APPLICATION OF EUROPEAN RESILIENCE EXPERIENCE AGAINST HYBRID THREATS IN THE ERASMUS+ PROJECT WARN

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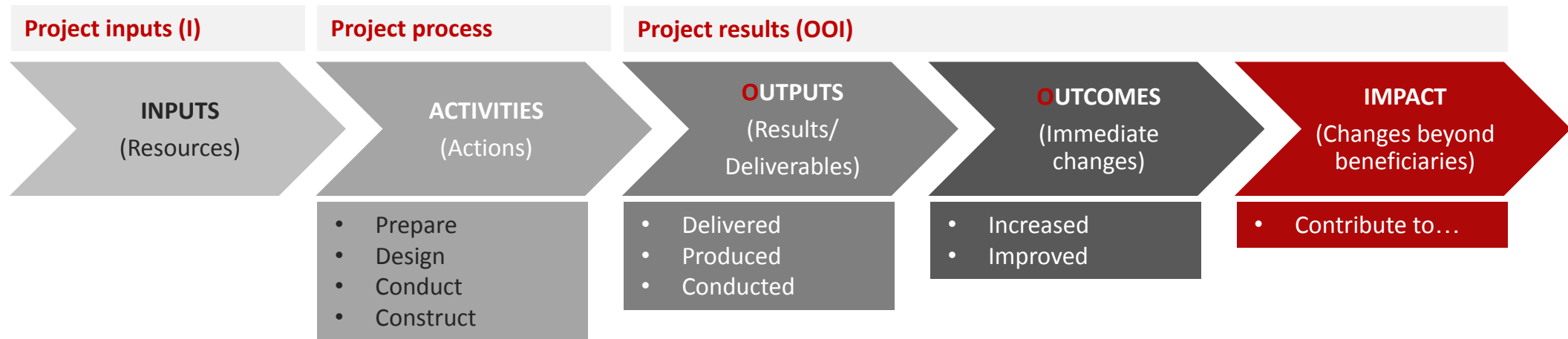
WARN

ACADEMIC RESPONSE TO HYBRID THREATS

ANALYZING PROJECT-DRIVEN CHANGES

WARN

Project inputs (I)	Project process	Project results (OOI)		
INPUTS (Resources)	**ACTIVITIES** (Actions)	**O**UTPUTS (Results/ Deliverables)	**O**UTCOMES (Immediate changes)	**IMPACT** (Changes beyond beneficiaries)
	• Prepare • Design • Conduct • Construct	• Delivered • Produced • Conducted	• Increased • Improved	• Contribute to…

