



eNOTICE-2

EU Network of Training Centres for preparedness to CBRN Events

D4.1 Report on Three SimEx Preparation, Organisation, Results

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Executive Summary

A key objective of the eNOTICE-2 project is to contribute to the improvement of the overall preparedness and capability for responding quickly to major cross-border crises involving C, B or RN agents or a mixture. In alignment with this goal, **four simulation exercises** (SimEx) are planned to be organized during the project lifetime. This document reports on the preparation, organisation and results of three Simulation Exercises held during the project namely SimEx 1 in Dortmund (20th April 2024), SimEx 2 in Vyškov (25-29 November 2024), and SimEx 3 in Ranst (5-7 June 2025). In addition, the fourth and final SimEx is planned for November 2025 and will be reported in a dedicated deliverable, namely D4.2 – Final CBRN SimEx.

For each of the three SimEx a report has been prepared and compiled by the hosting partner using the Joint Activity reporting structure and checklist created during the eNOTICE project¹. Therefore, this document collects the three reports, foreseeing an in-depth presentation of the key aspects of the SimEx, including the preparation/organization, the conduction, and the evaluation.

Based on the results of the SimEx, collective key findings and lessons learned are drawn and detailed in a dedicated section of this deliverable. Finally, the document provides some general conclusions on the outcomes of the three SimEx and the relevance within the frame of eNOTICE-2 project.

¹ eNOTICE project (funded by Horizon 2020). The current eNOTICE-2 project is built on the key results of the previous project.

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List of abbreviations

Abbreviation	Definition
ADL	Academy for Distance Learning
CBRN	Chemical, Biological, Radiological, and Nuclear
CM	Consequence Management
DRM	Disaster Risk Management
DRM	Disaster Risk Management
EC	European Commission
ERG /RP	Emergency response guidelines / red pages
EU	European Union
FDDO	Stadt Dortmund
FR	First Responder
GA	Grant Agreement
JA	Joint Activity
JCBRND COE	Joint Chemical, Biological, Radiological and Nuclear Defence Centre of Excellence
NDA	Non-Disclosure Agreement
PM	Person Month
SDS	Safety-Security Data Sheets
SimEx	Simulation Exercise
SOPs	Standard Operating Procedures
SSX	Small-Scale Exercise
TC	Training Centre
TTX	Tabletop Exercise
UCLouvain	Universite Catholique de Louvain
UCPM	European Union Civil Protection Mechanism
WP	Work Package

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1. Introduction

1.1 eNOTICE-2 Objectives

Over the past years, the threat posed by intentional, accidental, and Chemical, Biological, Radiological, and Nuclear (CBRN) events of natural origins has driven governments and international organisations to implement comprehensive regulations and programs. These efforts aim to protect populations from associated risks, complementing national measures that address existing gaps and promote the exchange of information and best practices.

To enhance preparedness for CBRN incidents, whether deliberate, accidental or natural, the eNOTICE Network of CBRN Training Centres project was launched in 2017 and concluded in August 2023. This initiative, funded under the European Union's Horizon 2020 research and innovation programme established a global network of civilian and military CBRN Training Centres (TC), testing facilities, and demonstration sites, aligning with the general objectives of the European Union Civil Protection Mechanism (UCPM). The network includes 53 TCs across 22 countries (17 EU Member States and 5 non-EU countries), emphasising multidisciplinary, multi-agency training to improve interoperability. It also fosters cross-border collaboration through standardised approaches that align with neighbouring countries' procedures, legal frameworks, administrative protocols, and organisational structures. A series of training scenarios were used to address combined chemical, biological, and radiological threats, both accidental and deliberate, as well as hybrid and emerging threats, with a focus on testing and validating innovative technologies at various development stages.

The eNOTICE-2 project builds upon the foundation of the eNOTICE network, supported by civil protection actors from participating Member States and UCPM countries. eNOTICE-2 aims to enhance overall preparedness and rapid response capabilities for major cross-border crises involving C, B, or RN agents, individually or in a hybrid scenario. eNOTICE-2 draws lessons from eNOTICE and from gaps identified during 17 Joint Activities (JAs), including field exercises, tabletops, simulations, and serious gaming exercises.

Despite the availability of resources, expertise, and protocols, there remains a significant gap in the knowledge most FRs have of CBRN decontamination, as consistently identified during eNOTICE. This issue is also a priority under UCPMs rescEU CBRN objectives. Currently, no standardised EU-wide guidelines or procedures exist for the decontamination of assistive devices of vulnerable groups. Challenges include ensuring the safety of both first responders and affected individuals, especially during prolonged operations involving large groups. The emergence of new CBRN threats, such as Novichock agents and evolving biological threats, including toxins, further complicates the landscape, necessitating regular updates to practices, guidelines, and policies.

To address these challenges, eNOTICE-2 introduces several new dimensions aimed at producing tangible effects at both institutional and individual levels. The project adopts a comprehensive approach to CBRN decontamination, considering both conventional and emerging threats and addressing the specific needs of vulnerable people. A key focus is on the

decontamination of assistive devices used by vulnerable individuals, such as wheelchairs, hearing aids, and prosthetic limbs. This broader perspective enhances the diversity of organisations contributing to DRM and strengthens the UCPM framework while supporting EU Member States' civil protection mandates.

The project engages a broad spectrum of CBRN stakeholders, including first responders (FR), crisis managers, civil protection personnel, training professionals, technology developers, policymakers, and civilian volunteers. Intensive activities promote knowledge sharing, comparing operational procedures, identifying best practices, and strengthening partnerships between civil protection and Disaster Risk Management (DRM) actors. This cross-sector collaboration supports the integration of promising scientific research, innovative DRM tools, and enhanced training content. The project actively engages end-user communities, including advisory groups of individuals with disabilities, to guide project outcomes and provide critical feedback. This engagement raises awareness among citizens and authorities about CBRN risks, incorporates the needs and concerns of vulnerable populations, and identifies strategies to reduce their exposure and vulnerability.

Against this background, eNOTICE-2 facilitates ongoing collaboration through **four simulation exercises**, ensuring effective coordination, compatibility, and complementarity among all participants. This deliverable, D4.1, provides an overview of the first three SimEx in terms of preparation, organisation, and results. A dedicated deliverable, i.e., D 4.2 Final CBRN SimEx, will specifically report on the final and fourth SimEx.

For the purpose of this deliverable, the terms SimEx and Joint Activity will be used interchangeably. Indeed, the definition of Joint Activities as per the eNOTICE project is *“Exercises for first responders or civil protection practitioners organised by CBRN TCs as part of their regular educational or training activities, opened up to external stakeholders, which allows for the activity to be combined with tests, validations or demonstrations”*.²

As such, the Simulation Exercises of eNOTICE-2 can be considered JAs as defined in eNOTICE project. Therefore, it emerged that all the findings, methodology of preparation, planning, organisation and reporting on JAs are fully relevant for eNOTICE-2 SimEx and are included in this deliverable.

1.2 Scope of WP4 and key objectives of T4.1

The organisation of Joint Activities is a key part of eNOTICE-2 and falls under the scope of Work Package (WP) 4. In detail, the key objectives of WP4 are the following³:

- *To improve and maximise the project outcomes, organising SimEx (in the form of TTX) where CBRN Joint Activities from eNOTICE-1 will be reused to outline and assess main differences and similarities between operational procedures applied across different Member States (MS).*

² eNOTICE D4.6 ‘eNOTICE Joint Activities Planning, Report 5’. Available at <https://cloud.h2020-eNOTICE.eu/index.php/s/bk6bZXejazEzdSf>

³ See WP4 description in the Grant Agreement

- *To consider C, B, RN, and CBRN risks offering a multi-angle perspective on the type of event (accidental, intentional, or natural).*
- *To mainly focus on decontamination procedures, with a particular attention to decontamination challenges posed by vulnerable people and eventual supporting devices (e.g., wheelchairs, hearing aid). The findings and results will feed to WP 5 recommendations.*
- *To generate a comparative matrix to assess the various approaches tested in eNOTICE-2 and assist decision-makers at national and EU-level in determining whether improvements in national or EU procedures should be proposed and/or implemented.*

Within WP4, T4.1 concerns the “*Design and planning of all CBRN SimEx (M2-M18)*”. As per the project’s Grant Agreement, “*According to the methodology for Joint Activities organisation established in eNOTICE-1, the plans for 4 SimEx will be elaborated, multiple scenarios will be prepared concerning the design of ad hoc SimEx, with respective focus on C, B, RN and CBRN issues. Against this backdrop, the implementation of four TTXs will be planned, ensuring their organisation will be managed bi-annually by different Training Centres on a rotating basis between eNOTICE-2 partner organisations.*”

In alignment with the key objectives of Task 4.1, this deliverable reports on the preparation, organisation, and results of the three SimEx held under eNOTICE-2, namely the first SimEx organized by FDDO in Dortmund (20th April 2024), the second SimEx organized by JCBRN Defence COE in Vyškov (25-29 November 2024), and the third SimEx 3 organised by Campus Vesta in Ranst (5-7 June 2025).

2. Methodology

As already briefly touched upon in this report, the eNOTICE-2 project is a continuation of the first eNOTICE project. As such, it builds upon not just the results of eNOTICE, but also its methodologies. Therefore, to ensure consistency, this report uses the same reporting structure established within the eNOTICE project and follows the methodology developed under the previous phase of the eNOTICE project.⁴

This methodology is designed to support the reporting on Joint Activities and contains a standardised reporting checklist (Available in Annex 1). Given the relevance of this methodology, this deliverable D4.1 exploits this available methodology to report on the three SimEx implemented within the eNOTICE 2 Project. In detail, the following sections of the methodology have been considered for reporting on the three SimEx:

1. Preparation/organization of the SimEx;
2. Conduction of the SimEx;
3. Evaluation of the SimEx.

Notably, despite not being explicitly mentioned among D4.1 objectives, this deliverable also includes reporting on the “Lessons identified”. This is due to the fact that lessons identified from SimEx represent a significant added value paramount for improvements for future SimEx.

Against this background and in compliance with the above-mentioned methodology, the following chapters will provide an overview of the three SimEx by presenting the three phases of each SimEx (i.e., preparation, organization and evaluation) as well as some collective findings and lessons learned.

