

## **HFM-288 Research Workshop on**

### **Integrated Approach to Cyber Defence: Human in the Loop**

# **Organizing for Cyber Resilience: identification and management of the organizational cyber risk**

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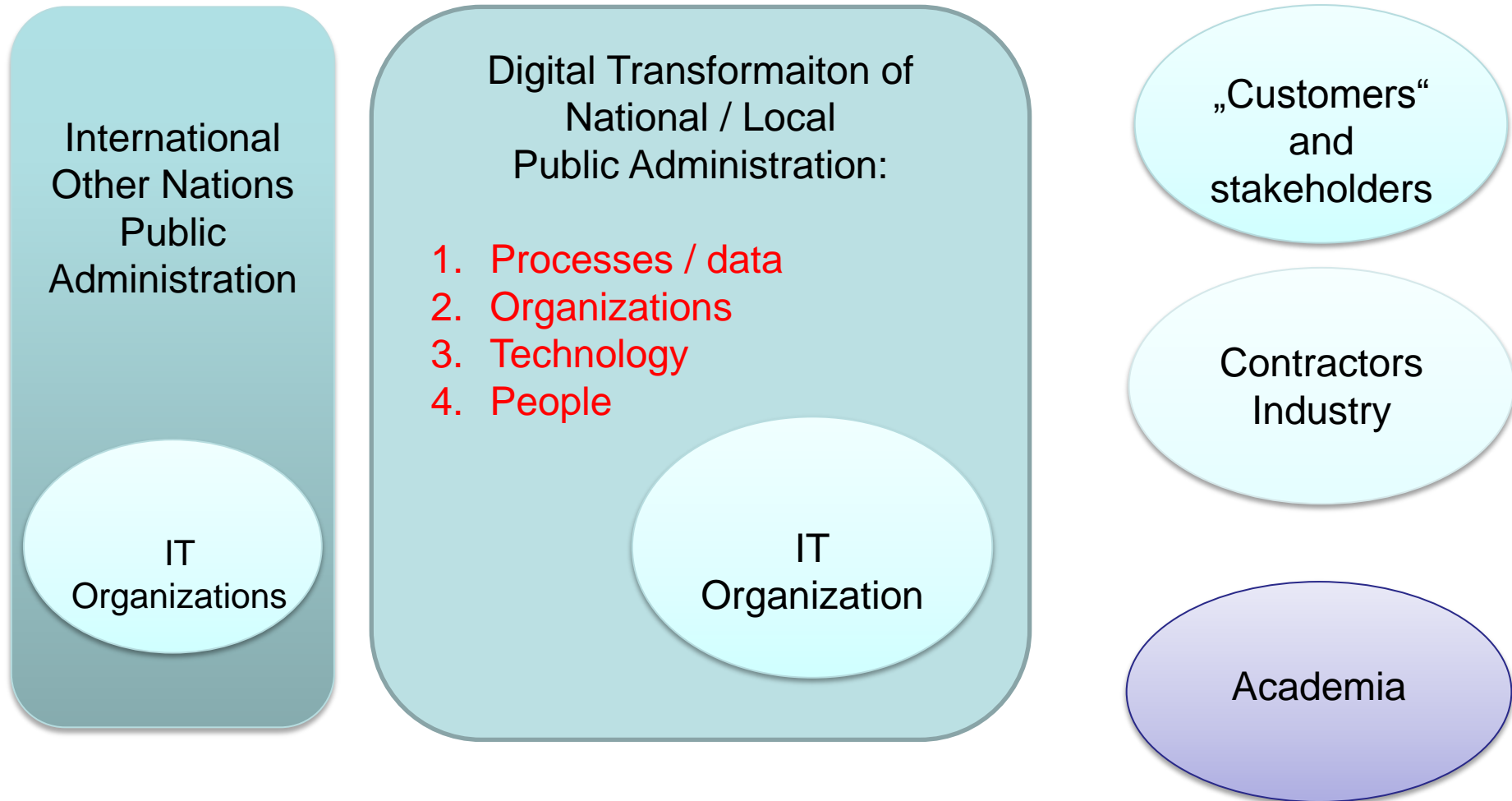
**IICT-BAS / ADRI-DSC-MoD**