A diagram illustrating the concept of change in Theory of Change

A **theory of change (ToC)** is an explicit theory of how and why it is thought that a social policy or program activities lead to outcomes and impacts.
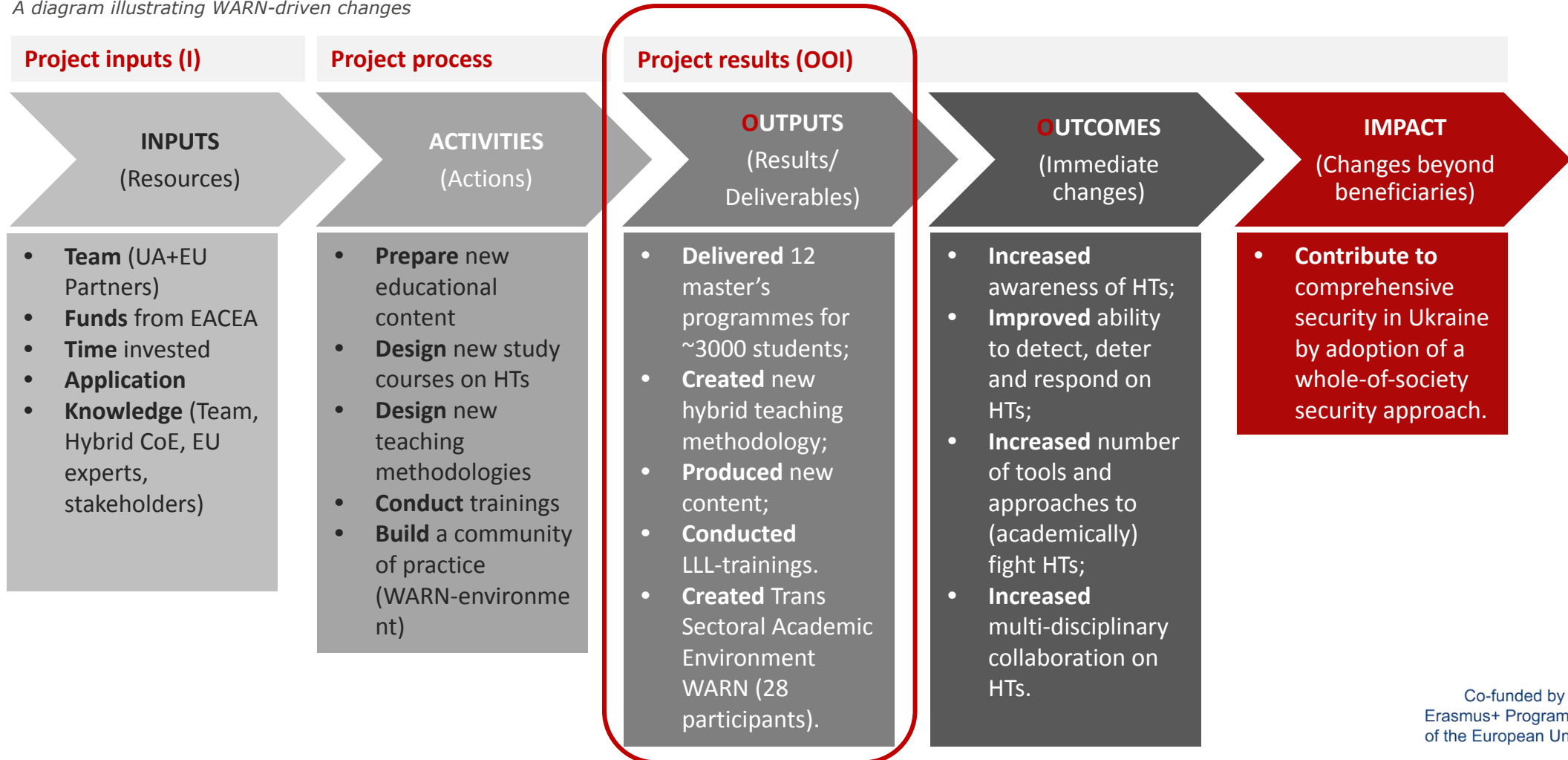
IOOI-model is a framework designed by Bertelsmann Stiftung to measure the social or organizational impact of activities.

WARN ROAD TO CHANGES

A diagram illustrating WARN-driven changes

Project inputs (I)	Project process	Project results (OOI)		
INPUTS (Resources)	**ACTIVITIES** (Actions)	**OUTPUTS** (Results/ Deliverables)	**OUTCOMES** (Immediate changes)	**IMPACT** (Changes beyond beneficiaries)
• **Team** (UA+EU Partners) • **Funds** from EACEA • **Time** invested • **Application** • **Knowledge** (Team, Hybrid CoE, EU experts, stakeholders)	• **Prepare** new educational content • **Design** new study courses on HTs • **Design** new teaching methodologies • **Conduct** trainings • **Build** a community of practice (WARN-environme nt)	• **Delivered** 12 master's programmes for ~3000 students; • **Created** new hybrid teaching methodology; • **Produced** new content; • **Conducted** LLL-trainings. • **Created** Trans Sectoral Academic Environment WARN (28 participants).	• **Increased** awareness of HTs; • **Improved** ability to detect, deter and respond on HTs; • **Increased** number of tools and approaches to (academically) fight HTs; • **Increased** multi-disciplinary collaboration on HTs.	• **Contribute to** comprehensive security in Ukraine by adoption of a whole-of-society security approach.

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WARN KEY OUTPUTS

MSc-courses

DEVELOPED AND DELIVERED FOR WIDE SOCIETY

Our approach

11
ADAPTED MSC CURRICULA

1
NEW MSC CURRICULUM

24
NEW MSC COURSES

39
UPGRADED MSC COURSES

LLL-courses

7
NEW LLL COURSES FOR TEACHERS

18
NEW LLL COURSES FOR PROFESSIONALS

1
NEW TEACHING METHOGOLOGY

6
MANUALS

1
ONLINE GLOSSARY

>10
PRACTICAL TOOLS

TRAINED

Target audience

2500
MSC STUDENTS

4600
LLL STUDENTS

1500
TEACHERS

CREATED FOR SUSTAINABILITY

WARN-Environment

28
PARTNERS

7
EQUIPPED HUBS

5+
INTERNATIONAL CONFERENCES

1800
PARTICIPANTS

WARN EU-GUIDED OUTPUTS

WARN

MSc-courses

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1 NEW MSC CURRICULUM

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Our approach

1 NEW TEACHING METHOGOLOGY
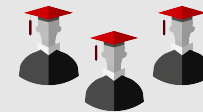
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OUR GUIDING PRINCIPLES

- **A-whole-of-society** and **a-whole-of-government** security approach;

- **Hybrid CoE** as a main guiding institution;

- EU and NATO-experience for benchmarking;

- **Multidisciplinary** trans sectoral expert collaboration (WARN Community of Practice);

- **Interactive** modern forms of student engagement (game-based learning).