⁴ D4.6 ‘eNOTICE Joint Activities Planning, Report 5’. Available at <https://cloud.h2020-eNOTICE.eu/index.php/s/bk6bZXejazEzdSf>

3. SimEx 1 – Dortmund (DEU), 20th April 2024

3.1 Overview of eNOTICE-2 SimEx 1

The first eNOTICE-2 SimEx was hosted by Stadt Dortmund (FDDO) in Dortmund on 20th April 2024. The aim of the SimEx was to train first responders on the decontamination of vulnerable people and their assistive devices. In total, 80 attendees joined the SimEx; among these, 40 actively participated in the Tabletop Exercise (TTX) and 40 were observers. These include representatives from the FDDO General fire service, Decontamination Unit, and the Command-and-Control structure, project Consortium Members, External Technology Suppliers, and Representatives of the Commission. In addition, TeamUP⁵ project was invited to the JA and had its first exercise.

The SimEx contained both a TTX and a Small-scale Exercise (SSX), which further elaborated on the scenario showcased during the tabletop. Below is a picture of the delivery of the exercise, while Annex 2 - Pictures from SimEx 1 contains additional pictures.

Overall, the SimEx organized in Dortmund has proven to be a fruitful opportunity for improving the capacity of different units in the field of the decontamination of vulnerable people and their assistive devices.



Figure 1: Picture of eNOTICE-2 SimEx-2 organised by FDDO.

3.2 Final reporting checklist of SimEx 1

The following section presents an overview of the key phases of SimEx 1 following the methodology designed by the eNOTICE project (i.e., “Final reporting checklist”) articulated in

⁵ TeamUP project funded by the European Union (Project number: 101121167).

the following sections: 1) Preparation/organization; 2) the SimEx Conduction; 2) Evaluation. The following checklist has been compiled by the organizer of the SimEx, i.e., FDDO.

1. Preparation/organization

a. Context and Objectives

Organising partner: FDDO organized the first Tabletop Exercise (TTX1) and a Small Scale Exercise (SSX1) on 20th April 2024 in Dortmund (DEU).

Overall, the aim of the exercise was to train first responders on the decontamination of vulnerable people and their assistive devices from hazardous substances. Therefore, the venue setup was replicating a background for decontamination. Below are described in detail the key objectives of the TTX and SSX for each of the participating categories.

Key FDDO Objectives:

- Improvement of the coping capacity of different units concerning their tasks, with a focus on decontamination.
- Training of decontamination of vulnerable people (decontamination unit of FDDO).

Key eNOTICE 2 Objectives:

- Inputs for guidelines for first responders on the decontamination of assistive devices used by vulnerable groups of the population
- Inputs for safety-security data sheets (SDS) and emergency response guidelines / red pages (ERG /RP) supporting first responders and incident commanders;
- Networking with interested stakeholders, including the organisers of the exercise, participants; first responders, observers from training professionals, research, industry and policy-making categories.

Key TeamUP project Objectives:

- Improved understanding of current practices in CBRN-E and explanation of Modus Operandi;
- GAP analysis in CBRN-E response and technologies;
- Familiarization of non-experts with basic CBRN-E response process;
- Start co-creation process;
- Early demonstration of innovative concepts for the scenarios visited in TTX1 and SSX1.

Key Partner and observers' Objectives:

- Identification of opportunities to strengthen the network of CBRN Training Centres;
- Identification of best practices to share with the eNOTICE 2 and TeamUP community;
- Identification of input for ongoing eNOTICE 2 and TeamUP tasks.

Key Invited experts' Objectives:

- Observation and identification of the interplay between the actors on the scene;
- Reflection on the added value of opening activities up to the other stakeholders in the field of safety and security with a focus on CBRN threats and especially decontamination;
- Identification of opportunities to raise the understanding within the triangle: rescue units – industry – scientists.

b. Communication and dissemination strategies

	Very un-successful									Very successful
1. In your opinion, to what extent were you successful in communicating your expectations to the participants?	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☒	8 ☐	9 ☐	10 ☐

Please explain your answer:

There were several pillars that addressed this aspect: the information provided before the SimEx such as the information sheet with clear objectives and aims and the presentations delivered during the SSX1 / TTX1.

i. *What means of (active / passive) communication to the participants did you use?*

- ☒ E-mail
- ☒ Teleconference tools
- ☐ Newsletters
- ☒ Own website
- ☐ eNOTICE platform
- ☒ Verbal briefing
- ☒ Other (please specify): Information Sheet with all necessary information

ii. *How did you disseminate the JA to external organisations?*

- ☒ Via the eNOTICE platform
- ☒ Via e-mail to the attendants
- ☐ Via own website
- ☒ Via social media
- ☒ Via press/ traditional media
- ☐ Other (please specify): Enter text here

iii. *To what extent was your dissemination strategy influenced by the joint aspect?*

It was necessary to agree on the provided information (in the context of dissemination with all partners and participating projects), to guarantee that the forwarded information is in line between the responsible / appropriate key-players.

c. Difficulties encountered during the preparation/organization phase.

- Different expectations of the scientific partners on the SSX1/TTX1.
- Partly a lack of mutual understanding among the attendees of what will be provided during the TTX1/SSX1.
- Lack of a clear understanding of the correct behaviour to be followed during the TTX1 and SSX1. (e.g. entering the practice area that is closed to external parties).

d. Which were applicable Security/legal/ethical aspects encountered during the preparation/organisation phase?

- ☒ E.g. informed consent
- ☒ E.g. gender considerations, if applicable in line with the EU's policy
- ☐ E.g. religious considerations, if applicable in line with the EU's policy
- ☐ Other (Please specify) Klik of tik om tekst in te voeren.

2. The JA conduction

a. *Practical information (upload the general information sheet to answer some these questions)*

i. *Place, time, date, etc.*

Practical information	
Dates:	19 th April (project meeting) – 20 th April (joint activity)
Location:	Ausbildungszentrum der Feuerwehr (ABZ) – Training centre of the FDDO, Seilerstr. 15, 44147 Dortmund, Germany
Meetings and exercise:	U3A/B Conference Room, Seilerstr. 15, 44147 Dortmund – 1 st floor (meeting)
Hotel/ accommodation:	As there is a good connection (by metro) between the central station (Dortmund Hauptbahnhof) and the Training Centre (7 min by metro, 500m walking distance from metro), FDDO won't provide a shuttle. Participants are kindly asked to use the public transportation.
Contact person:	Name: Dr.-Ing. Sylvia Pratzler-Wanczura
	Mobile: +49 (0) 172-7011826 Office: +49 (0) 231 50 29495
	E-mail: swanczura@stadtdo.de
Deadline for registration:	28.03.2024
Dress code for exercise:	Please consider appropriate clothing for the exercise: - Weather-proof (space for observers is only partly roofed) - Sturdy shoes

Figure 2: SimEx 1 Practical Information Sheet

ii. *Participants description*a. *Number of participants*

- 40 Active Participants
- 40 Observers

b. *Which organisations do the participants represent?*

Participant organisations can be divided into 3 main categories.

The first group is composed of representatives from the FDDO General fire service, Decontamination Unit, and the Command and Control structure.

The second group is composed of invited experts for eNOTICE 2, namely the project Consortium Members, External Technology Suppliers, and Representatives of the Commission.

The third, and final group, is represented by the TeamUP Consortium Members.

iii. Agenda

Friday, 19 th April 2024 Project Meetings eNotice2 & TeamUP				
9.30	10.00	30'	Welcome coffee	
eNOTICE-2 Consortium meeting				
10.00	10.10	10'	Welcome - Introductions	UCLouvain, all
10.10	10.40	30'	WP1 - Review of the CBRN teaching courses	UCLouvain
10.40	10.55	15'	WP4 Task 4.1 Design and planning of all CBRN SimEx	UCLouvain
10.55	11.10	15'	WP4 Task 4.5 Overall Monitoring and Assessment	SAFE
11.10	11.30	20'	Coffee break	
11.30	11.50	20'	WP6 - End-user and stakeholder engagement and dissemination	UCLouvain
11.50	12.50	60'	WP5 - CBRN management recommendations; SimEx scenario and objectives	FDDO
12.50	14.00		Lunch break	
14.00	14.30	30'	WP3 - Synthetic operational data; Plans for focus group meeting on Saturday	VESTA
End of eNOTICE-2 consortium meeting				
eNOTICE-2 and TeamUP meeting				
14.30	15.00	30'	Update on the new / emerging decontamination methods	UCLouvain – Jean-Luc Gala
			Coffee in between	
15.00	17.30	150'	Presentation and demonstration of CBRN technologies: - eNOTICE-2 External Supplier Platform - TeamUP partners	Cleamix, Hispano Vema, LDI Innovation, OUVRY, IBATECH, Ti4, ICCS, STWS, VANOS
17.30	18.00		Discussion, miscellaneous	All
Saturday, 20 th April 2024 – Table Top Exercise & Small Scale Exercise				
8.00	8.30	30'	Registration & Welcome coffee	FDDO
8.30	10.30	120'	Table Top Exercise (TTX1)	FDDO
			Coffee in between	FDDO
10.30	12.00	90'	Small Scale Exercise (SSX1)	FDDO
12.00	14.30	150'	Group 1 – Visiting the area of the exercise (questions, discussion on the field)	FDDO
12.00	14.30	150'	Group 2 – Internal discussions with selected participants	FDDO
12.00	13.00	60'	Hot debrief interviews / round tables / discussion TeamUp attendees: WP2, WP3, WP4, WP5, WP6 leaders, Task 2.3 Leader	TeamUP ICCS
13.00	14.30	90'	SDS focus group discussions 13.00-13.10: short explanation eNOTICE2+ introduction main question: How do we translate case based or scientific knowledge into knowledge that can be used on the field. 13.10-13.25: Which information is currently available to first responder in the field? 13.25-13.40: Who approves of the information in these sources? Who decides the contents? 13.40-13.55: Which gaps exist in these information sources? Is there information missing? 13.55-14.10: What information should a safety data sheet (SDS) in the terrain contain? 14.10-14.25: What SDS topics should be prioritised. 14.25-14.30: Varia	eNOTICE-2 VESTA
14.30	16.00	90'	Social event (BBQ)	FDDO

Figure 3: Agenda SimEx 1

iv. Scenario of the SSX1/TTX1/event, in order to provide context information, if applicable

Both the TTX1 and the SSX1 followed the same scenario. The scenario involved a railroad accident, where a freight train transporting several chemicals crashed near to a railway station. Following the crash, an unknown chemical substance leaked from the tank wagon and sublimated into a hazardous cloud. Several people in the vicinity of the train station were reported to suffer from a variety of symptoms. A nearby testing centre for radiation sources is evacuated following the release of the chemicals.

v. *What is the add on that made it JA (see fig 4)?*

- a. Describe briefly the original event, the extra element and the overlap between those (Joint aspect):

Original event: Practical CBRN Training by FDDO with a focus on decontamination procedures of vulnerable people and assistive devices.