***(academic aspects)***

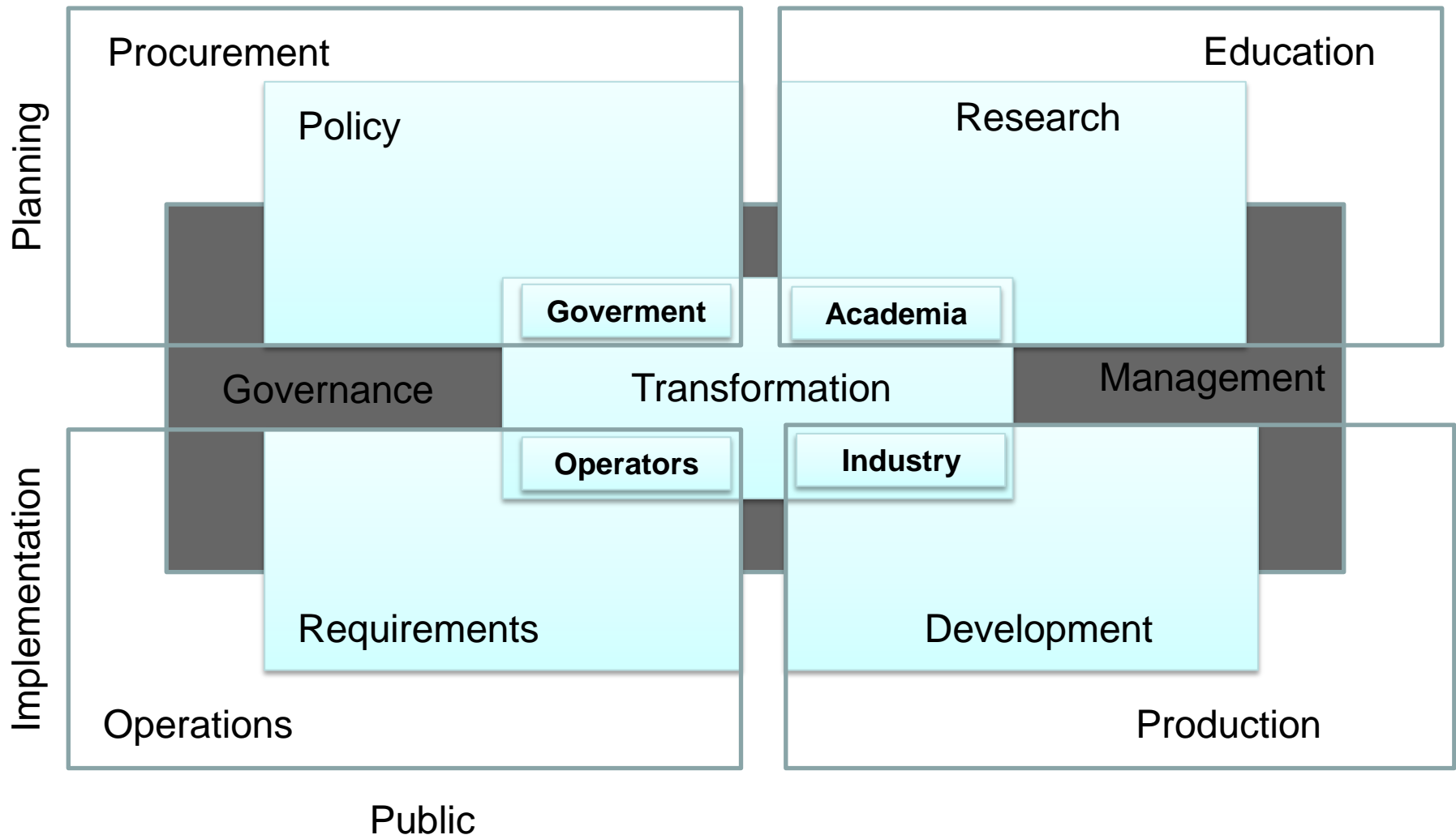
# Agenda:

