



Erasmus+  
Programme

# Academic Response to Hybrid Threats (WARN)

**Final Results & Impact of a Project Forged in Crisis**

Project Number: 610133-EPP-1-2019-1-FI-EPPKA2-CBHE-JP

Project Duration: 15/11/2019 – 14/11/2024



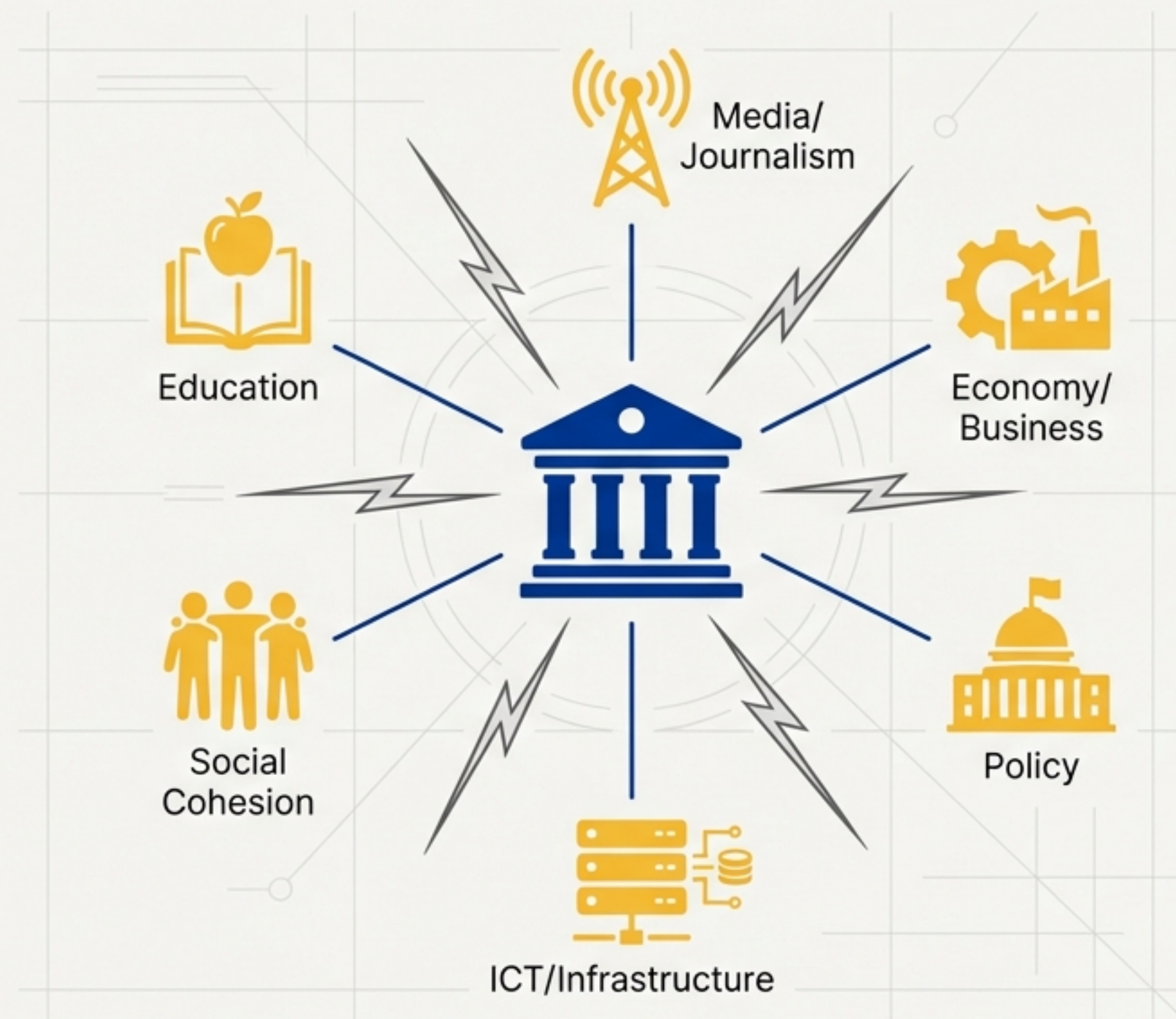
# A Mission Born from a Decade on the Front Line