- Systemic approach

+

- **Digitally twinned;**

- Focus on crisis management.
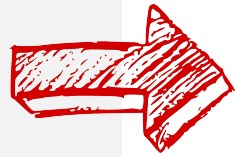
✓ Curriculum + Educational content

✓ Online Glossary

✓ Applied games: Wargames and Dilemma Games

✓ Adversarial learning format (intellectual sparrings)

✓ Immersive training resources and engaging tools, e.g., visualization templates, case study scenarios

A-WHOLE-OF-SOCIETY APPROACH

- The North Atlantic Treaty Organization's (NATO's) doctrine defines resilience as "the individual and collective capacity to prepare for, resist, respond to and quickly recover from shocks and disruptions." It credits civil preparedness as fundamental to reducing the security vulnerabilities of individual member states and boosting the overall capacity of the Western military alliance.

- A comprehensive approach:
  - the recognition that the military alone cannot resolve modern crises or conflicts.
  - Inculcating a culture of active collaboration, transparency and coherent response among different parties involved in crisis management

- The European Centre of Excellence for Countering Hybrid Threats (Hybrid CoE)
- An autonomous, network-based international organization countering hybrid threats.
- Closely cooperating with the EU and NATO.
- Established in 2017 in Helsinki.
- 36 participants.
- The Centre focuses on diverse aspects of hybrid threats – from soft power to military means, and from policy to practical questions.

Co-funded by the
Erasmus+ Programme
of the European Union

HYBRID CoE AND WARN

- University of Jyväskylä as a contact point.

- Jyväskylä Summer School (JSS) 2021 course: 'Changing Security and Hybrid Threats' :
  - Experts as teachers and mentors (Dr Hanna Smith from Hybrid CoE, Dr Panu Moilanen and Prof. Terziyan from JYU);
  - Access to expertise and materials (papers, books, templates, conceptual models);
  - Training (lectures, workshop, case study, presentation, work with politicians).

- WARN study visits (Cergy, 2024).

June 11, 2024

Ukrainian professors trained on the use of game-based methods for countering hybrid threats

Hybrid CoE and the Netherlands Organization for Applied Scientific Research (TNO) delivered a train-the-trainer course to Ukrainian universities on the use of game-based methods for training and foresight in countering hybrid threats. The course was part of the Erasmus+ project "Academic Response to Hybrid Threats" (WARN), coordinated by the University of Jyväskylä and hosted by ECAM-EPMI (Graduate School of Electrical Engineering) in Cergy, France, from 14 to16 May, 2024.

Erasmus+ Programme
of the European Union

HYBRID CoE FOOTPRINT IN WARN OUTPUTS

WARN

- Common language (definitions in Glossary);

- The current structure of the syllabi;

- Materials for courses in 7 fields of study;

- Conceptual models, templates, case-studies.

SYLLABI

CORE CONTENT

- TNO - Netherlands Organisation for Applied Scientific Research established in 1932 focused on the so-called Top Sectors, and social issues relevant to Europe, including defence.

- Defence research includes research on the specification, procurement, application and evaluation of wargame applications.

- Examples of wargaming focus on Land Based Operations.

APPLIED GAMES FOR TRAINING

- Training tool for decision making processes using a role playing/table-top game and simulation;

- Game is usually focused on understanding complexity and processes in a Comprehensive Approach operation;

- Gaining insight in possible future developments

- Developing or improving concepts and counter measures

WARN AND WARGAMING WITH TNO

- "Gaming Hybrid conflict" in 2020;

- Workshops during WARN study visits (Cergy, 2024);