- **Problem definition: Study on „best practices“ of IT organizations management for effectiveness, efficiency and cyber resilience**
- **Organizational aspects of effectiveness, efficiency and cyber resilience of IT organizations**
- **Human factor of effectiveness, efficiency and cyber resilience**
- **Research and training for effectiveness, efficiency and cyber resilience – academic added value**

# PA and IT organizations in DTPA



# Four dimensions of digital transformation



# Transformation – academic domain

- **Transformation is about change in:**
  - Processes
  - **Organizations**
  - Technology
  - **People**
- **Academic domain focus on research and education/training in the above areas**
- **This study is focussing on Organizations and People elements of Transformation**
- **Related studies are covering other aspects in cooperation with the InnoCenter – BGR and DIG – NLD**  
**([www.defenceinnovation.eu](http://www.defenceinnovation.eu))**

# Organizational aspects of Cyber resilience

- **IT Governance and Management Study for Effective, Efficient and Cyber Resilient IT Organizations – I&S International Journal as a platform for collecting cases (<https://procon.bg/38-it-governance-and-management-national-and-international-best-practice>)**
- **Institution Building / Change Management for IT organizations course development / testing with PA IT Leaders (SA eGovernment / IPA partnership)**
- **Institution Building / Change Management for PA course development / testing for integration of IT organization in PA (UNWE partnership)**

# Human factor of Cyber Resilience – people dimension

- **Human factor on governance level (supervisory board)**
- **Human aspects on customer side (IT leaders – CIOs and CEOs)**
- **Personnel in IT organizations**
  - Organic staff
    - Selection
    - Rotation / retention
    - Development
  - Contractors under service support contract
  - Contractors under procurement contracts

# Research and training for cyber resilience

- Best practices require research
- Implementaiton of best practices through training is essential (involvement of external consultants)
- Digital transformaiton requires digital innovation
- Innovation and change in general requires risk management



# Risk Management Implications

- **Audit processes (organizations, SoP, JD, performance) to assess maturity and identify risks**
- **Analyze and assess risks**
- **Develop mitigation measures**
- **Manage implementation in four aspects of change:**
  - Processes
  - Organizations
  - Technology
  - People
- **Monitor risk management dashboard and adapt**

# Academic CERT association

**ACERTA is a network of academic structures, covering expertise in:**

- Policy
- Economic aspects
- Social dimension
- Technology aspects
- Environment
- Legal issues

**united for research and training on effective, efficient and cyber resilient IT organizations and sharing/federating the unique research infrastructure.**

# ACERTA Organization

Representative  
CEO  
(Legal Identity)

General Assembly of Participants:  
IICT-BAS, ESI-CEE, DI-MoD, ADRI-  
DSC, ...