Extra Element: eNOTICE 2 Consortium meeting, Technology demonstrations, SDS focus group discussions

Overlap: Participation of national experts and non-experts from eNOTICE 2 and TeamUP Consortium, both as actors and observers; Debrief.

- b. *Which parts are covered by external partners?*

External Partners provide inputs and cover the following elements during the SimEx: Consortium meeting, technology demonstrations, SDS focus group discussions, as well as aspects of the debrief.

- c. *To what extent did the joint aspect influence the scenario (if applicable)?*

N.A.

- b. *Were there any extra briefings because of the JA?*

In the run-up to the exercise, the first responders / emergency units in particular were informed / briefed about the aim of the exercise, especially for the project partners involved.

- c. *If suspension (unplanned): why?*

N.A.

- d. *Did any external events have an effect on the conduction of the JA? (e.g. COVID-19)*

N.A.

e. Security/legal/ethical aspects encountered?

N/A

3. The evaluation

a. What debrief/evaluation sessions did you host?

☒ Hot debrief

☐ Cold debrief

☐ Other Enter text here

i. Was there enough time for the evaluation sessions of the JA? Why (not)?

Although the exercise took place on Saturday, the fire fighters participated to the exercise as part of their regular duties. During the lunch time there was a shift change takes place at lunchtime which slightly reduced the extension of the evaluation to the rear.

b. Reflection on objectives and lessons identified

i. Cost efficiency:

a. Leading questions:

1.) Where were extra resources needed, and where could resources be combined?

Even if this kind of exercises forms an integral part of the regular training of the emergency services, the resources (personnel, material, time) provided for this are reduced. This is the case when the exercises are larger and involve external players in addition to the own emergency services. Additional financial resources were therefore required for the exercise in order to cover the additional needs that arose.

2.) Were more resources needed, or less in comparison with if the original exercise and the joint aspect (fig 4.) would have been separated?

Due to the additional requirements from the research partners, the exercise had to be extended, which meant that more

resources were needed than would have been required without their involvement.

b. Human resources

- 1.) Number of person-months (person hours/ FTE's per month/ human effort/ employee months) for JA organisation and duration, if applicable.

PM: 4 PM

Duration: preparations started in November 2023

2.) *Which actors were involved?*

Full-time / volunteer fire fighters, scientific staff (as part of FDDO), realistic accident actors, first aid organisations, stakeholders (for disabled people).

c. Material resources (JA only)

- 1.) Which material resources did you use for the JA? Fill in where relevant, see below.
- 2.) Were these extra resources needed for the JA or was it combined (Extra/Combined)? See below.
- 3.) Where the resources owned by the TC or from external parties? See below.

<u>Accommodation</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Tents	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☒ (hotel) rooms	☒ Extra	☐ Own
	☐ Combined	☒ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Transport</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Shuttle bus	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own

	☐ Combined	☐ Not Own
--	-----------------------------------	----------------------------------

<u>Food</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Drinks	☒ Extra	☒ Own
	☒ Combined	☒ Not Own
☒ Lunch	☒ Extra	☐ Own
	☐ Combined	☒ Not Own
☒ Dinner	☒ Extra	☐ Own
	☐ Combined	☒ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Safety</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Traffic signs	☒ Extra	☒ Own
	☒ Combined	☒ Not Own
☒ Badges	☒ Extra	☒ Own
	☐ Combined	☐ Not Own
☒ Demarcation ribbon	☐ Extra	☒ Own
	☒ Combined	☐ Not Own
☐ Whistles	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Fire extinguishers	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Recording/dissemination</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Cameras/webcams	☐ Extra	☒ Own
	☒ Combined	☒ Not Own
☐ Audio recorders	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Headphones	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
<u>Locations</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Auditorium/lecture hall	☐ Extra	☒ Own
	☒ Combined	☐ Not Own
☒ (Class)rooms	☐ Extra	☒ Own
	☒ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

Other: N/A

d. *Financial resources (estimations)*

1.) What were the total material costs of the JA?

942, 50 €

2.) *How was the eNOTICE 2 budget split?*

Table 1: Budget allocation SimEx 1

	eNOTICE-2	TeamUP
Staff	1.418,15 €	570,75 €
Catering	59,80 €	909,00 €
Dissemination	200,00 €	300,00 €
Equipment	- €	942,50 €
Costs per project	1.677,95 €	2.722,25 €
Total costs of JA	4.400,20 €	

3.) *Was the project budget sufficient?*

1. Explain why/why not

No. The budget for the exercise (especially with regard to consumables) was not sufficient - it was necessary to utilise the FDDO's reserves that were not intended for the exercise.

ii. Mutual benefits

a. *Elaborate on the mutual benefits for both collaborating organisations and participants:*

1.) For the organising TC and for the Joint aspect

To present the way FDDO is working to provide an understanding towards the scientific partners concerning the user needs and requirements.

2.) For the TC's of the network

To exchange and discuss key topics in the field of decontamination especially in relation to vulnerable groups and their assistive devices.

b. Elaborate on the mutual benefits for other attending parties (if applicable)? (0=no benefit, 10= great benefit), and explain your answer:

1.) Industry

	No benefit									Great benefit
1. Industry	1□	2□	3□	4□	5□	6□	7□	8□	9☒	10□
Please explain your answer	To provide and understand the requirements of end users / first responders / rescue units to be transferred into new products or to improve already existing solutions									
2. External training centres and training professionals	1□	2□	3□	4□	5□	6□	7□	8□	9☒	10□
Please explain your answer	To exchange on the different concepts / procedures in the field of decontamination / management of CBRNe events									
3. EU and national projects	1□	2□	3□	4□	5□	6□	7□	8□	9☒	10□
Please explain your answer	To highlight the problems, end users / first responders / rescue units are facing, to provide and understand the requirements of end users to be transferred into new technologies, scientific approaches, or to improve already existing									
4. Policy makers	1□	2□	3□	4□	5□	6□	7□	8□	9☒	10□

Please explain your answer	To highlight the problems, end users / first responders / rescue units are facing and explain the options for improvement									
5. Organisers	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	N.A.									

c. *Elaborate on the societal increased benefits of this JA?*

As people with disabilities (visually impaired, mobility-impaired, etc.) took part in the exercise, it was possible to build up mutual understanding. For instance, the emergency services were able to experience dealing with ‘real’ people (usually actors are hired for this). On the other hand, the people with disabilities were able to familiarise themselves with the fire service's procedures during a CBRN operation.

d. What were the mutual lessons identified?
see before point c. above

e. To what extent were your expectations met in terms of

1.) Attendance of participants?

Overall, participants were satisfied, and their expectations were met.

2.) Contributions of participants?

See point c. above

iii. *Please elaborate on whether your other objectives (if any) met in this JA?*

N.A

c. [Utility of templates/reporting checklist](#)

i. *What templates were used from the project, and what own templates were used (if applicable)?*

- ☒ Informed consent form
- ☒ General information sheet
- ☐ Observer's protocol
- ☐ Objectives, expected results and evaluation criteria
- ☒ Logistic requirements
- ☒ Exercise roles and responsibilities
- ☒ Preparation and organisation
- ☐ Communication about the exercise
- ☐ Observer's protocol
- ☐ Cost evaluation sheet
- ☐ Evaluation and debriefing forms (new form)
- ☐ Example of follow up
- ☐ Specific actions/ area of attention for JOINT activities
- ☐ Legal/ethical/security checklist
- ☐ Example of a registration form for external participants

ii. *Please provide feedback on the project templates, if you used them (answer per used template).*

- a. Ease of use (0=very difficult to use, 10= very easy to use)
- b. Clarity of the template (0= not clear at all, 10=very clear)
- c. Usefulness of the template (0= not useful at all, 10=very useful)
- d. do you have any additions to the project template?

...

Informed consent form	Not (...) at all										extremely (...)
Easy to use	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	
Clarity of the template	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	
Usefulness of the template	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	
Do you have any additions to the project template?	N.A.										

iii. *Were you satisfied with the reporting checklist?*

☐ Yes

☐ No

iv. *Please explain your answer*

N.A.

d. Any other aspects that were not addressed in the reporting checklist?

It could be relevant to ask explicitly about the preparation time and the steps required for the exercise - as many partners do not realise that the preparation of exercises (especially involving external players and research projects) takes several months.

4. SimEx 2 – Vyškov (CZE), 25 – 29 November 2024

4.1 Overview of the eNOTICE-2 SimEx 2

The second eNOTICE 2 SimEx was hosted by the Joint CBRN Defence Centre of Excellence Vyškov (JCBRND COE) in Vyškov from the 25th to the 29th of November and was organized in the form of a course. Each day, lectures focused on a specific topic and syndicate work was organised to test the knowledge acquired during the day. The aim of SimEx was to teach military personnel and first responders about **CBRN consequence management (CM)**. In total, 34 students from 18 different countries attended the SimEx. The second SimEx had the form of a NATO-approved course. Teaching participants how to manage the consequences of C, B, and RN disasters, as well as the media approach, by combining both theory and practical sessions. Added-value lessons taught by experts from the consortium further linked the course with the objectives of the project by highlighting the need to take vulnerable people into account during consequence management.

Overall, the SimEx organized in Vyškov showed the **importance of civilian-military cooperation** and conversation when managing CBRN disaster consequences. The SimEx further improved the knowledge of participants on CBRN consequence management, especially related to vulnerable people and their assistive devices.

The picture below was taken during the SimEx 2, and additional pictures of the course are available in Annex 3 - Pictures from SimEx 2.



Figure 4: Picture of SimEx 2

4.2 Final reporting checklist of SimEx 2

The following section presents an overview of the SimEx 2 following the methodology designed by the eNOTICE project (i.e., “Final reporting checklist”) articulated in the following sections: 1) Preparation/organization; 2) the SimEx Conduction; 2) Evaluation. The following checklist has been compiled by the organizer of the SimEx 2, i.e., JCBRND COE.