## The Challenge (The “Why”)

- Since 2014, Ukraine has been a primary target of hybrid activities.
- Existing higher education, structured by traditional disciplines, was insufficiently prepared to tackle complex, multi-faceted hybrid threats.
- A critical need for multi-disciplinary collaboration to update education for students outside of dedicated security professions.

## The WARN Objective (The “What”)

- Renew curricula in diverse fields: Business, ICT, Social Sciences, Arts, Education, and Journalism.
- Build student awareness of hybrid threats and provide skills to counter them proactively.
- Innovate teaching methods through gamification and real-life scenarios.





# A Pan-European Consortium for a Ukrainian Challenge

A balanced partnership combining experienced and novice institutions, bringing together diverse expertise from across Europe to support Ukrainian Higher Education.

## EU Partners (4)

**Finland (Coordinator):**  
Jyväskylän Yliopisto

**France:**  
Ecole D'electricite De Production  
Et Des Methodes Industrielles

**Portugal:**  
Universidade De Coimbra

**Estonia:**  
Tartu Ülikool

## Ukrainian Partners (8)

The National Academy Of Culture And Arts Management  
Kharkiv National University Of Radio Electronics (NURE)

Ukrainian Catholic University (UCU)  
Dergavnis Universitet Infrastrukturi Ta Technologis (SUIT)  
National University Of Ostroh Academy (NUOA)  
Donbas State Pedagogical University (DSPU)  
V. N. Karazin Kharkiv National University (KKhNU)  
Ministry Of Education And Science Of Ukraine



# Tested by Pandemic, Hardened by War

The project's relevance and operational model were tested by two historic shocks, transforming theoretical threats into lived reality for every partner, educator, and student.



## The First Shock: COVID-19 Pandemic (2020)

Global lockdowns immediately halted planned activities.

Expert training visits and in-person collaboration became impossible.

Forced a fundamental rethink of project implementation, moving from physical mobility to virtual cooperation.



## The Second Shock: Full-Scale Invasion (2022)

Ukrainian partners faced existential threats.

**Displacement:** 3 universities (NURE, KKhNU, DSPU) in active hostility zones. DSPU was displaced for a second time (from Bakhmut to Dnipro).

**Destruction:** Equipment at Karazin Kharkiv National University (KKhNU) was completely destroyed by Russian rocket fire.

**Disruption:** Web servers taken offline and moved from Kharkiv under shelling; constant missile attacks caused power and internet outages.



# From Forced Adaptation to Strategic Innovation

Faced with unprecedented challenges, the consortium abandoned its original plans and adopted a more agile, iterative, and resilient approach.



## Iterative Development

Adopted a “Minimal Viable Product” (MVP) approach. New content was rapidly developed, piloted with students, and refined based on immediate feedback in a constantly changing threat landscape.



## Digital Transformation

The pandemic-driven shift to online work became an asset. The project fully embraced digital twinning, cloud repositories (JYU's NextCloud), and virtual collaboration, enhancing cross-institutional sharing.



## Empowering the Vulnerable

Emphasized digital materials to support displaced students and refugees. Mobility restrictions for men created new opportunities for younger female academics to gain international training experience.



## Resilient Infrastructure

After EACEA approval, budget reserves were used to replace destroyed equipment for KKhNU and DSPU, restoring critical capacity for hybrid/remote work.



