eNOTICE
European Network Of CBRN TraIning CEntres

D4.7 eNOTICE Joint activities planning
Report 6

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Dissemination level

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2	Campus Vesta APB (VESTA)	X
3	Fire and Rescue Service of Seine et Marne (SDIS77)	
4	Association pour la recherche et le développement des méthodes et processus industriels (ARMINES)	
5	Fire Department Dortmund (FDDO)	X
6	Safety Innovation Center (SIC)	
7	Joint CBRN Defence Centre of Excellence Vyškov (JCBRN Defence COE)	X
8	Middle East Technical University (METU)	
9	University of Rome Tor Vergata and The Italian Joint NBC Defense School (UNITOV)	X
10	West Midlands Police, National CBRN centre (WMP)	X
11	War Studies University, CBRN Defence Training Centre (WSU)	X
12	Scientific and Research Centre for Fire Protection (CNBOP-PIB)	

Executive summary

This extended document is the **sixth and final progress report** on the organisation of eNOTICE joint activities (JAs). It includes a full and chronological report on the **5 joint activities** in Dortmund (2022) by FDDO, in Ranst (2022) by VESTA, in Rieti (2022) by UNITOV, in Warsaw (2023) by WSU and in Ranst (2023) by VESTA with the final exercise including the UCL mobile lab.

Joint activities are a core instrument to achieve eNOTICE objectives and are the main networking events. They are used both to **encourage cooperation between (European) training centres** but also to **stimulate learning and cooperation between first responders, academics and industry/companies**. This kind of cooperation has been found in the JAs to be beneficial for all parties involved. On top of that, JAs are a way of **pooling resources** for all parties involved, both the training centre and the added element by **having multiple objectives of different organisations in the same event** instead of having to organise different events. This report is mostly focused on the joint aspect of joint activities.

The **Dortmund JA in 2022** was a full-scale exercise where multiple first responders trained a scenario with a railway accident and a C component. Moreover, this exercise represented the cooperation between the eNOTICE project and the H2020 PROACTIVE project by including civil society volunteers in the scenario, including people with vulnerabilities. The main lesson identified in this JA was the challenge for firefighters working with vulnerable people[1], and the realisation that there were no standardised procedures.

The **Ranst JA in 2022** was a combination of a multidisciplinary full-scale exercise and a cooperation with the ISF MELODY project, aiming to introduce the training centres to their harmonised CBRN curriculum for first responders without prior experience in CBRN. The main lesson identified in this JA was that a harmonised CBRN curriculum was very useful, but

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[1] Citizens with needs that differ to the average population such as persons with disabilities, the ill (e.g. with chronic or acute health conditions), elderly, or members of an ethnic minority or of a vulnerable group. Vulnerable groups may include children, pregnant women, persons with disabilities, chronic medical disorders or addiction, older persons with functional limitations and health restrictions, institutionalized individuals as well as their carers and companions. Vulnerable citizens also include persons with limited proficiency of the respective national languages or with restrictions regarding use of transportation (PROACTIVE website, https://proactive-h2020.eu/).

would still need to be adapted to national standards as well. The exchange of knowledge between participants was much appreciated as well.

The **Rieti JA in 2022** was a full-scale military exercise in cooperation with the H2020 PROACTIVE project, which included an attack on a train with a C component. This exercise also involved civil society volunteers, including people with vulnerabilities. The JA underlined the importance of civil-military cooperation, and the main lesson learned was that including civil society volunteers introduced further elements of realism, and that both the exercise management and the volunteers learned a lot from each other. It also highlighted the importance of communication.

The **Warsaw JA in 2023** was a computer supported tabletop exercise taking place at the War Studies University. On top of that, it was focused on demonstrating and testing a hazard assessment prediction software for CBRN disasters. The main conclusions of this Joint Activity were that the scenario of the TTX had to be adjusted to fit the Joint Activity, and that the TTX manual may need updating. On top of that the TTX managed to check the information flow additionally to the hazard management prediction software.

Finally, the **Ranst JA in 2023** was a two-day event with an eFAIR to connect industry, first responders and academics, and a multidisciplinary exercise containing civil society volunteers in cooperation with the PROACTIVE project. The main lesson identified was that the cooperation between first responders, industry and academics should be encouraged further because of the great benefit to all. On top of that, we found that working with vulnerabilities was a challenge for first responders, especially in the communication aspect.