- WARN team trained to play and create matrix and dilemma games.
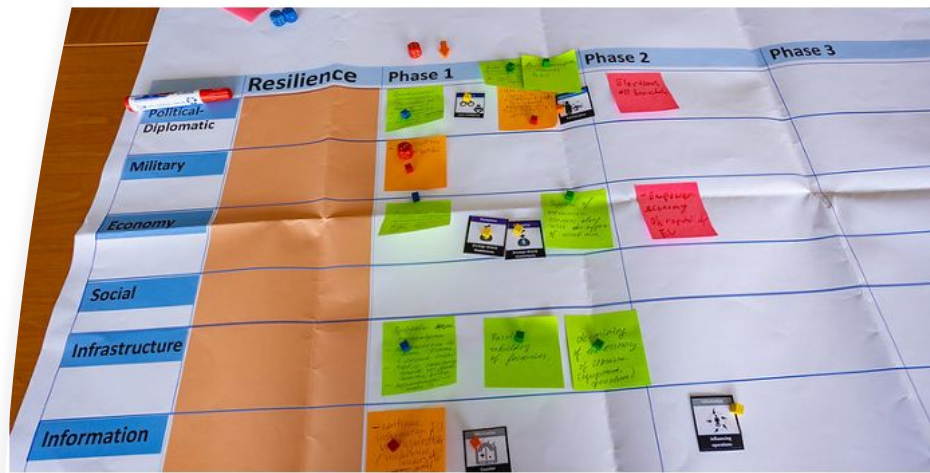
DILEMMA GAMES

•Games for top civil servants, staff officers and commanders at the battalion level and higher;

•Authentic scenarios presented in the way of dilemmas;

•The (learning) goals, the context, the characteristics of the target population, and the creative design are integrated into the game;

•Engaging elements are simple gameplay based on actual processes, time pressure, and collaboration.

WARN DILEMMA GAME

- Online game on TNO platform "WARN ERASMUS – EU accession";

- Content developed by WARN team under the guidance of the experts from TNO Lab;

- An online version created by TNO experts;

- 7 dilemmas from Ukraine`s near future.
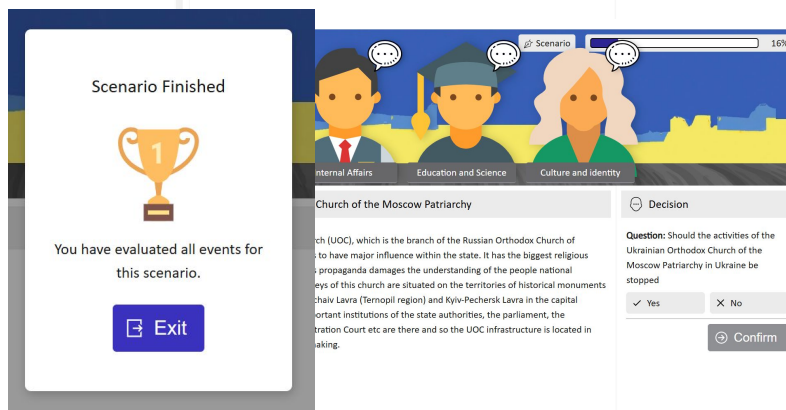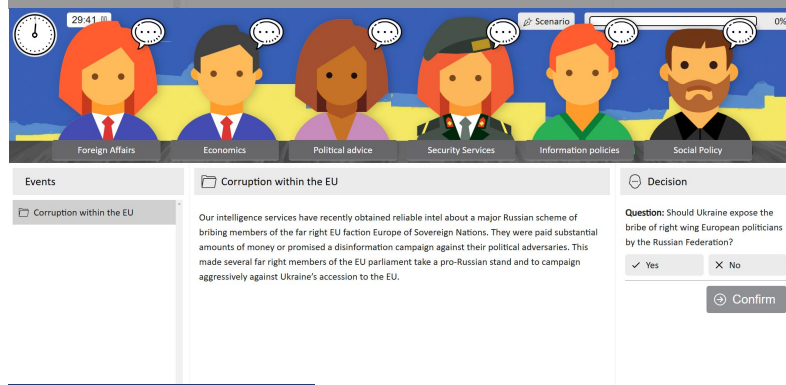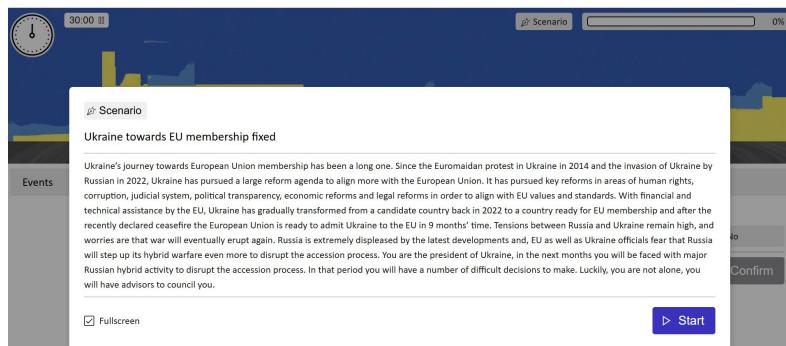
NEW TEACHING METHODOLOGY

- Development initiated by team of University of Jyväskylä;

- Inspired by AI-algorithms;

- Implements Artificial Intelligence into game-based learning;

- Uses Game Theory, Adversarial Training method and Generative Adversarial Networks architecture;

- Tested in classroom (experiment results reported and published);

- Aims at developing informational immunity.