# Triumph: Exceeding All Expectations in the Face of Adversity

12

## MSc Programs

*11 adapted & 1 entirely new program  
created (exceeding the goal of 11).*

7,000+

## People Reached

*2,432 MSc students + 4,594 Lifelong  
Learning (LLL) students & professionals.*

3.5x

## LLL Target

*LLL participation exceeded the  
original target by 350%, driven by  
urgent, real-world relevance.*

1,504+

## Teachers Trained

*On new content and innovative  
pedagogical methods.*

61

## Courses

*24 brand new & 39 significantly updated  
courses developed and accredited.*

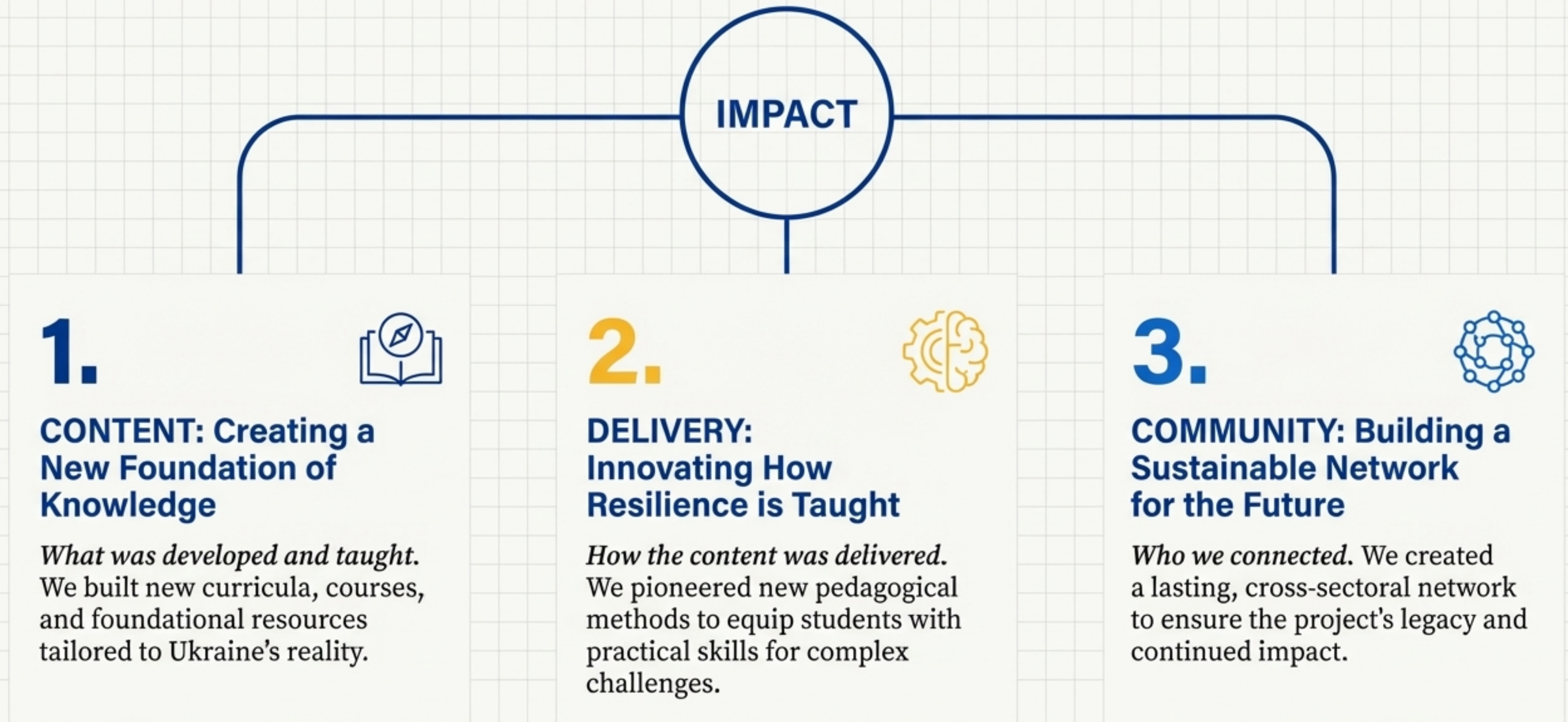
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## Academic Network

