

# Strategies for Developing Agile Crisis Management Capabilities

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## Outline

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- Agile Crisis Management
- The Agile Organization
- The Agile Mindset
- Drivers of Capability Evolution
- Impact of Next-Gen Modeling & Simulation
- Strategies for Development
- Conclusions



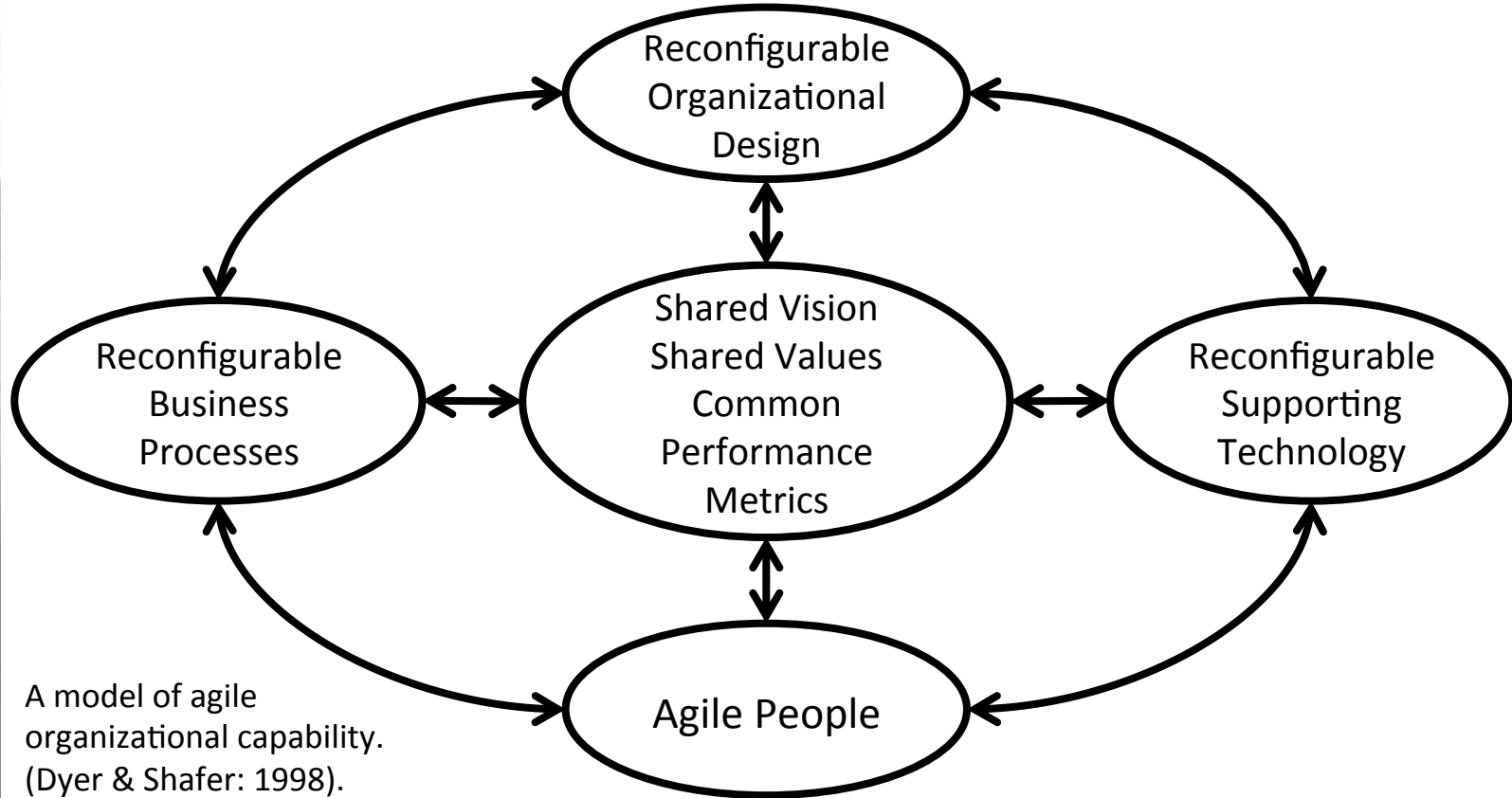
# Agile Crisis Management

1. Collaborating within and between different organizational cultures
2. Engaging and organizing people with different backgrounds, education and experience
3. Maintaining effectiveness and efficiency
4. Employing a Multi-Domain Operations (MDO) perspective

At individual, team and organizational levels.