1. Preparation/organization

a. Context and Objectives

Course setting:

The course was conducted over a five-day period, and structured as follows:

- Day 1: Organizations involved in CM response operations;
- Day 2-4: One day each of Chemical, Radiological, and Biological CM considerations;
- Day 5: Media considerations.

Key Learning Objectives of the course:

- Identify principal NATO Consequence Management bodies, systems and procedures, and explain the NATO CM process;
- Explain CM after CHEM incident; - Explain CM after BIO incident;
- Explain CM after RAD/NUC incident;
- Explain Lessons Learned from recent NATO commitments and exercises
- Identify the importance of Rules of Engagement, Process and Public Information during the planning and implementation of Crisis Response Operations.

b. Communication and dissemination strategies

	Very un-successful								Very successful	
2. In your opinion, to what extent were you successful in communicating your expectations to the participants?	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□

Please explain your answer:

The course began with an administrative briefing from the Course Director and Administrator, highlighting the protocols that would be followed throughout. Each day ended with a hot wash that included an opportunity for the students to ask further questions and an explanation of the following days activities.

i. *What means of (active / passive) communication to the participants did you use?*

☒ E-mail

☒ Teleconference tools

☐ Newsletters

☒ Own website

☐ eNOTICE platform

☒ Verbal briefing

☒ Other (please specify): Introduction and specification of the course during eNOTICE-2 and eNOVATION in-person and online meetings.

ii. *How did you disseminate the JA to external organisations?*

☐ Via the eNOTICE platform

☒ Via e-mail to the attendants

☒ Via own website

☒ Via social media

☐ Via press/ traditional media

☒ Other (please specify): Presentations during CBRN Defence related events in NATO and other formats.

iii. *To what extent was your dissemination strategy influenced by the joint aspect?*

The dissemination strategy was focused on civil – military cooperation and interaction as well as on NATO – EU cooperation since the participants were a mix of civilian students from the eNOTICE-2 and eNOVATION projects and the EU Commission and military students from the NATO Command and Force Structure. In addition, it was a well-balanced composition of young practitioners and senior scientists and professionals of national and international consequence management institutions and organisations.

c. *Difficulties encountered during the preparation/organization phase.*

This is one of the most popular courses in the JCBRN Defence COE's portfolio, which caused a number of difficulties as the Centre tried to accommodate what proved to be a large training audience that exceeded the Centre's classroom capacities. Firstly, as the Centre can only accommodate 24 students, the course

was moved to a hotel in Brno, which enabled it to raise the student cap to 34. Secondly, this course mandates a good mix of civilian and military consequence management professionals to achieve maximum course value. In response, the Centre split the course into two equal-sized student blocks of military and civilian personnel. Thirdly, the Centre maintained the course status as NATO-Approved, which limited the ability of the course director to modify the course as it is governed by approved course control documents. In response, a couple of days surpassed the allotted training time in order to allow for added-value lessons. Fourthly, due to sickness, the Centre had to change out a few key personnel prior, including the course director. And finally, the hotel in Brno could not accommodate the course's final day, requiring the Centre to relocate the final day's instruction to the CZE Modelling and Simulation Centre, located on the Vyškov Garrison.

d. Which were applicable Security/legal/ethical aspects encountered during the preparation/organisation phase?

☒ E.g. informed consent

☐ E.g. gender considerations, if applicable in line with the EU's policy

☐ E.g. religious considerations, if applicable in line with the EU's policy

☒ Other (Please specify) Access to the garrison and the CZE Armed Forces Modelling & Simulation Centre on day 5 of the course had to be organised with the garrison commandant.

2. The JA conduction

e. Practical information (*upload the general information sheet to answer some these questions*)

i. *Place, time, date, etc.*

The course took place from 25 – 29 November 2024 and was hosted at the Courtyard Marriott Hotel, Brno, Czech Republic (25 – 28 November) & CZE Modelling and Simulation Centre at the Garrison in Vyškov, Czech Republic (29 November).

ii. *Participants description*

a. Number of participants

34 participants

b. Which organisations do the participants represent?

Diverse blend of civil and military professionals.

iii. Agenda

NATO UNCLASSIFIED



Joint Chemical, Biological, Radiological and Nuclear Defence Centre of Excellence (JCBRND COE)



WMD-CD-21769 Consequence Management after a CBRN Incident Course		Security level: NATO Unclassified releasable to public
Dates: 09 – 13 June 2025	Course Director:	
Place: Vyskov	Course Admin:	
This course introduces the student to NATO’s Consequence Management (CM) concept, organization, system, and procedures; including Civil-Military CBRN CM cooperation and partnership initiatives.		

Monday 9 June 2025		Tuesday 10 June 2025		Wednesday 11 June 2025		Thursday 12 June 2025		Friday 13 June 2025	
Venue:	Conference Hall C-125	Venue:	Conference Hall C-125	Venue:	Conference Hall C-125	Venue:	Conference Hall C-125	Venue:	Conference Hall C-125
	Course opening		CHEM Consequence Management		RAD Consequence Management		BIO Consequence Management		Media Communication
0845-0915	Course Introduction / Course administrative brief	0900-0945	VTC Crisis and Consequence Management – the EADRCC Perspective	0900-0945	Characteristics of Radiological and Nuclear Incident	0900-0945	Characteristics of a Biological Incident	0900-0945	Media Communication in a frame of Consequence Management
0915-1015	Crisis and Consequence Management			0945-1030	Considerations for Consequence Management Following a Radiological or Nuclear Incident	0945-1000	Coffee Break	0945-1015	Syndicate work – scenario introduction
1015-1030	Coffee Break	0945-1100	Characteristics of a Chemical Incident and Considerations for CM	1030-1100	Coffee Break	1000-1045	Considerations for Consequence Management Following a Biological Incident	1015-1030	Break
1030-1130	Concepts in CBRN Consequence Management	1100-1130	Coffee Break	1100-1145	Concept of Operations for Consequence Management following a Radiological or Nuclear Incident	1045-1130	Concept of Operations for Consequence Management following a Biological Incident	1030-1115	Syndicate work – team's activity
1130-1215	CBRN Modelling and Simulation Useful Tools for Support of Consequence Management	1130-1230	Concept of Operations for Consequence Management following a Chemical Incident	1145-1230	Syndicate work – scenario introduction			1115-1145	Syndicate work – team's debriefing and evaluation
1215-1230	Group photo	1230-1330	Lunch	1230-1330	Lunch	1130-1230	Emerging Electronic-friendly Decontamination for Sensitive Devices: Principles and Technologies for Microbial Decontamination	1145-1230	Course closure / Diploma Ceremony
1230-1330	Lunch	1330-1430	CBRN Capacity Building Activities & Training Programs (e.g. Ukraine)	1330-1430	Syndicate work – team's activity				
1330-1415	Crisis and Consequence Management – Example of the European Union	1430-1445	Coffee Break	1430-1445	Coffee Break	1230-1330	Lunch	1230-1330	Lunch
1415-1430	Coffee Break	1445-1530	Syndicate work – scenario introduction	1445-1530	Syndicate work – team's debriefing and Evaluation	1330-1415	Syndicate work – scenario introduction		Have a safe trip back home!
1430-1515	Combined Joint CBRN Task Force in supporting CBRN Incident Consequence Management	1530-1630	Syndicate work – team's activity	1530-1630	Principles and Technologies of Decontamination (new outcomes from lab dealing with toxins and powder)	1415-1430	Coffee Break		
1515-1615	Finnish Experience of Comprehensive Approach to CBRN Defense (CIV-MIL Interaction – national perspective)	1630-1700	Syndicate work – team's debriefing and Evaluation	1630-1645	After action review / Next day program specification	1430-1530	Syndicate work – team's activity		
1615-1630	After action review / Next day program specification	1700-1715	After action review / Next day program specifications			1530-1615	Syndicate work – team's debriefing and Evaluation		
		1730-1830	Informal sharing experience session (Atrium)			1615-1630	After action review / Next day program Specification		

Figure 5: Agenda SimEx 2

iv. *Scenario of the exercise/table top/event, in order to provide context information, if applicable*

The exercise scenarios changed daily based on that day's theme; chemical, biological, radiological, or strategic communications. Students were divided into syndicate teams after being briefed on that day's exercise scenario. Each team then had to provide a briefing with their proposed response.

v. *What is the add on that made it JA (see fig 4)?*

a. Describe briefly the original event, the extra element and the overlap between those (Joint aspect)

Original event:

D4.1 Report on Three SimEx Preparation, Organisation, Results (PU)

Course setting:

The aim is to introduce and describe CBRN Consequence Management, NATO Crisis Management Concept, organisations, systems, and procedures, including Cooperation and Partnership initiatives in CBRN Crisis/Consequence Management to NATO and Partner Nation officers and their civilian equivalents.

The course was conducted over a five-day period structured as follows:

- Day 1: Organizations involved in CM response operations.
- Day 2-4: One day each focused on Chemical, Radiological, and Biological CM considerations.
- Day 5: Media considerations

Extra element:

In addition to participants from the eNOTICE-2 project, representatives from eNOVATION project⁶ and NATO personnel joined the course. Also, a participant from the EU DG ECHO took part and delivered a valuable presentation. Similarly, a representative from UCLouvain delivered another interesting presentation focused on the key concept of dry decontamination for electronic devices. Both these lessons were very interesting and received and got positive feedback from the course students.

b. Which parts are covered by external partners?

Two added value lessons were taught by external partners, namely by EU DG ECHO and by UCL.

c. To what extent did the joint aspect influence the scenario (if applicable)?

N.A.

f. Were there any extra briefings because of the JA?

Yes, there was an initial briefing at the beginning of the course explaining the civil-military and NATO-EU dimension of the course as well as two added value lessons provided by the course participant from the EU Commission and Professor Dr. GALA from UCLouvain.

g. If suspension (unplanned): why?

N.A.

⁶ eNOVATION project is an EU-funded project by Horizon and is directly linked with the eNOTICE-2 project.

- h. Did any external events have an effect on the conduction of the JA? (e.g. COVID-19)

N.A.

- i. Security/legal/ethical aspects encountered?

Yes, access to the garrison and specific meal consideration according to cultural and religious requests.

4. The evaluation

- a. What debrief/evaluation sessions did you host?

☐ Hot debrief

☐ Cold debrief

☒ Other Evaluation form

- i. *Was there enough time for the evaluation sessions of the JA? Why (not)?*

Yes, in combination with the diploma ceremony at the end of the course there was a feed-back and Q&A session planned and conducted.