*Established the sustainable WARN  
Network for future collaboration.*



# Three Dimensions of Systemic Impact





# 1. Impact: A New Foundation of Knowledge

## 12 State-Accredited Master's Programs

- Each program now includes a core course: 'Hybrid Threats and Comprehensive Security' (HTCS), tailored to the specific discipline.
- An entirely new program was launched: 'Public Policy and Management Under Hybrid Threats' at KKhNU.

## Core Educational Resources Developed



**The Glossary of Hybrid Threats:** A foundational document to create a common language across disciplines.

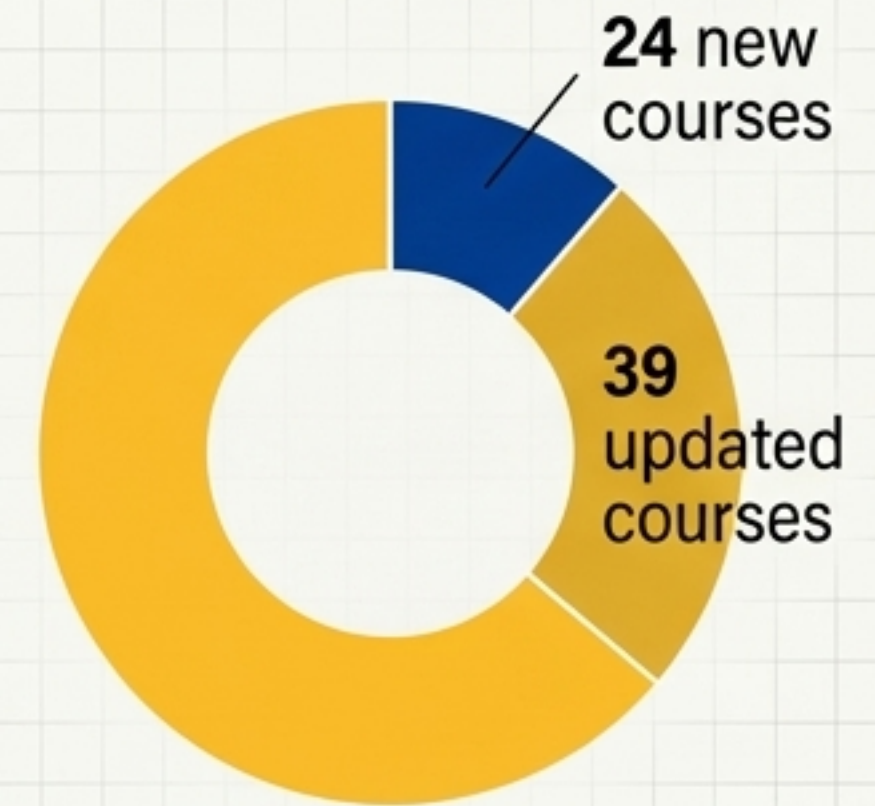


**"Hybrid Threat Domains: Training Materials":** A textbook to support lecturers in teaching complex, multidisciplinary topics.



**"Workbook for Training on Countering Hybrid Threats":** A collection of practical exercises and case studies developed with EU partners.

## By the Numbers



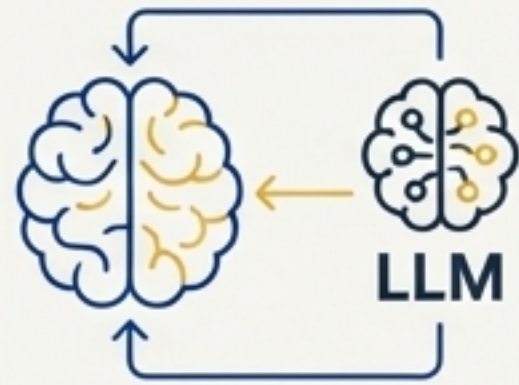
**260 ECTS**  
total volume



## 2. Impact: Innovating How Resilience is Taught

### Pioneering 'Adversarial Learning'

A new methodology focused on equipping graduates to detect, identify, and proactively counter hybrid challenges in real-time.