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1. Introduction to the project

1.1 Overall objectives of eNOTICE and scope of WP4

The objective of the eNOTICE project – European Network of CBRN Training Centres – is to **build a dynamic, functional and sustainable European network of CBRN Training Centres, testing and demonstration sites (CBRN TC), aiming at enhanced capacity building in training and users-driven innovation and research, based on well-identified needs.**

eNOTICE seeks to **improve European preparedness, resilience and incident response** to CBRN attacks and emerging threats through **close multi- (stakeholders) and single-discipline (practitioners) interactions**. Considering the variety of disciplines involved in managing CBRN risks, collaboration has always been quite challenging. CBRN TCs can act as the perfect operational intermediary between all civilian and military CBRN actors, EU relevant bodies and policy-makers, and thus serve as the best cradle for expansion of a CBRN network of professionals.

To set up such a network that is both efficient and effective in meeting the needs of different security actors, several lines of action will be followed within the five-year timeframe of eNOTICE in order to develop a network that will be viable, attractive as well as sustainable. The work programme (SEC-21-GM-2016-2017 – Pan European Networks of practitioners and other actors in the field of security[2]) proposes **three lines of actions**: 1) establish and maintain a **roster of capabilities and facilities**, 2) organise the **best way to share expertise**, and 3) plan to **pool and share resources** with a view to optimise investments. These lines will serve as a baseline for the project (**Figure 1**) and will be achieved through a mix of activities.
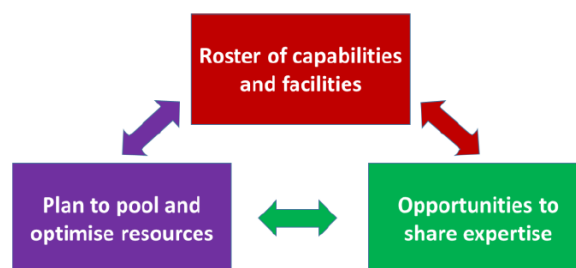
Figure 1 Three lines of actions

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[2] European Commission Decision C (2017) 2468 of 24 April 2017, Horizon 2020 Work Programme 2016-2017, 14. Secure Societies - Protecting freedom and security of Europe and its citizens

One of the key activities within eNOTICE is the organisation of **Joint Activities**, which is the main scope of WP4.

The **objectives of WP4** are defined in the DOA as followed:

> WP4 aims at transforming the WP3 information and communication network into a **transactional network**, based on sharing of expertise and effective practices and collaboration through the organisation of joint activities between the eNOTICE consortium partners and external partners. WP4 will also identify and encourage opportunities to optimise investments through pooling of resources, and liaise with other networks and policy makers to avoid duplications and to create synergies to align policies and optimise efforts.

Joint Activities can be defined as **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.**

The eNOTICE Joint Activities can be seen as showcases to demonstrate the role, contribution and added value of the TCs *beyond* their traditional activities, in terms of user driven R&D, enhanced preparedness, improved training capacity and a community build-up.

During the project, all eNOTICE consortium partners organise such activities in which they open up their core activities such as multidisciplinary field exercises, tabletop exercises, trainings, serious gaming and simulations to external partners, such as, EU R&D projects, industry, policy makers and other practitioners. These realistic settings of real situations provide unique opportunities for the identification and development of user-driven technological solutions, e.g. through the identification of genuine user's needs, technical testing, validations, demonstrations, focus groups, etc.

Lesson identified from these Joint Activities result in **recommendations to improve their organisation and output**, for optimised resource allocation and for enhanced collaboration, both at operational and strategic (policy) levels.

1.2 Objectives and scope of Task 4.2

Task 4.2 – "*Organisation of joint activities (exercises combined with tests, validations or demonstrations)"* is responsible for the organisation of these eNOTICE key activities, which are the Joint Activities, organised during the whole duration of the project.

The current **Deliverable D4.7** includes some final areas of interest and the updated reporting checklist.

A clarification on the context and objectives of the eNOTICE JAs and a full description of the methodological approach can be found in the first reports (D4.1 and D4.2, January 2018).

2. Introduction to the deliverable

This deliverable is the final JA planning report of the eNOTICE project. This deliverable therefore gives an overview of all JA's that have occurred during the project. JA's that have already been reported on by previous JA planning reports or progress reports will get a quick summary in this report, JA's that have not been reported upon will be expanded upon in the planning report. On top of that, this report zooms out and looks at the bigger picture. That is, it shows the overall chronology of the JAs and the adaptions that were made during the project, based upon the experiences of organising and attending those JAs.

In total 5 JAs have been executed since the last reporting. In this deliverable you will find a description of all 5 of these JAs. Every organiser of every of those JAs included a brief context, describing their training center. Starting from that context a description is added on the preparation and organisation of the joint activity.

