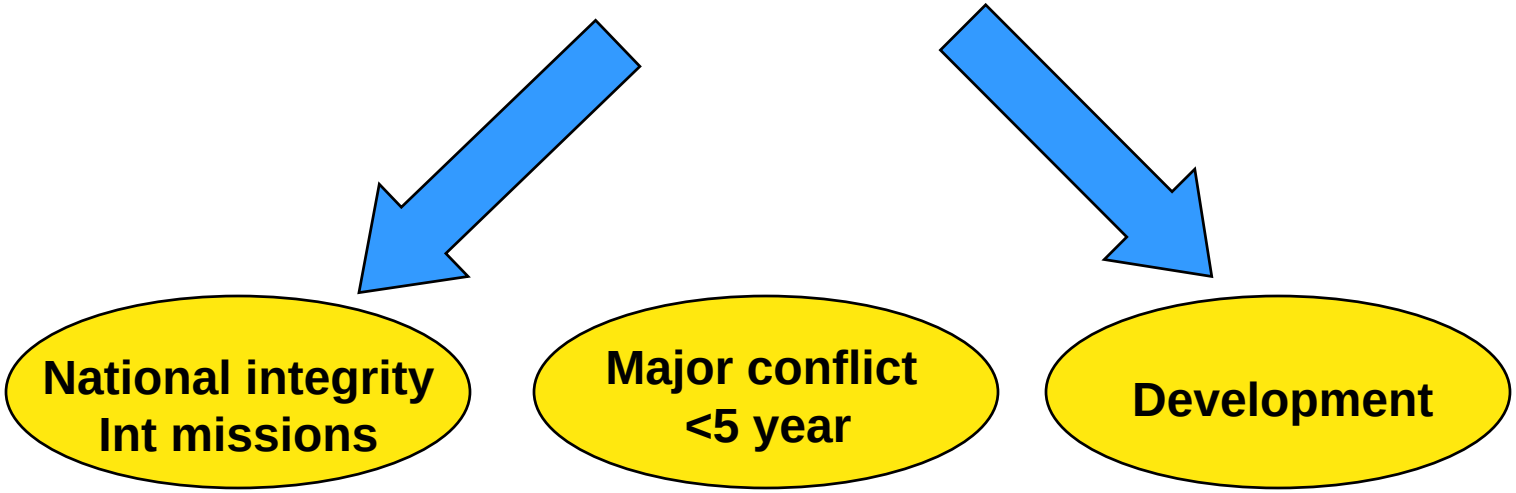
Common Capabilities

- Common Forces
- Infosphere Forces
- Battlefield Forces
- Tailored Effects
- Operational Focus

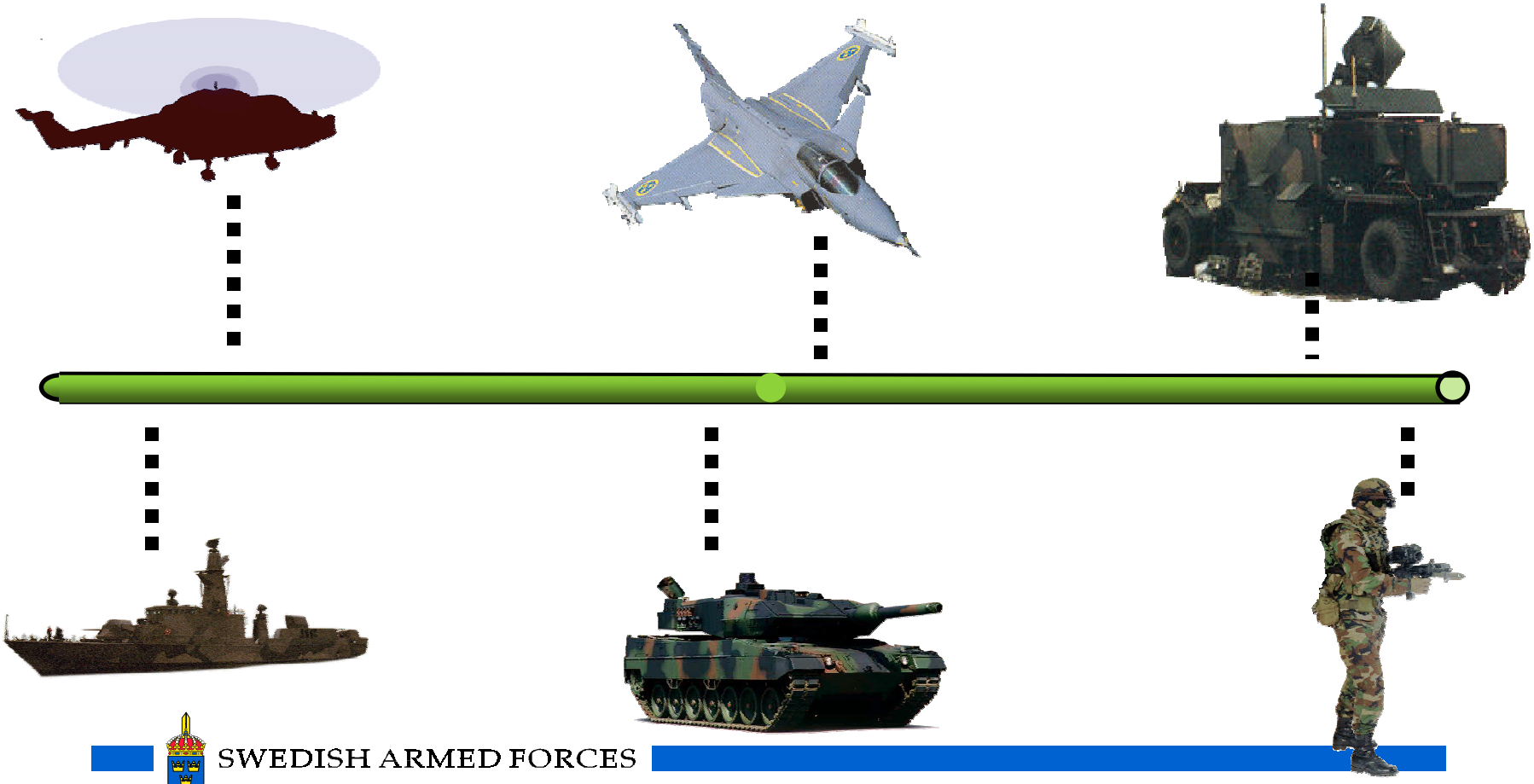
Flexible Joint Taskforces



Future Capabilities



Horizontal integration based on the NBD architecture



SWEDISH ARMED FORCES
HEADQUARTERS

….People, Doctrine, Platforms, Organisation...

..They are all needed in the transformation move ahead...

Looking ahead..

NBD

the Swedish method for creating flexible forces

It is about people enabled by technology

Thankyou

...Staying ahead