Source: Prof. Terziyan`s presentation for ICL 2024
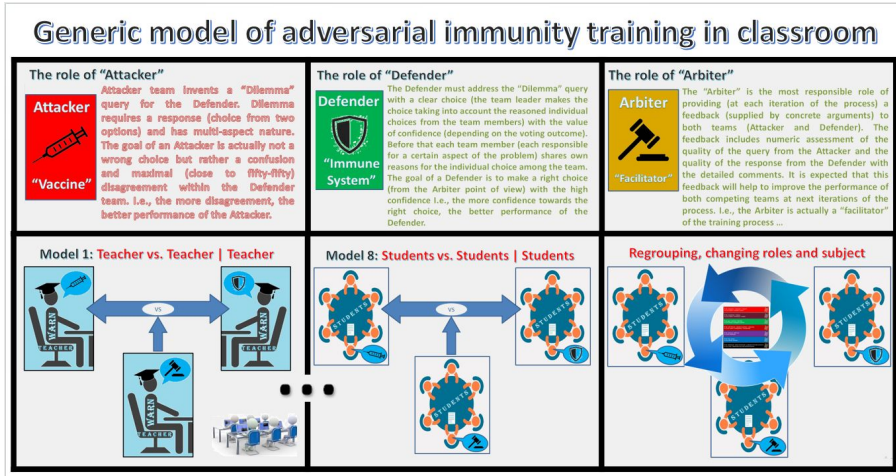
$$|StrongHuman - WeakHuman| > |(StrongHuman + LLM) - (WeakHuman + LLM)|$$

IMMERSIVE TRAINING RESOURCES

WARN

- Developed in collaboration and under supervision of EU organizations.

- Used to:
  - Enhance comprehension of complex content;
  - Encourage students` engagement;
  - Help students improve communication of findings;
  - Find and highlight key points.
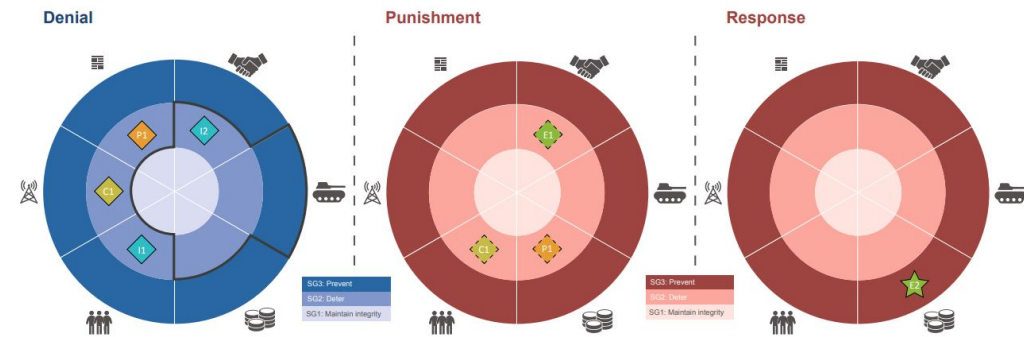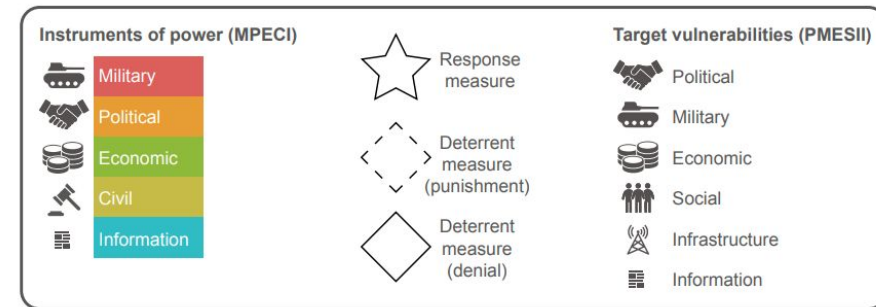
Source: MCDC Countering Hybrid Warfare Project