Following that, a report is included on the conduction of each of the 5 JAs as well as an evaluation.

At the end of the report you will read some formulated conclusions and in the 5 Annexes for each of the conducted JAs you will find a reporting checklist, a general information sheet, the agenda, the invitations, …and some pictures.

3. What are JAs?

Joint Activities are a way to **make use of already existing events** by **adding an extra element** to them with **different objectives then the original**. By integrating into an already existing event, the JA should cause less strain on the resources of an organisations compared to having to organise two different events. However, in order to have a successful JA, the objectives of the original and the extra element should be compatible. This means that one does not infringe on the other. If that is projected to happen, the events might not be suited to the JA format. This is reflected in the lessons learned from some JAs. Another thing to keep in mind is the TRL if a technology is being tested. **Figure 2** gives a schematic overview of a Joint Activity. However, as the Joint Activities continues, Figure 2 can be elaborated on, and the JAs started to look more like **Figure 3**.
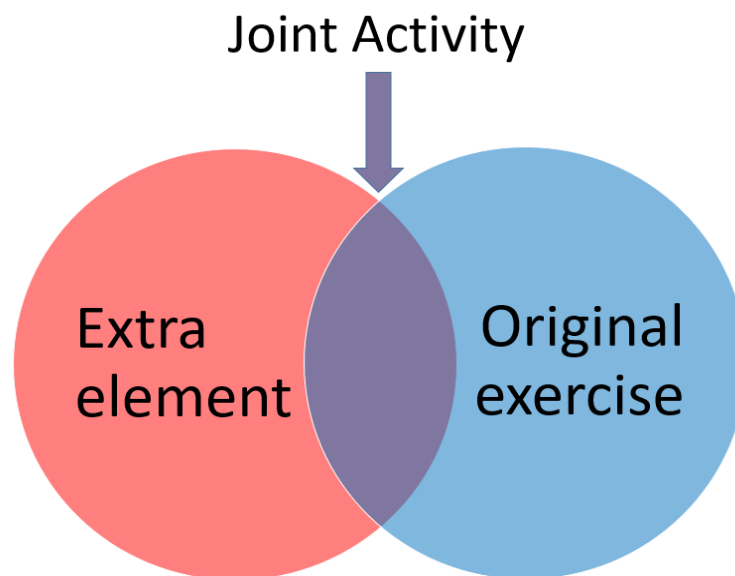
Figure 2 A Joint Activity