- b. Reflection on objectives and lessons identified

- i. *Cost efficiency:*

- a. Leading questions:

- 1.) Where were extra resources needed, and where could resources be combined?

Due to the number participants another course venue had to be organised (hotel instead of classrooms).

- 2.) Were more resources needed, or less in comparison with if the original exercise and the joint aspect (fig 4.) would have been separated?

Yes, more resources were needed.

- b. *Human resources*

- 1.) Number of person-months (person hours/ FTE's per month/ human effort/ employee months) for JA organisation and duration, if applicable.

PM: N.A., since the JCBRN Defence COE does not claim personnel costs for the project.

Duration: N.A., please see above.

2.) Which actors were involved?

Speakers from outside the organisation.

c. *Material resources* (JA only)

1.) Which material resources did you use for the JA? Fill in where relevant, see below.

2.) Were this extra resources needed for the JA or was it combined (Extra/Combined)? See below.

3.) Where the resources owned by the TC or from external parties? See below.

<u>Accommodation</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Tents	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☒ (hotel) rooms	☐ Extra	☐ Own
	☒ Combined	☒ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Transport</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Shuttle bus	☐ Extra	☐ Own
	☒ Combined	☒ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Food</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Drinks	☐ Extra	☐ Own
	☒ Combined	☒ Not Own
☒ Lunch	☐ Extra	☐ Own
	☒ Combined	☒ Not Own

☒ Dinner	☐ Extra ☒ Combined	☐ Own ☒ Not Own
☐ Other enter text here	☐ Extra ☐ Combined	☐ Own ☐ Not Own

<u>Safety</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Traffic signs	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Badges	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Demarcation ribbon	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Whistles	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Fire extinguishers	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Other enter text here	☐ Extra ☐ Combined	☐ Own ☐ Not Own

<u>Recording/dissemination</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Cameras/webcams	☐ Extra ☒ Combined	☒ Own ☐ Not Own
☐ Audio recorders	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Headphones	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Other enter text here	☐ Extra ☐ Combined	☐ Own ☐ Not Own

<u>Locations</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Auditorium/lecture hall	☐ Extra ☒ Combined	☐ Own ☒ Not Own
☒ (Class)rooms	☐ Extra	☐ Own

	☒ Combined	☒ Not Own
☒ Other Hotel	☐ Extra	☐ Own
	☒ Combined	☒ Not Own

Other: N.A.

d. Financial resources (estimations)

1.) What were the total material costs of the JA?

No specific costs here since the material for the course was used from the JCBRN Defence COE.

2.) How was the eNOTICE 2 budget split?

The fee for participating in the course could have been covered by the eNOTICE-2 and eNOVATION budget for the respective participants. On the other side, the buffet of the social event hosted at the hotel was sponsored by the eNOTICE-2 budget

3.) Was the project budget sufficient?

1. Explain why/why not

The calculated budget for the project was sufficient since costs could be shared with or taken by the JCBRN Defence COE budget and/or course fees from NATO students (e.g. Bus transfer from the hotel to the garrison on day 5 of the course).

ii. Mutual benefits

a. Elaborate on the mutual benefits for both collaborating organisations and participants:

1.) For the organising TC and for the Joint aspect

For the JCBRN Defence COE, it was beneficial that the NATO-approved course for NATO Command- and Force structure was widened by encompassing highly sophisticated EU project members from first responders to senior scientific and professional members from national and international organisations and entities. Especially during the syndicate sessions, an intense information exchange regarding different approaches to solve complex scenarios was observed throughout the entire duration of the course. In addition, two

added-value lessons from EU project and EC members enhanced the level of knowledge for all course students.

2.) For the TC's of the network

The mixture of participants of two EU projects, one under the umbrella of UCPM and the other one representing Horizon Europe projects and military and civil NATO personnel, in total 34 students from 18 countries spanning 3 continents working intensive together for an entire week was beneficial for all members representing their specific TC.

- b. Elaborate on the mutual benefits for other attending parties (if applicable)? (0=no benefit, 10= great benefit), and explain your answer:

1.) Industry

	No benefit										Great benefit
6. industry	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	
Please explain your answer	N.A.										
7. External training centres and training professionals	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□	
Please explain your answer	Information exchange between practitioners and scientific and management personnel about planning, best practices, and commonly developing solutions to solve complex scenarios.										
8. EU and national projects	1□	2□	3□	4□	5□	6□	7□	8□	9☒	10□	
Please explain your answer	For the participant of the EC, it was certainly interesting to participate in a SimEx/JA in order to evaluate the results and deliverables of the project, to network and enhance civil-military and NATO-EU cooperation and interaction.										
9. Policy makers	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□	
Please explain your answer	For policy makers from the national or international level, it was certainly interesting to see how consequent management-related policies were translated into action by practitioners.										
10. Organisers	1□	2□	3☒	4□	5□	6□	7□	8☒	9□	10□	
Please explain your answer	For organisers of training and related courses, it might have been interesting to observe how this course and its methodology were developed following a certain pattern for each scenario.										

c. [Elaborate on the societal increased benefits of this JA?](#)

At the beginning of the course a social event was organised which helped to get know each other and also started networking.

The participation of representatives from various organisations, scientific sectors, and countries represented a significant benefit contributing to exchange of knowledge in the field of consequence management which can be transposed to other EU MSs and organizations.

d. [What were the mutual lessons identified?](#)

To further enhance the course the COE now is developing an Academy for Distance Learning (ADL) solutions, enabling students to obtain a baseline understanding of chem, rad, and bio current and emerging threats prior the course, facilitating additional training time for collaborative work. Moreover, for all blocks (chem, rad, bio) a common base scenario is being developed by the Centre to streamline the mission analysis portion of the syndicate work, allowing the students to be more focused on developing a more thorough response effort to a CBR incident.

e. *To what extent were your expectations met in terms of*

1.) Attendance of participants?

Fully met, since the variety of students from different countries, continents, cultures, level of education and organisations being together for one entire week and solving tasks together was certainly a huge benefit.

2.) Contributions of participants?

Each participant brought in his/her experiences and shared their respective knowledge with others.

iii. *Please elaborate on whether your other objectives (if any) met in this JA?*

N.A.

c. [Utility of templates/reporting checklist](#)

- i. What templates were used from the project, and what own templates were used (if applicable)?

- ☒ Informed consent form
- ☒ General information sheet
- ☐ Observer's protocol
- ☐ Objectives, expected results and evaluation criteria
- ☐ Logistic requirements
- ☐ Exercise roles and responsibilities
- ☒ Preparation and organisation
- ☒ Communication about the exercise
- ☐ Observer's protocol
- ☐ Cost evaluation sheet
- ☐ Evaluation and debriefing forms (new form)
- ☐ Example of follow up
- ☐ Specific actions/ area of attention for JOINT activities
- ☐ Legal/ethical/security checklist
- ☐ Example of a registration form for external participants

- ii. Please provide feedback on the project templates, if you used them (answer per used template).
- a. Ease of use (0=very difficult to use, 10= very easy to use)
 - b. Clarity of the template (0= not clear at all, 10=very clear)
 - c. Usefulness of the template (0= not useful at all, 10=very useful)
 - d. do you have any additions to the project template?

...

Informed consent form	Not (...) at all										extremely (...)
Easy to use	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☒	8 ☐	9 ☐	10 ☐	
Clarity of the template	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☒	8 ☐	9 ☐	10 ☐	
Usefulness of the template	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☒	8 ☐	9 ☐	10 ☐	
Do you have any additions to the project template?	-										

iii. Were you satisfied with the reporting checklist?

☒ Yes

☐ No

iv. Please explain your answer

Complex but covering the most

d. Any other aspects that were not addressed in the reporting checklist?

- i. Based on student comments from this course, the Centre decided to modify the syndicates for the June 2025 offering. One of the most frequent comments was that the syndicate scenarios were not linked, but rather at the discretion of the instructor. This practice mandated that all syndicate groups conduct a new mission analysis each day, reconsidering select PMESII-PT components. The secondary effect was that valuable syndicate time was spent reevaluating the politics, available resources, infrastructure, etc, each day instead of strictly focusing on the response to the provided CBR incident. To solve this issue, the Centre developed a Class Handbook, providing a standard PMESII-PT picture from which each scenario was built. This enabled the instructors to build on each other's scenarios, saving valuable training time. Accepting how the media landscape is changing, the Centre added social media influencers, asking questions during the syndicate work and after, during the presentations. This added great complexity to the syndicate work, requiring the presenters to answer uncomfortable questions.
- ii. It should be noted that, unlike the one in November 2024, this course was run as a tailored course, developed for an eNOTICE-2, eNOVATION holistic audience. Unfortunately, this limitation only gathered the commitment of ten students. The Centre decided to augment the course attendance by allowing three members of the Cyprus military and an intern to attend, but this was still well short of the Centre's student capacity

5. SimEx 3 – Ranst (BEL), 05 – 07 June 2025

5.1 Overview of eNOTICE-2 SimEx 3

The third eNOTICE 2 SimEx was hosted by Campus VESTA in Ranst from the 5th to the 7th of June. The event was structured over 3 days, with the first day dedicated to the showcase of the VR demos developed by eNOTICE-2 project, the second day dedicated to the Consortium meeting and the third and last day dedicated to the actual **TTX delivery**. The aim of the TTX was to better prepare FRs and the organisation team of a large festival on how to handle a biological incident occurring at a large-scale event. A key focus of the TTX was also on the management of vulnerable groups and their assistive devices in an emergency decontamination situation. In total, 36 participants attended the SimEx. The picture below shows the eNOTICE-2 partner during the SimEx, and additional pictures are available in Annex 3 - Pictures from SimEx 3.

Overall, the SimEx organised in Ranst showcased the importance of involving vulnerable people and their assistive devices within scenarios to confront FRs with extra challenges. From the delivery of the TTX, a **gap in SOPs on how to decontaminate assistive** devices emerged.



Figure 6: eNOTICE-2 partners during the SimEx 3

5.2 Final reporting checklist of SimEx 2

The following section presents an overview of the SimEx 3 following the methodology designed by the eNOTICE project (i.e., “Final reporting checklist”) articulated in the following sections: 1) Preparation/organization; 2) the JA Conduction; 2) Evaluation. The following checklist has been compiled by the organizer of the SimEx, i.e., Campus Vesta.