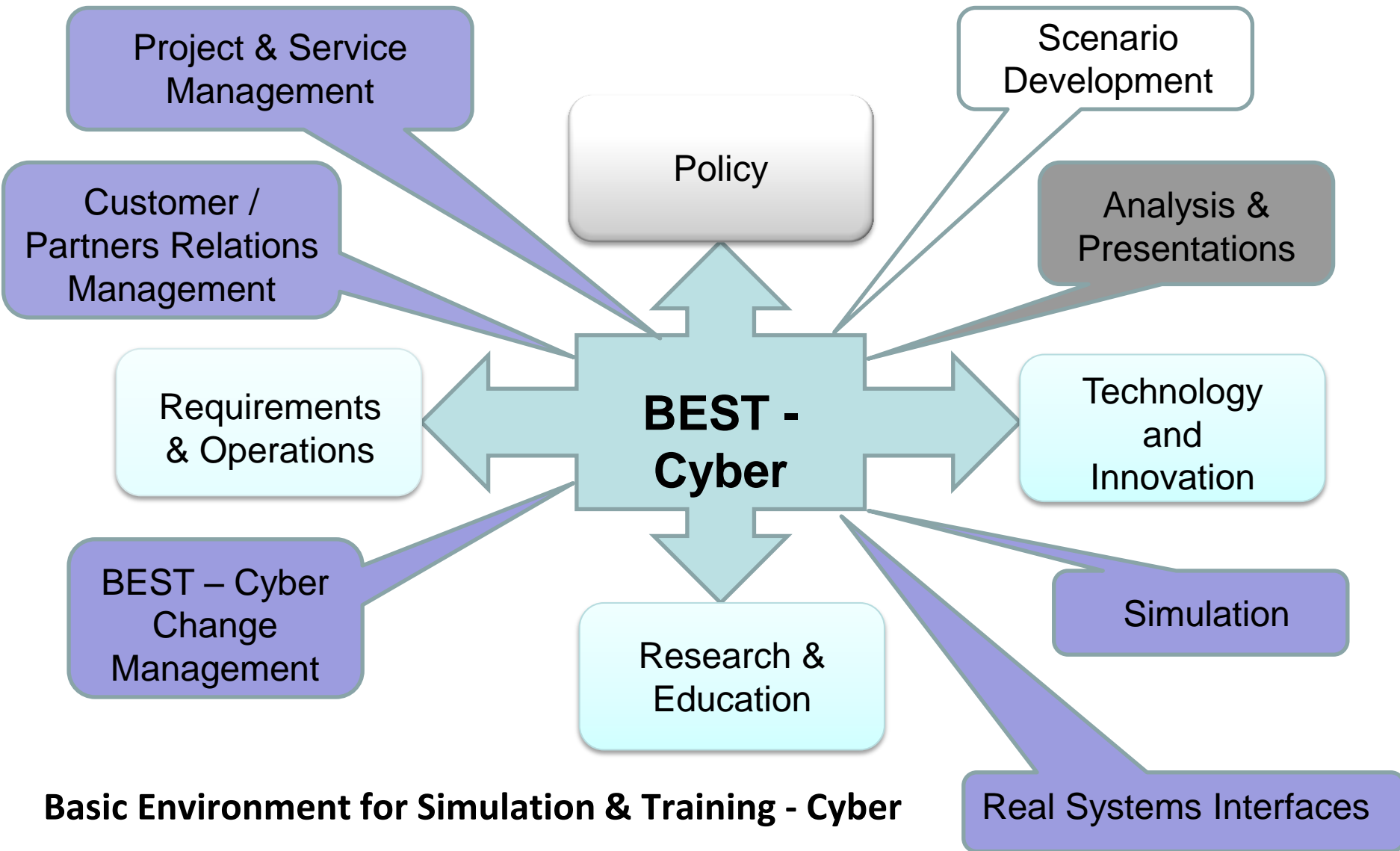
Experts – from  
participating  
academic  
organizations  
and invited  
external  
specialists

Coordinator (COO)