Because there were multiple *JAs* conducted in the project, a reporting structure was set up in D4.6 that would be used by all Joint Activities from now on. This **reporting structure** is represented in **Figure 3**. This deliverable will show the lessons identified from the JAs of the past year, as well as the lessons identified in the whole project, together with D4.13. Using this reporting method means that all partners will report the same data, which increases the reliability of the result.
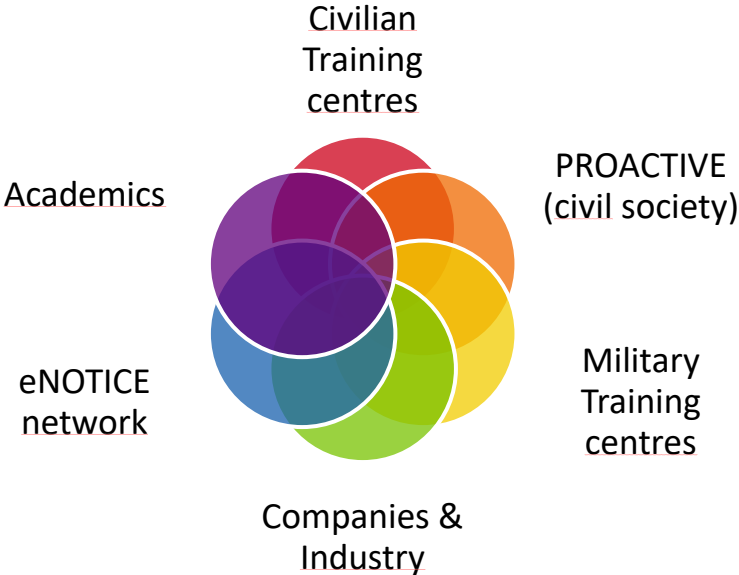
Figure 3 The elaborate model of a joint activity
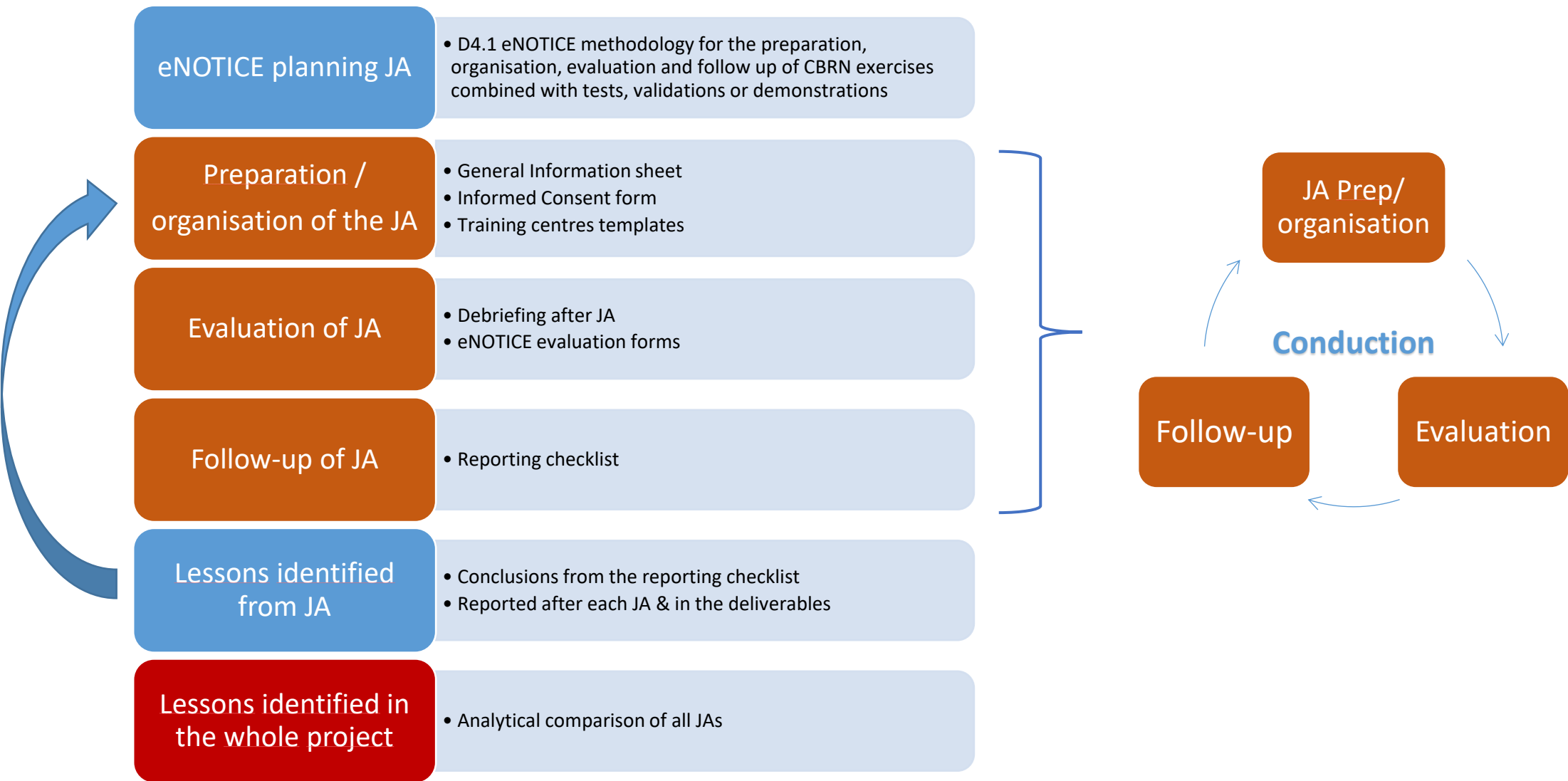
Figure 4 The JA Reporting Structure

4. Dortmund JA 2022

4.1 Preparation and organisation

a. Context and Objectives

The **Fire Department of Dortmund (FDDO)** is the second largest fire department in North Rhine-Westphalia and the sixth largest in Germany. It is responsible for firefighting, rescue and emergency management in the City of Dortmund which comprises an area of 281 square kilometres with about 600.000 citizens. Furthermore FDDO is involved into the supra-local support concept of the Federal Land North Rhine Westphalia as also the national wide CBRN incident response concept. About 1000 full time fire fighters (incl. administration and management) run 9 fire stations. Additionally, about 1000 volunteers organised in 19 fire brigades support the professionals in their daily work and in incidents with particular requirements.

In 2006 the Institute of **Fire Service and Rescue Technology (IFR)** was founded as a department for research, focussing on more efficient and practicable technology and methods. The activities in this context comprise the generation, coordination and implementation of interdisciplinary research projects involving national as well as international research institutions, industrial partners and end users.