1. Preparation/organization

a. Context and Objectives

Context:

The Joint Activity took place over a period of 3 days. The first two days focused mainly on tasks and meetings related to the consortium and eNOTICE 2 project. The tabletop exercise took place on the final day.

Key Objective for Vesta:

- Test and identify possible usefulness of the VR/XR tool and scenario for training FRs on procedures for decontamination of assistive devices.
- Evaluate the use and viability of the created AdInOs on FR preparedness and interoperability.
- Improve collaboration with external partners through the preparation and hosting of a tabletop exercise on a biological incident.

Key Objectives for Consortium partners:

- Evaluate the effect of created AdInOS on FR preparedness and interoperability between partners.
- Showcase the VR/XR-Demo on procedures concerning the decontamination of assistive devices.
- Evaluate the usefulness of the VR/XR tool and scenario for training FRs on procedures for decontamination of assistive devices based on the provided demo.
- Observe and identify the interplay between relevant Emergency Response Organisations and Government Organisations during a simulated bio-incident in the form of a tabletop.

Key Objectives for Invited Experts:

- Improve awareness and response in case of a bio-incident, specifically one that affects a large group of vulnerable people.

b. Communication and dissemination strategies

Very un-
successful

Very
successful

3. In your opinion, to what extent were you successful in communicating your expectations to the participants?	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☒	9 ☐	10 ☐
--	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	---------------------------------------	----------------------------	-----------------------------

Please explain your answer:

Clear and frequent communication was sent out to participants to keep them updated on any developments, as well as reminders to ensure that they filled out information or made reservations by the required deadlines.

- i. What means of (active / passive) communication to the participants did you use?

- ☒ E-mail
- ☒ Teleconference tools
- ☐ Newsletters
- ☐ Own website
- ☐ eNOTICE platform
- ☒ Verbal briefing
- ☐ Other (please specify): Enter text here

- ii. How did you disseminate the JA to external organisations?

- ☐ Via the eNOTICE platform
- ☒ Via e-mail to the attendants
- ☐ Via own website
- ☒ Via social media
- ☐ Via press/ traditional media
- ☐ Other (please specify): Enter text here

- iii. To what extent was your dissemination strategy influenced by the joint aspect? Enter text here

The JA was related to one of the international music festivals that takes place in the province of Antwerp on an annual basis. Since the organisers of the specific festival insisted on not providing the festival's name in order not to create reputation damage, external communication was kept generic on social media.

- c. Difficulties encountered during the preparation/organization phase.

The main issue we faced, was, as described above, not to divulge the name of the festival we were able to organise the JA Table Top Exercise with.

d. Which were applicable Security/legal/ethical aspects encountered during the preparation/organisation phase? *(See Annex I for complete checklist)*

☒ E.g. informed consent

☐ E.g. gender considerations, if applicable in line with the EU's policy

☒ E.g. religious considerations, if applicable in line with the EU's policy

☒ Other (Please specify) Non Disclosure Agreement

2. The JA conduction

a. Practical information *(upload the general information sheet to answer some these questions)*

1. Place, time, date, etc.

The Joint Activity took place at Campus VESTA from Thursday 05 June 2025 till Saturday 7th June 2025. Specifically, the TTX was organized on 7th June 2025, For specific times, please see the attached agenda.

2. Participants description

a. Number of participants

First Day: 16

Second Day: 15

Third Day: 36

b. Which organisations do the participants represent?

There were participants from the Consortium, the festival organisation, First Responders from the different Belgian first responder services (Police, Fire Brigade, Medical Services), and representatives from other Belgian CBRN-related agencies.

Some notable participating organisations were:

Campus Vesta; UCL; Tor Vergata; METU; SAFE; JCBRN CoE; National CBRN Centre (UK); Police; Fire Department; Civil Protection; Paramedics and the UAntwerp.

3. Agenda

Thursday 05 Jun 2025			
08:30 - 08:30	Bus to campus Vesta	VESTA	Shuttle
09:30 - 10:00	Registration & welcome coffee	VESTA	Agora
10:00 - 10:15	Welcome by Vesta and Project Introduction by UCL	VESTA + UCL	01A09
10:15 - 10:30	Campus Vesta Briefing	VESTA	01A09
10:30 - 11:00	Set-up VR	METU	01A08
11:00 - 12:00	VR-Demo	METU	01A08
12:00 - 12:30	VR Debrief	METU	01A08
12:30 - 14:00	Lunch	VESTA	1st floor
13:30 - 14:00	Set-up VR	SAFE	01A08
14:00 - 15:00	VR-Demo	SAFE	01A08
15:00 - 15:30	VR Debrief	SAFE	01A08
15:30 - 16:30	End of day Coffee	VESTA	Agora
16:30 - 17:00	Bus to Lier	VESTA	Shuttle
18:30 - 20:30	Social dinner (hosted)	VESTA	Restaurant Nethe & Drinke
Friday 06 Jun 2025			
09:00 - 09:30	Bus to campus Vesta	VESTA	Shuttle
09:30 - 10:00	Registration & welcome coffee	VESTA	Agora
10:00 - 12:30	Consortium Meeting	UCL	01A08 or -09
12:30 - 13:30	Lunch	VESTA	Agora
13:30 - 14:30	AdInOS Evaluation	VESTA	01A08 or -09
14:30 - 15:00	Coffee break	VESTA	Agora
15:00 - 15:30	TTX Context	VESTA	01A08 or -09
15:30 - 16:30	End of day Coffee	VESTA	Agora
16:30 - 17:00	Bus to Lier	VESTA	Shuttle
	Free evening		
Saturday 07 Jun 2025			
08:30 - 08:50	Bus to campus Vesta	VESTA	Shuttle
08:30 - 09:00	Registration & welcome coffee	VESTA	Agora
09:00 - 09:30	TTX: Setting the scene, Who-is-who, where to go	VESTA	01A03
09:30 - 12:30	TTX: Exercise	VESTA	01A08 + 01A09
12:30 - 12:45	Grab Lunch	VESTA	Hallway 01A08+01A09
12:30 - 13:45	Debrief: first reflections, EX Mgt., Q&A	VESTA	01A08
13:45 - 14:00	Closing remarks		
14:00 - 14:15	Evaluation Questionnaire	SAFE	01A08
14:15 - 14:45	Final Words & Coffee	VESTA + UCL	01A03
14:45 - 15:15	Bus to Lier	VESTA	Shuttle

Figure 7: Agenda SimEx 3

4. Scenario of the exercise/tabletop/event, in order to provide context information, if applicable

The tabletop scenario regarded a large music festival. Following several police actions to prevent drug use at the festival, the local drug mafia decided to strike back by launching several drones equipped with a balloon containing a white powder. The balloons were popped over the camping area. Following this, several people (including some vulnerable people and their assistive devices) were infected with the powder, which later turned out to be Anthrax. Several injects were then created for each relevant FR discipline in order to engage them as much as possible and push them to action if they forgot a relevant aspect. In addition to the contamination with Anthrax, two festival visitors were found with malaria they returned from a malaria infected country

5. What is the add on that made it JA (see fig 4)?

- a. Describe briefly the original event, the extra element and the overlap between those (Joint aspect)

The original event regarded hosting an in-person meeting between the consortium members, focusing on holding a meeting and showcasing several developments. The TTX was then expanded to be played by external actors, to make it more realistic. The overlap exists in the scenario and need for a TTX.

- b. Which parts are covered by external partners?

Several aspects were covered by external partners, such as the VR demos and their respective feedback sessions, guiding of the Consortium Meeting and the assessment of the exercise.

- c. To what extent did the joint aspect influence the scenario (if applicable)?

The TTX scenario was influenced by the joint aspect in such a way that we elaborated and integrated certain aspects such as a bio-agent and decontamination of persons with a disability, as well as their assistive devices.

- b. Were there any extra briefings because of the JA?

Yes, following the sensitive nature of the TTX that was played, several briefings were organised, both internal and external, to outline the necessary precautions. Further, since the exercise was played in Dutch (to allow the participants to better

interact by using their native language), not English, an extra briefing was organised within the consortium to best prepare all observers on the scenario they could expect.

c. If suspension (unplanned): why?

N.A.

d. Did any external events have an effect on the conduction of the JA? (e.g. COVID-19)

N.A.

e. Security/legal/ethical aspects encountered?

A Non-Disclosure Agreement (NDA) was created in order to ensure observers to respect the privacy and discretion surrounding the TTX.

3. The evaluation

a. What debrief/evaluation sessions did you host?

☒ Hot debrief

☐ Cold debrief

☐ Other Enter text here

i. Was there enough time for the evaluation sessions of the JA? Why (not)?

In most cases yes, because feedback time was calculated in when drafting the agenda. Only once, more time for feedback was needed, for this, a future meeting was agreed upon.

b. Reflection on objectives and lessons identified

i. Cost efficiency:

ii. Leading questions:

a. Where were extra resources needed, and where could resources be combined?

No extra resources were needed.

b. Were more resources needed, or less in comparison with if the original exercise and the joint aspect (fig 4.) would have been separated?

More resources would have been required if they were conducted separately, since doing the Joint Activity allowed for a lot of the planning process to be done simultaneously.

iii. *Human resources*

- a. *Number of person-months (person hours/ FTE's per month/ human effort/ employee months) for JA organisation and duration, if applicable.*

PM: 3

Duration: Preparations started in February 2025

i. *Which actors were involved?*

A range of in-house actors were involved in organising the JA, including members of the EU-projects team, administrative staff, in-house catering staff and in-house experts to develop the scenario. Further, external actors were also used when organising, including people from the consortium and the players from different FR-organisations.

2. *Material resources (JA only)*

- i. Which material resources did you use for the JA? Fill in where relevant, see below.
- ii. Were this extra resources needed for the JA or was it combined (Extra/Combined)? See below.
- iii. Where the resources owned by the TC or from external parties? See below.