Project/Service team

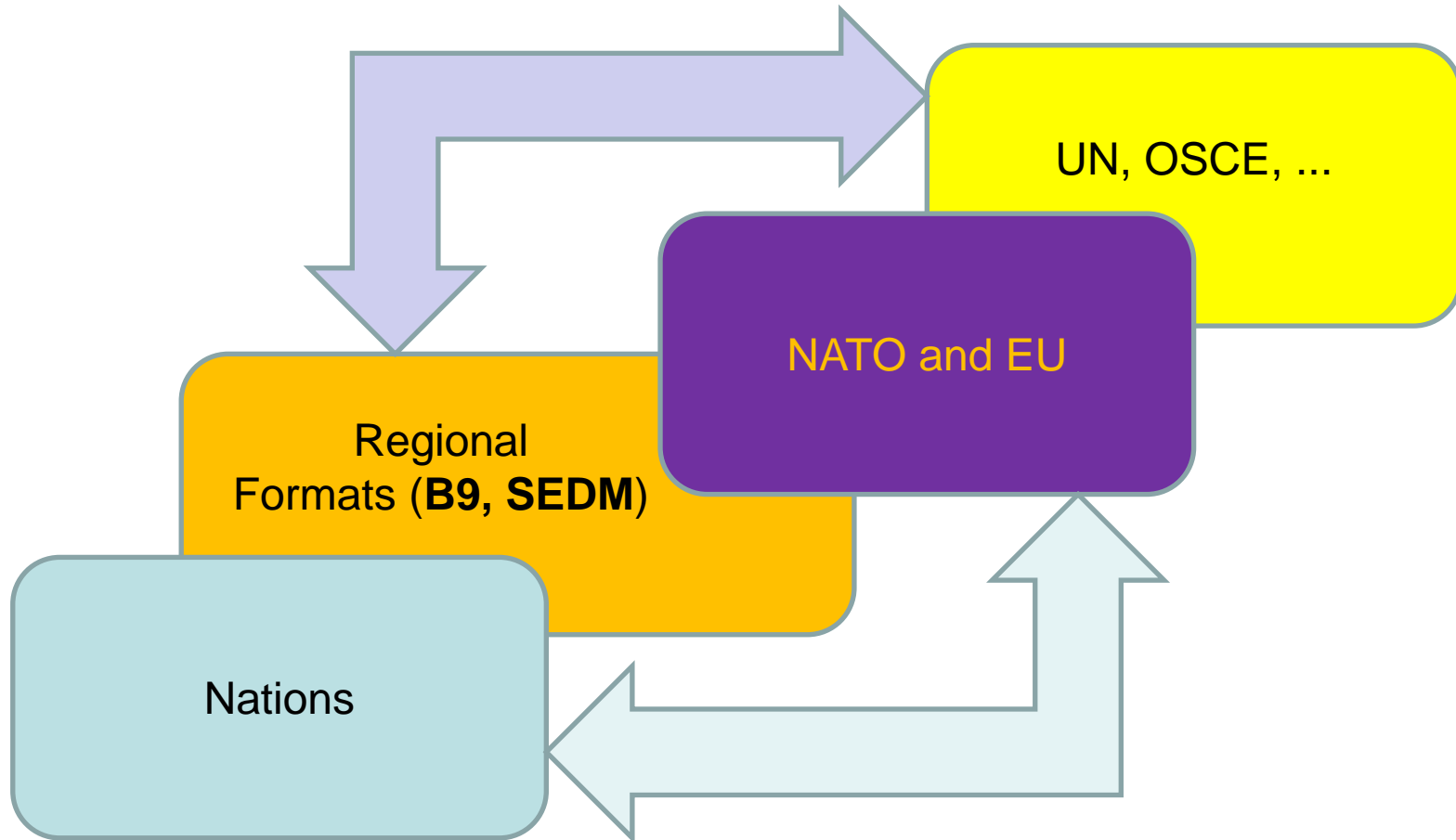
Project/Service team

Basic/budget Environment for Simulation and Training (BEST) - Cyber



**Basic Environment for Simulation & Training - Cyber**

# „Vertical“ Roles in Protection Cyber Space: Regional and Internaitonal relations



## Conclusions I:

- **IT organizations are critical** for digitalized structures.
- **Organizational cyber risk** is on three levels – supported operational organization and supporting IT organization, plus governance body.
- Solid design, professional **institution building and change management** are essential for the cyber resilience of IT organization.
- Organizational structures are to provide **stability and thus are essential for cyber resilience** with changing processes and technology, rotation of people.

## Conclusions II:

- **People are most important factor**, so their development requires „build in“ cyber resilience component in all kind of training / assessment.
- **Academic structures** (consolidated cyber resilience academic network) **are essential for cyber resilience** of operational organizations and their IT structures with the R&D/E&T platform provided in support of technology procurement decisions, processes and organizational design, and personnel training / certification.
- ACERTA is designed to provide academic platform for R&D/E&T in digital transformation with focus on **collection of best practices and supporting their implementation** – contributing such a way to effectiveness, efficiency and cyber resilience of IT organizations.