# An Agile Organization



A model of agile organizational capability.  
(Dyer & Shafer: 1998).

An Agile Mindset

Volatile

Ambiguous

Uncertain

Complex





# An Agile Mindset

**Cognizance** - Built from R&D / Innovation with breadth and depth

**Competencies** - Based on quality, productivity and innovation

**Context** - Operational experience, domain understanding and effects-focused value perspective

**Creativity** - Challenges established thought patterns through adaptability and flexibility

THE INNOVATION EQUATION

INNOVATION =  
CREATIVITY  
X  
RISK TAKING

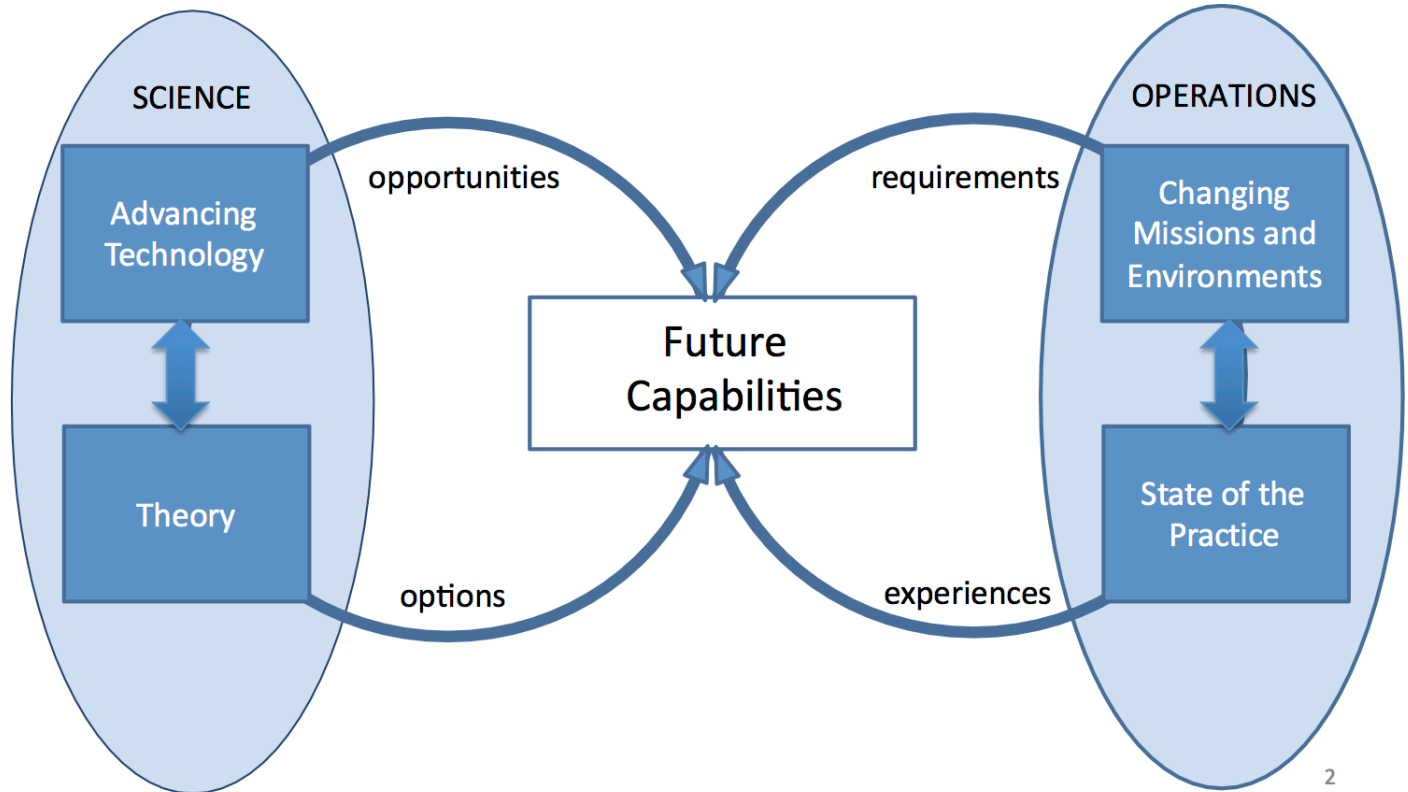


# An Agile Mindset

Building an agile Crisis Management organization requires a major shift in mindset:

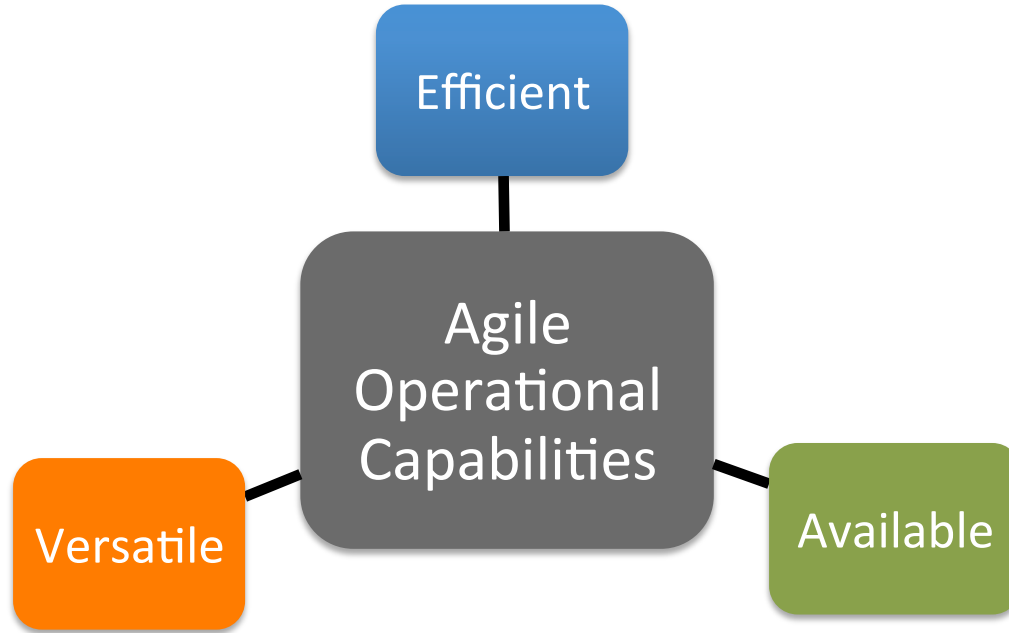
- Change must be fostered at the individual, team and organisational levels, utilizing the new mindset as an enabler of agile and adaptive behavior.
- The implementation of new methods, procedures, technologies or organisational structures will not be sustainable without this major shift in attitude.

# Developing Agile Capabilities: Drivers of Evolution





# Agile Operational Capabilities





# Agile Operational Capabilities

***Efficiency*** describes the possibilities to both develop and train crisis management units as well as to deploy and support them in theatre with optimal resource utilization.

***Versatility*** describes the possibilities to operate in all security dimensions and levels of conflict. Most operations include offensive, defensive and stabilizing elements.

***Availability*** describes the possibilities to deploy units at the right time and to carry out operational activities during the time required with regard to policy and operational objectives.