<u>Accommodation</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Tents	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☒ (hotel) rooms	☐ Extra	☐ Own
	☐ Combined	☒ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Transport</u>	<u>Extra/combined</u>	<u>Own/not own</u>
------------------	-----------------------	--------------------

☒ Shuttle bus	☒ Extra ☐ Combined	☒ Own ☐ Not Own
☐ Other enter text here	☐ Extra ☐ Combined	☐ Own ☐ Not Own

<u>Food</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Drinks	☐ Extra ☐ Combined	☐ Own ☒ Not Own
☒ Lunch	☐ Extra ☐ Combined	☐ Own ☒ Not Own
☒ Dinner	☐ Extra ☐ Combined	☐ Own ☒ Not Own
☐ Other enter text here	☐ Extra ☐ Combined	☐ Own ☐ Not Own

<u>Safety</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Traffic signs	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☒ Badges	☐ Extra ☐ Combined	☒ Own ☐ Not Own
☐ Demarcation ribbon	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Whistles	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Fire extinguishers	☐ Extra ☐ Combined	☐ Own ☐ Not Own
☐ Other enter text here	☐ Extra ☐ Combined	☐ Own ☐ Not Own

<u>Recording/dissemination</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☒ Cameras/webcams	☐ Extra ☐ Combined	☒ Own ☐ Not Own
☒ Audio recorders	☐ Extra	☒ Own

	☐ Combined	☐ Not Own
☐ Headphones	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

<u>Locations</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Auditorium/lecture hall	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☒ (Class)rooms	☐ Extra	☒ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

Other: N/A

b. Financial resources (estimations)

i. What were the total material costs of the JA?

€1962,19

ii. How was the eNOTICE-2 budget split?

Material cost: €1962,19

Personnel cost (estimate): €21.000

Total cost (estimate): €22962,19

iii. Was the project budget sufficient?

1. Explain why/why not

Yes, the estimations made, and budget allocated for the organisation of the JA were sufficient to organise and execute the JA.

3. Mutual benefits

- a. Elaborate on the mutual benefits for both collaborating organisations and participants:

- i. For the organising TC and for the Joint aspect

For Vesta, there were several benefits that came from organising a Joint Activity. The first benefit comes from being able to save time on organising, since a lot of the organisational work could double for the JA and the TTX. Next, the presence of external experts from the network allowed for an additional layer of feedback after the exercise was done. Bringing together Belgian and International FRs, fostering knowledge sharing. Third, it was a form of publicity for Campus VESTA, both towards consortium partners, as well as Belgian partners, where we were able to showcase both our own capabilities, as well as those of Belgian FRs.

- ii. For the TC's of the network

For the Network TC's that were present, the JA offered a good learning opportunity on methods and scenario's that good be used to organise a TTX and add observers without interfering with the scenario or the players. Further, it was also a learning opportunity on capabilities and training methods used in Belgium.

- b. Elaborate on the mutual benefits for other attending parties (if applicable)? (0=no benefit, 10= great benefit), and explain your answer:

- i. Industry

	No benefit									Great benefit
11. industry	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	N.A.									
12. External training centres and training professionals	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□
Please explain your answer	Possibility to learn from methods used at VESTA and new technologies.									
13. EU and national projects	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□
Please explain your answer	Chance to showcase the project and its usefulness to FR's and end-users.									
14. Policy makers	1□	2□	3□	4☒	5□	6□	7□	8□	9□	10□

Please explain your answer	No policy makers were present									
15. Organisers	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☒	10 ☐
Please explain your answer	Combine organisational activities, showcase capabilities.									

c. Elaborate on the societal increased benefits of this JA?

The contacts, discussions, training, and feedback led to overall better preparedness for First Responders that were present during the JA. This has the distinct societal benefit of improving CBRN preparedness both within Belgium, and the EU as a whole.

d. What were the mutual lessons identified?

There are limited SOPs regarding decontamination of vulnerable people in case of a CBRN incident; for this, further guidelines and SOPs need to be developed and trained in order to properly help all groups of the population when a CBRN incident takes place. Cross border cooperation is important not only to respond better, but also to improve internal workings through knowledge sharing.

e. To what extent were your expectations met in terms of

i. Attendance of participants?

The participants, both of the JA and the exercise, indicated that their expectations were met. The players noted the importance of exercises like this to challenge and improve their capabilities. The participants, observers, highlighted that they took-away a lot of information from the JA, including on ways to improve work they are doing within the project, as well as on the functioning and needs of FR's.

ii. Contributions of participants?

Participants contributed to the JA by showcasing the technologies they are developing within the project, but also by providing international, multidiscipline feedback on the players after the exercise.

4. Please elaborate on whether your other objectives (if any) met in this JA?

All of the objectives set out for this JA were met.

c. [Utility of templates/reporting checklist](#)

1. What templates were used from the project, and what own templates were used (if applicable)?

☒ Informed consent form

- ☒ General information sheet
- ☐ Observer's protocol
- ☐ Objectives, expected results and evaluation criteria
- ☐ Logistic requirements
- ☐ Exercise roles and responsibilities
- ☐ Preparation and organisation
- ☐ Communication about the exercise
- ☐ Observer's protocol
- ☐ Cost evaluation sheet
- ☒ Evaluation and debriefing forms (new form)
- ☐ Example of follow up
- ☐ Specific actions/ area of attention for JOINT activities
- ☐ Legal/ethical/security checklist
- ☐ Example of a registration form for external participants

2. Please provide feedback on the project templates, if you used them
(answer per used template).

- a. Ease of use (0=very difficult to use, 10= very easy to use)
- b. Clarity of the template (0= not clear at all, 10=very clear)
- c. Usefulness of the template (0= not useful at all, 10=very useful)
- d. do you have any additions to the project template?

...

Informed consent form	Not (...) at all										extremely (...)
Easy to use	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	
Clarity of the template	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	
Usefulness of the template	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	
Do you have any additions to the project template?	Enter text here										

3. Were you satisfied with the reporting checklist?

☒ Yes

☐ No

4. Please explain your answer

The checklist was easy to use, and doubled during the preparation of the exercise as a reminder.

d. [Any other aspects that were not addressed in the reporting checklist?](#)

N.A.

6. Key findings and lessons identified

This section will present the collective key findings and lessons identified through the delivery of 3 SimEx in the frame of eNOTICE-2 project.

A first, and arguably the most important finding, regards the **mutual benefits** that come from organizing a Joint Activity. This benefit is related to the participation of representatives from different sectors (e.g., universities, industries, First responders, etc.), which contributed to the mutual exchange of knowledge and expertise in the CBRNe domain. This constituted a significant added value and contributed to the mutual advancement and growth of capacities.

Below are reported the mutual benefits for each group of participating categories:

1. **Training Centres and Training Professionals** representatives throughout the SimEx had the possibility to exchange information on CBRN-related best practices, management and general information exchange.
2. **EU and national projects** representatives had the opportunity to showcase the results of their projects throughout the SimEx. On top of this, the SimEx's also allowed for representatives of the projects to gain insight into the workings of different end-users, as well as their needs and requirements, which might serve to better understand future projects.
3. **First Responders** had the valuable chance to highlight some of their needs to the involved policy makers, ensuring a better understanding of the current state-of-the-art, and which (future) gaps need addressing.
4. **Industrial sector** representatives were able to gather input from end-users to improve their products, as well as to showcase these products.
5. **Policymakers** through the SimEx were offered the benefit of showcasing how policy gets turned into practice.

All of these aforementioned benefits can be seen as qualitative benefits. While the scale and effect of information exchanges might not always be quantifiable and measurable, their importance is nonetheless a clear benefit coming from the SimEx.

Another finding regards the benefits of **involving multiple EU projects within one Joint Activity**. While this was not the case for the SimEx 3 in Ransst, for both the SimEx 1 in Dortmund and the SimEx 2 in Vyskov, other EU-funded CBRN-related projects were involved, namely, eNOVATION and TeamUP projects. The participation of representatives from multiple EU-funded projects proved highly beneficial, as it enabled valuable cross-project exchange. This collaboration created an additional layer of impact by fostering structured and informal dialogue between the projects. Through these interactions, partners were able to share ongoing developments, results, and practical experiences. This not only enhanced the dissemination of outcomes but also promoted cross-fertilisation, allowing participants to learn from each other's successes, challenges, and problem-solving approaches. The exchange of good practices and lessons learned contributed to strengthening both projects and building a more connected research community in the CBRNe response domain.

Furthermore, a third important finding concerns the **costs required** to organize a Joint Activity rather than individual activities. On one hand, it helps optimize resources and manage budgets more efficiently. For example, personnel costs can be reduced, as some of the planning and coordination work would be required regardless of whether the exercise is part of a JA or held separately. On the other hand, combining the different activities into one also brought with it extra organisational aspects which would not have been necessary if the activities had been organised separately. For example, extra reporting, documentation and logistical organisation. Despite this, the organisational and budget benefits outweigh its negative aspects, and it is therefore highly recommended to organize Joint Activities while being aware of the extra burden required.

Another important finding, and subsequent lesson for organisers to be aware of, is that a Joint Activity **might bring extra safety and security concerns** with it. This can stem from a number of things, such as participants not having the necessary security clearance. This was the cause during the SimEx 2 in Vyskov, which required a series of modifications and extra work in order to ensure that everything was in order. Similarly, during the SimEx 3 in Ranst, participants were required to sign a non-disclosure agreement in order to ensure that sensitive information used during the exercise would not go public afterwards. These are some concerns that need to be taken into account well beforehand, as they might cause problems during the SimEx. Another concern is in regard to safety, especially when conducting simulation exercises. Since it is not likely that all participants of a SimEx will have sufficient experience or knowledge on how to conduct themselves in certain situations, this might cause some health and safety risks. One such risk was noted during the Dortmund SimEx 1 when some participants had entered an off-limit part of the SimEx. It is important that organisers are aware of these difficulties, so that they can take the necessary precautions, for example organising extra briefings beforehand, or taking extra security measures during the SimEx. However, participants should also be aware of these potential risks and be urged to follow all the guidelines and regulations put forth by the organisation.

A key final finding report concerns **communication before and during the SimEx**, as several factors inherent to such exercises can hinder effective communication. For instance, as noted in the report on SimEx 1 in Dortmund, the need for multiple stakeholders to approve the content of the communication can significantly delay information flow. Additionally, participating organisations may use different communication tools and platforms, complicating interactions both between organisers and participants and among participants themselves. Misunderstandings may also arise due to differing interpretations of terminology. These challenges affect not only the preparation phase but also the exercise itself. Awareness of these potential issues is essential when planning a SimEx.