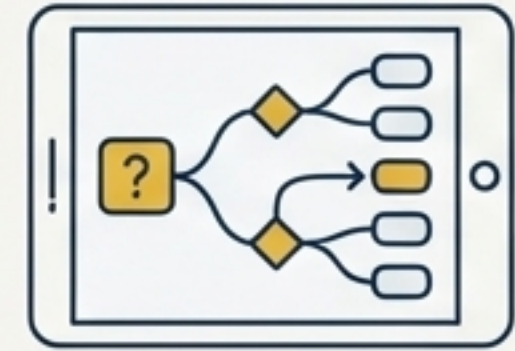
#### Collective Intelligence

Integrating Large Language Models (LLMs) into argumentation processes to augment student analysis.



#### Adversarial Simulation

Modeling competition among students based on principles of Generative Adversarial Networks (GANs) to sharpen decision-making.



#### Gamified Learning

Developing and deploying dilemma games (e.g., 'Ukraine before the accession to the EU' with TNO) to train decision-making in complex scenarios.

*“Teaching took place under a wide variety of external conditions, reaching students ‘from campuses to trenches.’”*



# 3. Impact: A Sustainable Community of Practice

## The WARN Network

- An academic network created to foster cross-disciplinary and inter-institutional collaboration.
- Joined by **17+ organizations** beyond the original consortium, including universities, regional development NGOs, and security-focused institutes.

## A Catalyst for Growth

The network's activities have already generated significant spin-offs:

- **3 New EU-Funded Projects**
- **2 PhD Theses** (plus numerous MSc theses)
- **An Annual Scientific Conference:**  
“Management and Administration within Countering Hybrid Threats to National Security”





# From University Campuses to National Policy

The project's expertise and network have contributed to national resilience strategies and international dialogue.



- **High-Level Policy Dialogue:**

Contributed to Ukrainian-Finnish consultations at the Ministry of Foreign Affairs level on countering hybrid threats.



- **EU Mission Support:** Collaborated with the EU Advisory Mission Ukraine (EUAM).



- **Governmental Collaboration:**

Worked with the National Security and Defence Council of Ukraine, Ministry of Culture, and Ministry of Youth and Sports.



- **International Recognition:**

In 2022, partner NURE entered the THE Impact Rankings (401-600) for its significant contributions to SDG 16: "Peace, Justice, and Strong Institutions," a direct result of its WARN-related work.



# Ensuring a Legacy of Resilience

The project's outcomes are designed for long-term sustainability, embedded within Ukraine's higher education system and supported by a growing community.



## Institutional Integration

All 12 Master's programmes have received national accreditation for several years ahead and receive state budgetary subvention.



## Active Community

The WARN Network provides a permanent structure for sharing materials and expertise. The project website ([warn-erasmus.eu](http://warn-erasmus.eu)) is reserved until 2030.



## Embedded Culture

The iterative 'develop-evaluate-update' cycle is now an ingrained practice, ensuring curricula remain relevant to evolving threats.



## Growing Demand

The ongoing war ensures high demand for this expertise, creating a stable audience for both degree programs and LLL courses.