Co-funded by the
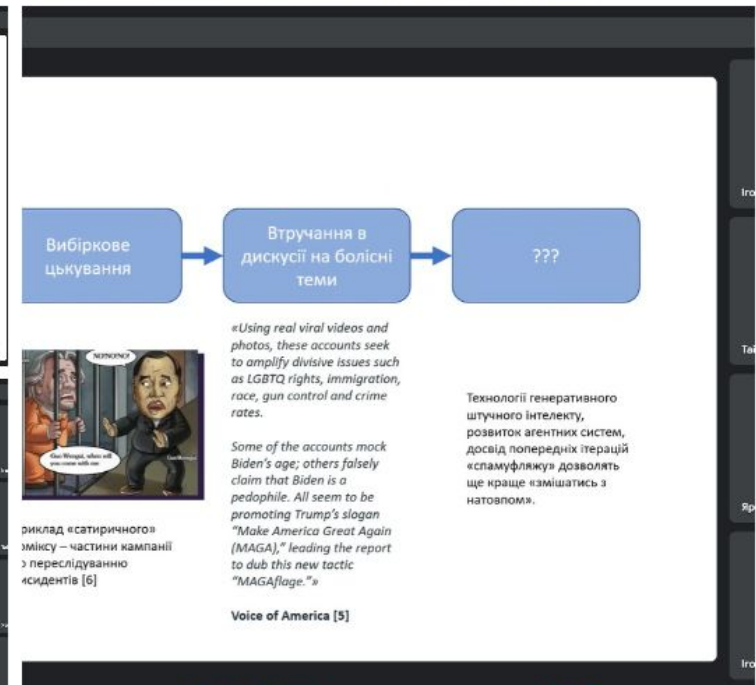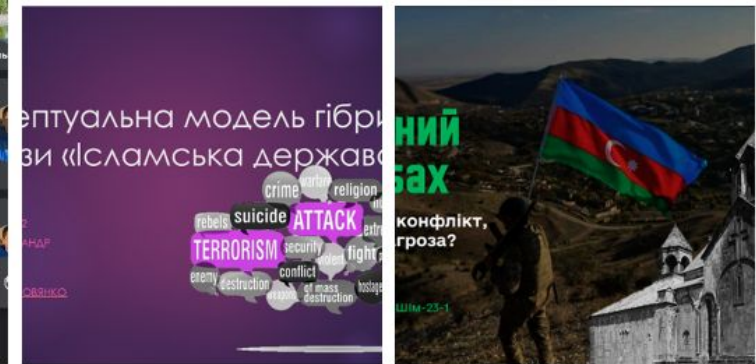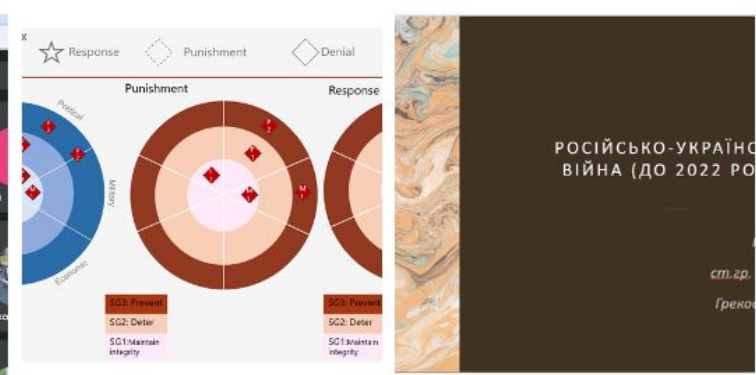Erasmus+ Programme