7. Conclusions and ways forward

As outlined in this report, during the eNOTICE-2 project, three SimEx were organised, respectively, in Dortmund, Vyškov, and Ranst. From the analysis of the results of the three SimEx it can be concluded that each of the three SimEx contributed in distinct ways to enhancing **knowledge and understanding of CBRN-related risks**, with particular attention to **vulnerable groups and the decontamination of their assistive devices**—reflecting the core objectives of the eNOTICE-2 project. Each exercise focused on different aspects of CBRN incidents and response, including variations in the type of agents involved, the level of responders (strategic vs. operational), the involvement of experts and non-experts, and the balance between theory and practice. By exploring these diverse dimensions, the SimEx series addressed the challenges related to vulnerable individuals and their assistive devices in a comprehensive and holistic manner.

The fourth and last SimEx of the eNOTICE-2 project is scheduled for November 2025 and will be organized by Fondazione SAFE in Soave (VR), Italy. Overall, the SimEx 4 will represent a pivotal opportunity to discuss and test the key findings of the project in the field of CBRN decontamination and, specifically, on the decontamination of vulnerable groups and their assistive devices. This SimEx will combine a Table-Top Exercise, VR/XR demo and the final project conference.

8. Annex 1: Reporting checklist

1. Preparation/organization

a. Context and Objectives

Enter text here

b. Communication and dissemination strategies

	Very un-successful										Very successful
4. In your opinion, to what extent were you successful in communicating your expectations to the participants?	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□	

Please explain your answer:

Enter text here

- i. What means of (active / passive) communication to the participants did you use?

- ☐ E-mail
☐ Teleconference tools
☐ Newsletters
☐ Own website
☐ eNOTICE platform
☐ Verbal briefing
☐ Other (please specify): Enter text here

- ii. How did you disseminate the JA to external organisations?

- ☐ Via the eNOTICE platform
☐ Via e-mail to the attendants
☐ Via own website
☐ Via social media
☐ Via press/ traditional media

☐ Other (please specify): Enter text here

- iii. To what extent was your dissemination strategy influenced by the joint aspect? Enter text here

c. Difficulties encountered during the preparation/organization phase.

Enter text here

d. Which were applicable Security/legal/ethical aspects encountered during the preparation/organisation phase? (See Annex I for complete checklist)

☐ E.g. informed consent

☐ E.g. gender considerations, if applicable in line with the EU's policy

☐ E.g. religious considerations, if applicable in line with the EU's policy

☐ Other (Please specify) Klik of tik om tekst in te voeren.

2. The JA conduction

e. Practical information (*upload the general information sheet to answer some these questions*)

1. Place, time, date, etc.

Enter text here

2. Participants description

- a. Number of participants

Enter text here

- b. Which organisations do the participants represent?

Enter text here

3. Agenda

Enter text here

4. Scenario of the exercise/table top/event, in order to provide context information, if applicable

Enter text here

5. What is the add on that made it JA (see fig 4)?

- a. Describe briefly the original event, the extra element and the overlap between those (Joint aspect)

Enter text here

- b. Which parts are covered by external partners?

Enter text here

- c. To what extent did the joint aspect influence the scenario (if applicable)?

Enter text here

- f. Were there any extra briefings because of the JA?

Enter text here

- g. If suspension (unplanned): why?

Enter text here

- h. Did any external events have an effect on the conduction of the JA? (e.g. COVID-19)

Enter text here

- i. Security/legal/ethical aspects encountered?

3. The evaluation

- iv. What debrief/evaluation sessions did you host?

☐ Hot debrief

☐ Cold debrief

☐ Other Enter text here

1. Was there enough time for the evaluation sessions of the JA?

Why (not)?

Enter text here

j. Reflection on objectives and lessons identified

2. Cost efficiency:

a. Leading questions:

- i. Where were extra resources needed, and where could resources be combined?

Enter text here

- ii. Were more resources needed, or less in comparison with if the original exercise and the joint aspect (fig 4.) would have been separated?

Enter text here

b. Human resources

- i. Number of person-months (person hours/ FTE's per month/ human effort/ employee months) for JA organisation and duration, if applicable.

PM: Enter text here

Duration: Enter text here

- ii. Which actors were involved?

Enter text here

c. Material resources (JA only)

- i. Which material resources did you use for the JA? Fill in where relevant, see below.
- ii. Were this extra resources needed for the JA or was it combined (Extra/Combined)? See below.
- iii. Where the resources owned by the TC or from external parties? See below.

<u>Accommodation</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Tents	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ (hotel) rooms	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
<u>Transport</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Shuttle bus	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
<u>Food</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Drinks	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Lunch	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Dinner	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
<u>Safety</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Traffic signs	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Badges	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Demarcation ribbon	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Whistles	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

☐ Fire extinguishers	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
<u>Recording/dissemination</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Cameras/webcams	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Audio recorders	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Headphones	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
<u>Locations</u>	<u>Extra/combined</u>	<u>Own/not own</u>
☐ Auditorium/lecture hall	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ (Class)rooms	☐ Extra	☐ Own
	☐ Combined	☐ Not Own
☐ Other enter text here	☐ Extra	☐ Own
	☐ Combined	☐ Not Own

Other: Enter text here

d. Financial resources (estimations)

i. What were the total material costs of the JA?

Enter text here

ii. How was the eNOTICE 2 budget split?

Enter text here

iii. Was the project budget sufficient?

1. Explain why/why not

Enter text here

3. Mutual benefits

a. Elaborate on the mutual benefits for both collaborating organisations and participants:

i. For the organising TC and for the Joint aspect

Enter text here

ii. For the TC's of the network

Enter text here

b. Elaborate on the mutual benefits for other attending parties (if applicable)? (0=no benefit, 10= great benefit), and explain your answer:

i. Industry

	No benefit									Great benefit
16. industry	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	Enter text here									
17. External training centres and training professionals	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	Enter text here									
18. EU and national projects	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	Enter text here									
19. Policy makers	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	Enter text here									
20. Organisers	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	Enter text here									

c. Elaborate on the societal increased benefits of this JA?

Enter text here

d. What were the mutual lessons identified?

Enter text here

e. To what extent were your expectations met in terms of

i. Attendance of participants?

Enter text here

ii. Contributions of participants?

Enter text here

4. Please elaborate on whether your other objectives (if any) met in this JA?

Enter text here

k. [Utility of templates/reporting checklist](#)

5. What templates were used from the project, and what own templates were used (if applicable)?

☐ Informed consent form

☐ General information sheet

☐ Observer's protocol

☐ Objectives, expected results and evaluation criteria

☐ Logistic requirements

☐ Exercise roles and responsibilities

☐ Preparation and organisation

☐ Communication about the exercise

☐ Observer's protocol

☐ Cost evaluation sheet

☐ Evaluation and debriefing forms (new form)

☐ Example of follow up

☐ Specific actions/ area of attention for JOINT activities

☐ Legal/ethical/security checklist

☐ Example of a registration form for external participants

6. Please provide feedback on the project templates, if you used them (answer per used template).

a. Ease of use (0=very difficult to use, 10= very easy to use)

b. Clarity of the template (0= not clear at all, 10=very clear)

c. Usefulness of the template (0= not useful at all, 10=very useful)

d. do you have any additions to the project template?

...

Informed consent form	Not (...) at all										extremely (...)
Easy to use	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	
Clarity of the template	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	
Usefulness of the template	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	
Do you have any additions to the project template?	Enter text here										

7. Were you satisfied with the reporting checklist?

☐ Yes

☐ No

8. Please explain your answer

Enter text here

1. Any other aspects that were not addressed in the reporting checklist?

Enter text here

9. Annex 2 - Pictures from SimEx 1



Figure 8: SimEx 1 - Decontamination line



Figure 9: SimEx 1 - Presentation of the TTX



Figure 10: SimEx 1 - TTX presentation

10. Annex 3 - Pictures from SimEx 2

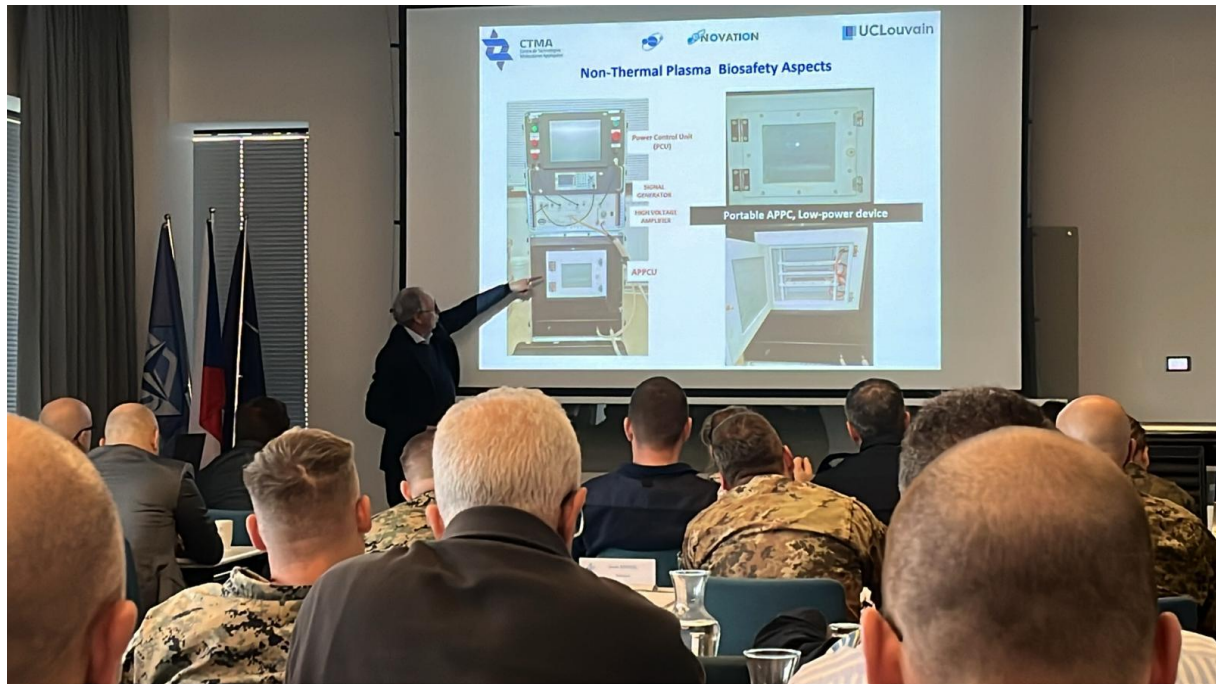


Figure 11: SimEx 2 - Presentation on dry decontamination procedures

11. Annex 3 - Pictures from SimEx 3



Figure 12: SimEx 3 - VR demo showcase