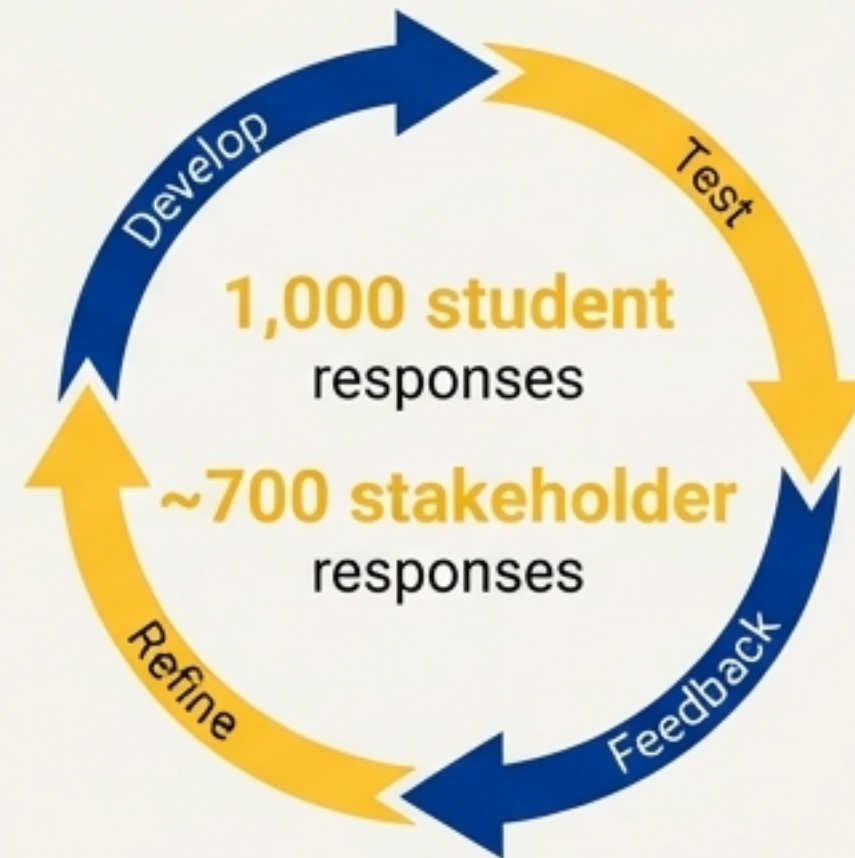


# Responsible Management Through Crisis

The consortium maintained rigorous quality control and transparent financial management, adapting processes to ensure accountability and effectiveness throughout the project's extended and turbulent lifecycle.

## Quality Assurance Highlights

- The QA plan was continuously updated to reflect the changing context of the pandemic and war.
- An iterative feedback loop with over 1,000 student and ~700 stakeholder responses across four cycles guided curriculum development.



## Grant Management Highlights



- Successfully managed budget to replace equipment destroyed by shelling.
- Navigated complex challenges, including international bank sanctions that complicated fund transfers to a partner in the Donbas region.
- Employed digital platforms and master templates for transparent monitoring and reporting of funds.



# Unexpected Outcomes & Spin-Off Innovations

The project's agile response to crises generated valuable results that went beyond the original application, creating additional resources and deepening collaboration.



## A New MSc Programme

Instead of just updating a program, KKhNU partner developed an entire new Master's Programme based on the project's work.



## New Foundational Texts

The Glossary of Hybrid Threats and two training workbooks were unplanned but essential outputs.



## Deeper EU Collaboration

Ukrainian students were granted remote access to courses at EU partner universities (University of Coimbra, University of Tartu).



## Policy Insight

The experience demonstrated that curriculum development projects benefit from longer durations to allow for robust “plan-do-assess-correct” cycles, a key lesson for future program design.





# More Than a Project: A Blueprint for Resilience

The story of the WARN project is itself a demonstration of its core subject: building resilience to hybrid threats.

WARN successfully equipped over 7,000 students and professionals with the tools to understand and counter complex threats, fulfilling its academic mission.

More importantly, it proved that international academic cooperation can not only survive but thrive amidst profound crises, adapting to become more relevant than ever.

The project provides a powerful, tested model for how higher education can serve as a cornerstone of societal integrity and resilience, even in the most challenging environments on earth.