# Developing Agile Capabilities: Architecture



# Strategies for Agile Capability Development: The impact of Next-Gen Modeling & Simulation

**Development and evaluation  
of tactics**

**Systems  
analysis**

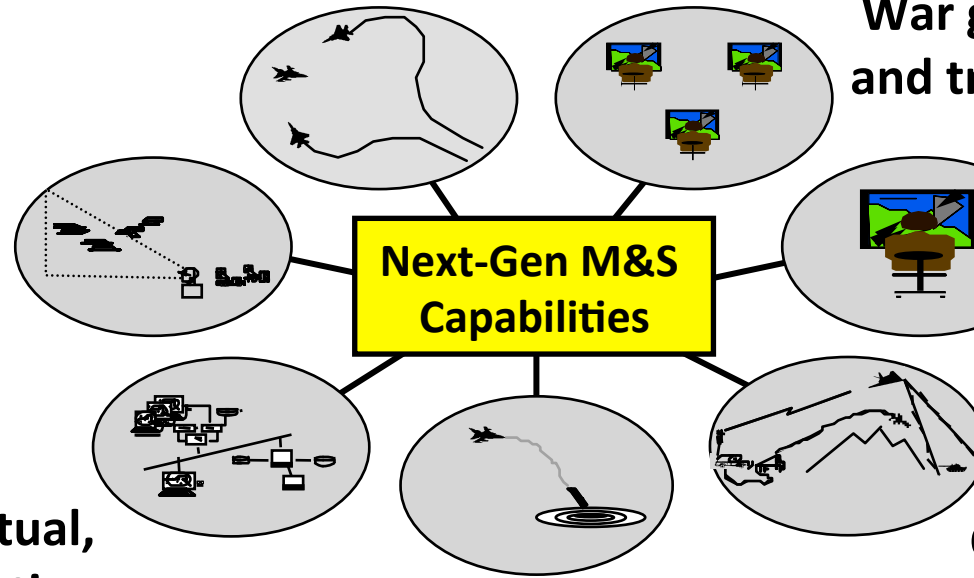
**Live, Virtual,  
Constructive**

**Test and evaluation**

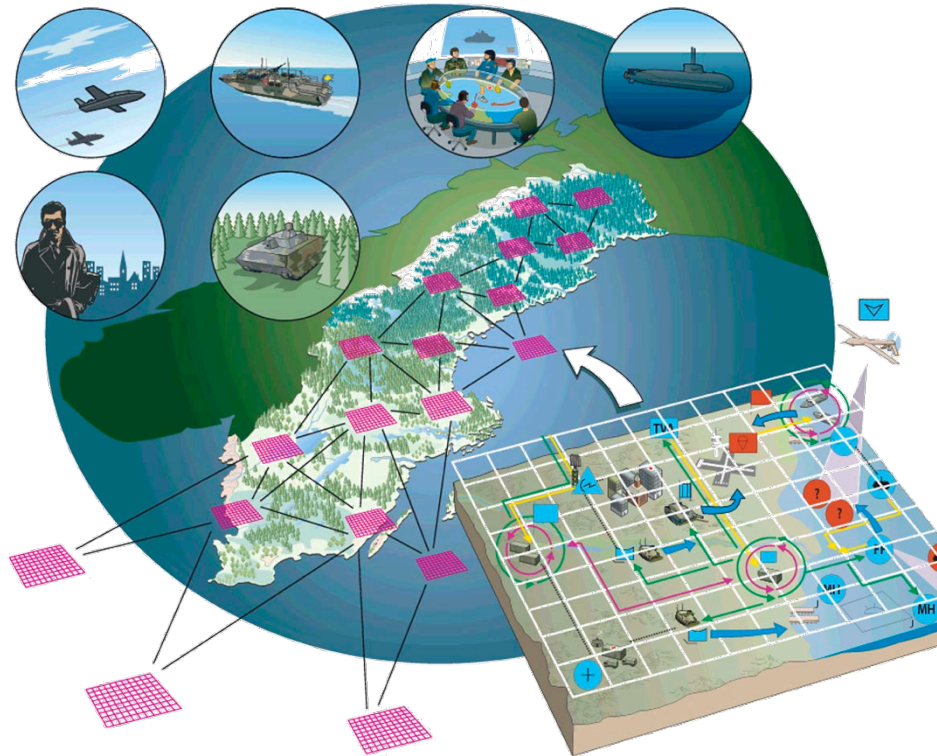
**War games  
and training**

**Planning  
and exercises**

**Concept definition  
and studies**

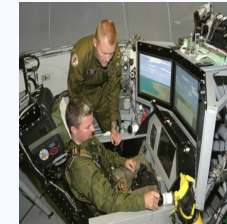


# Strategies for Agile Capability Development: The impact of Next-Gen Modeling & Simulation



## Live

- Real People
- Real Equipment
- Simulated Effects

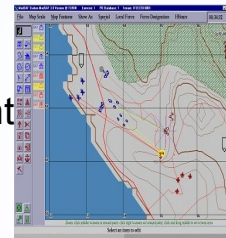


## Virtual

- Real People
- Simulated Equipment & Environment

## Constructive

- Simulated People
- Simulated Equipment & Environment
- Stimulated by Real People



# Strategies for Agile Capability Development: Multiple Perspectives, Flexibly Managed

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- Multifunctional, multi-organizational and multinational interaction towards a common objective.
- Understanding of the situation's driving forces and of one's own role in the overall campaign, with all its stakeholders and resources.
- An ability to undertake missions and tasks in all environments, applying methods and procedures for planning and execution in the Endeavour Space.
- Working with temporary coalition partners in joint, interagency, multinational, public, and combined operations.





# Strategies for Agile Capability Development: Trusted, Distributed, Cognitive Capabilities

- **Trusted capabilities**, where human and artificial team and staff members are vital components of an “edge organization” where decision rights and autonomy are granted to local operators to effectively cope with situational complexity and dynamics.
- **Distributed capabilities**, with a high degree of “edge computing”, i.e. local intelligence processing capability to provide data mining, data reduction, and reasoning from massive amounts of data.
- **Cognitive capabilities**, constituted by network-enabled information exchange, shared situational awareness, mission understanding and self-synchronization, when in a collective or coalition environment, to produce the intended effects.



# Strategies for Agile Capability Development: Adaptation and Learning Capabilities

- **Adaptation** includes the ability to perceive, understand and deal with change requirements under time-, risk- and resource-critical conditions. This enables the force to develop during ongoing operations through its mission agility against variations in environment, mission, organisation and resource availability.