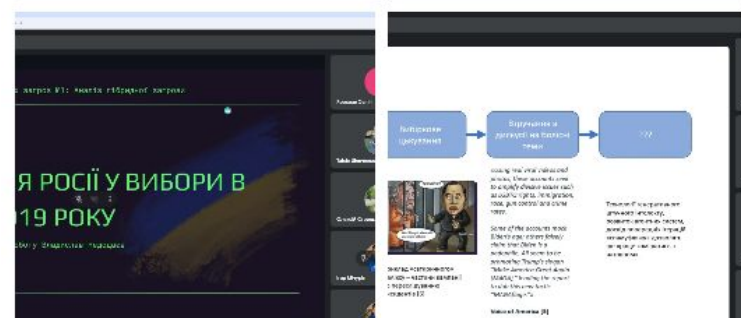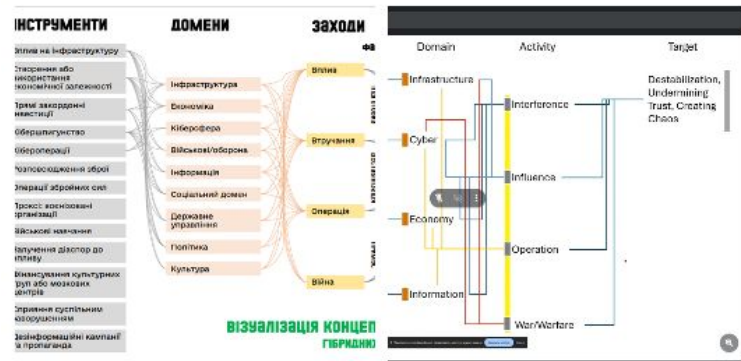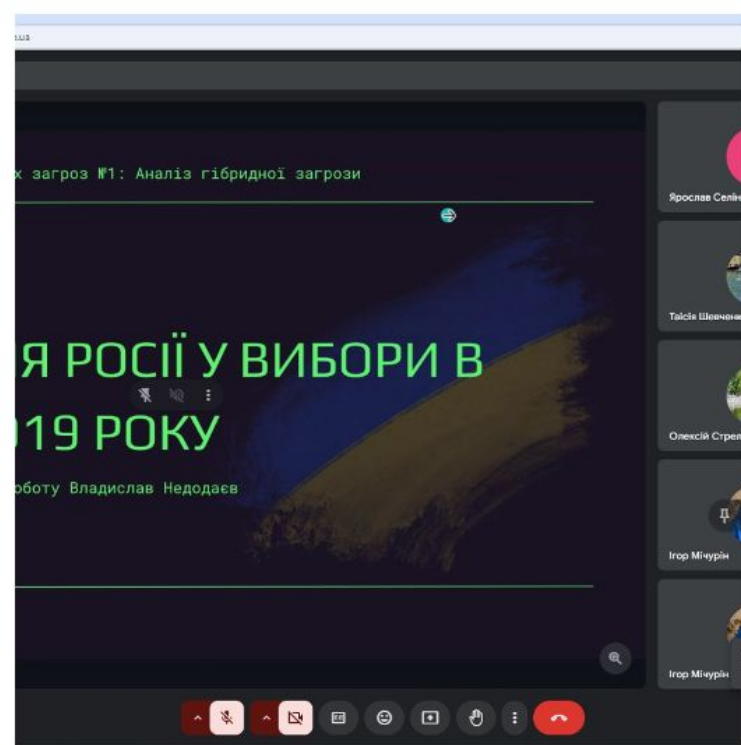of the European Union

EDUCATIONAL CONTENT COLLECTED

- With help of EU Partners (online material, online workshops);

- At JSS 2021;

- During study visits to University of Tartu (2023), ECAM-EPMI (2024), University of Coimbra (2024);

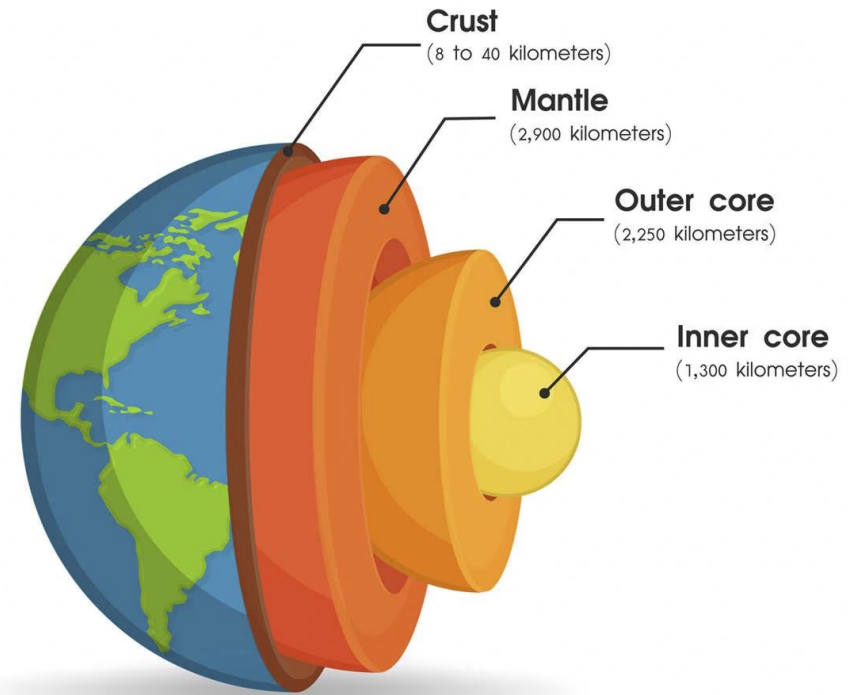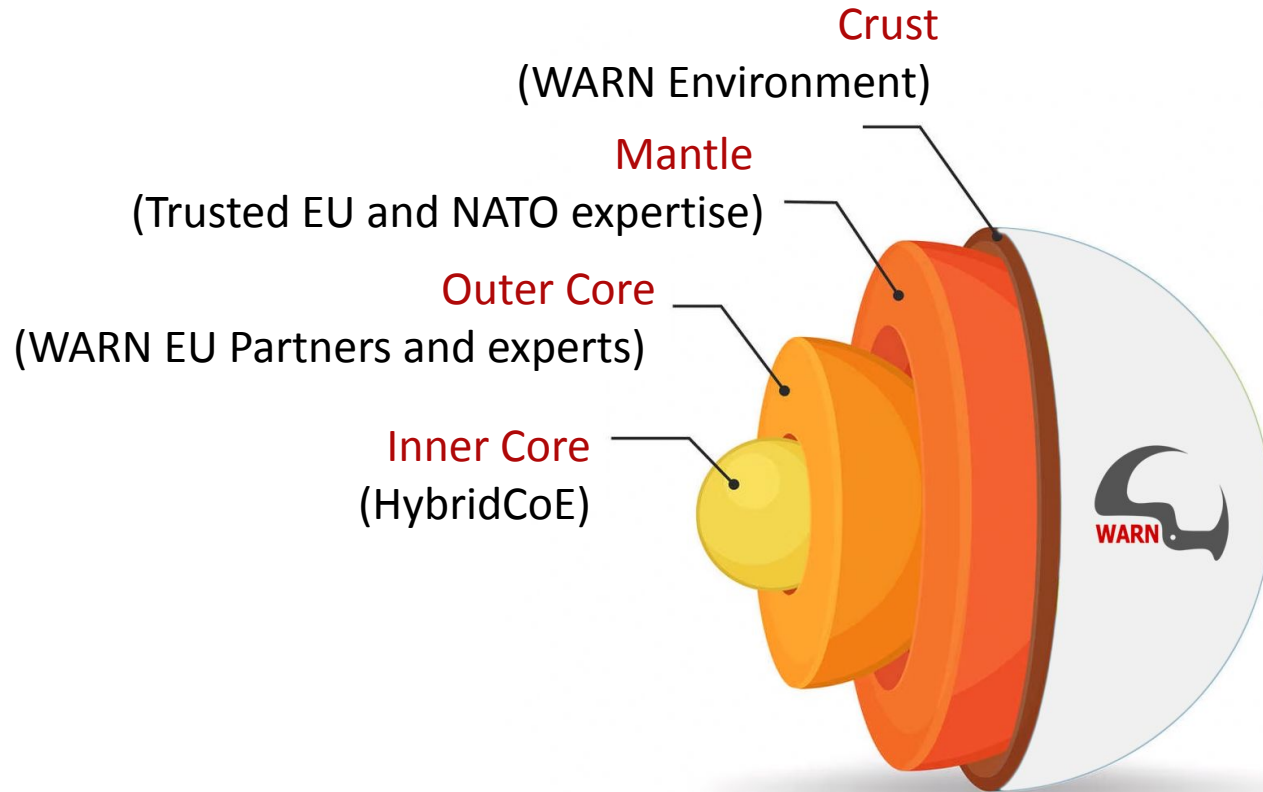- From online collections of trusted organizations and projects.

CASE STUDY APPROACH

- Stimulates in-depth exploration;
- Gives cross-disciplinary insights (teaches to look for a bigger picture);
- Encourages critical thinking;
- Engages students into research and studies (extension of WARN-environment);
- Shows practical relevance;
- Expands the teachers` possibilities.

STRUCTURE OF WARN KNOWLEDGE

Crust
(WARN Environment)

Mantle
(Trusted EU and NATO expertise)

Outer Core
(WARN EU Partners and experts)

Inner Core
(HybridCoE)

Crust
(8 to 40 kilometers)

Mantle
(2,900 kilometers)

Outer core
(2,250 kilometers)

Inner core
(1,300 kilometers)

Thank you!