- **Learning** includes analysis of performance and conclusions of experiences from ongoing and completed campaigns are translated into action. Unexpected irregular threats and events are tackled through critical thinking, comprehensive analysis, rapid testing and experiments to improve efficiency and shorten the time from discovery to implementation.



## Conclusions

Developing and implementing agile Crisis Management Capabilities, its inherent competencies, methods, technologies, procedures and organisational structures, depends heavily on:

- **Management commitment** all the way through policy and doctrine to Tactics, Techniques and Procedures;
- An **organisational culture** based on flexibility, deliberate risk-taking, openness to change and tolerance for error (learning culture);
- **Leadership** that fosters curiosity, learning and dynamism, where initiative is rewarded and the bar is set high towards excellence.





## About Arne Norlander, PhD

Dr. Arne Norlander (LtCol, Ret.) has over twenty years of experience as a leader and expert in strategic Defence and Government R&D, including positions as Senior Scientist and Research Director at senior and executive levels in the Swedish Defence Research Agency and the Swedish Defence Staff.

Dr. Norlander is the Founder and CEO of NORSECON AB, a consulting firm in Science, Engineering, Technology Foresight, Leadership, Concepts, Capabilities and Organizational Development, and Innovation Management. He is Chairman of the Swedish Security & Defence Industry Association Research & Development Committee, and serves as an Independent Research and Innovation Expert for the European Commission and the European Defence Agency.

Dr. Norlander is an accomplished academic researcher, analyst, author and scholar, and lectures regularly on science, technology and policy matters. His research interests are: Cognitive Systems; Complex Adaptive Systems; Human-Technology-Organization; Artificial Intelligence; Cyber Security; Business agility; Innovation and R&D management; International Security and Defence Policy.

Dr. Norlander's long-term research work in Cognitive Systems and Command and Control is internationally recognized; Dr. Norlander and his research fellows received the NATO Scientific Achievement Award in 2014.