Objectives for FDDO:
- Improvement of coping capacity of different units concerning their tasks;
- Test and improve operating procedures of first intervention, HazMat containment, decontamination and casualty treatment;
- Training of decontamination of vulnerable people (decontamination unit of FDDO);
- Training of reconnaissance using aerial systems (communication unit of FDDO);
- Training of critical situation (psychological care unit of FDDO);

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

Objectives for the partners & observers:
- Identification of opportunities to strengthen the network of CBRN Training Centres;

- Identification of best practices to share with the eNOTICE community;
- Identification of input for ongoing eNOTICE Tasks;

Objectives for PROACTIVE:

- To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercise with at least 15% of these representing vulnerable groups;
- To evaluate the effectiveness of First Responders to recognise vulnerable people during the exercise;
- To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe exercise, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons;
- To evaluate the effectiveness of PROACTIVE pre-incident information and awareness during emergency communication with the public;
- To evaluate if communication with the public during the exercise is pitched at an appropriate level in terms of language, complexity and channels;
- To test the technical aspects of the PROACTIVE App in a live exercise environment;
- To evaluate the effectiveness of the PROACTIVE App in supporting the needs of Civil Society (e.g. communication needs, better information exchange);

b. To develop the understanding of factors that influence public compliance during CBRNe incidents;

<u>Communication and dissemination strategies</u>

	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:

The mixed group of natural people also with a disability and injury actors pointed out the differences between a normal and an artificial behaviour. Especially the people with disabilities tried to escape without crying which makes it difficult for sensing them. Panic is the reaction on the unknown situation and leads to an uncontrolled escape reflex. It needs further tests with focus on that before a statement can be made to the influencing factors.

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): social media

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? The joint partner (here DHPol) supported by using their channels and networks.

c. <u>Difficulties encountered during the preparation/organization phase</u>.

Different understanding of the end-user needs that results in discussions concerning the structure of the exercise (expectations of joint activity were partly not conformable with the SOPs of FDDO). After the exercise there were minor critical voices from experts that they missed some aspects. We were not aware of those. From our point of view, these points were not clearly communicated before the exercise by the project consortium Proactive.

d. <u>Which were applicable Security/legal/ethical aspects encountered during the preparation/organisation phase</u>? (*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.

4.2 Conduction

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

    i. Place, time, date, etc.

        Dates: 06. May (project meeting) – 07. May (joint activity)

        Location: Ausbildungszentrum der Feuerwehr (ABZ) – Training centre of the FDDO, Seilerstr. 15, 44147 Dortmund, Germany

    ii. Participants description

      a. Number of participants

        130 members of the fire brigade Dortmund

        24 volunteers (civil society)

        14 participants eNOTICE

        34 participants PROACTIVE

      b. Which organisations do the participants represent?

- General Fire Service (professional and volunteer)
- Decontamination Unit
- Command and Control Structure
- Psychological Care Unit of FDDO
- Invited experts: CBRN stakeholders, mainly first responders and experts involved in Research, Development and Innovation of unmanned systems and CBRN
- Recruited volunteers: Civilians without former understanding of CBRNe or any disaster management in particular. Some civilians will have certain vulnerabilities (e.g. visual, hearing or mobility vulnerabilities etc.)
- Invited consortium partners: Performing key roles and responsibilities to enable an exercise including (vulnerable) civilians (e.g. handling of personal belongings, consent form processes, ensuring dignity throughout the exercise, evaluation etc.)
- Invited guests: CBRNe experts, first responders, ethics experts and representatives of civil society organisations (PROACTIVE advisory board members) and VIPs that observe the exercise and provide valuable feedback for PROACTIVE research activities.

    iii. Agenda

Friday, 06th May 2022 - Introduction		
1300	*Welcome coffee / tea*	
1400	Welcome & Introduction	O. Nestler & S. Pratzler (FDDO)
1410	Theoretical presentation of the Full Scale Exercise	O. Nestler (FDDO)
1430	Presentation of exercise objectives	T. Godwin (PROACTIVE)
	Coffee / Tea in between	
1500	Visit of the site (FDDO)	O. Nestler & S. Pratzler (FDDO)
1530	Summary & Outlook (FDDO)	S. Pratzler (FDDO)
1700	*Official Dinner in Dortmund for eNOTICE partners (see information)*	
Saturday, 7th May 2022 – Full Scale Exercise		
0800	Registration of Participants	FDDO & PROACTIVE
0830	Welcome and instructions	O. Nestler & S. Pratzler (FDDO)
0900	Demonstration of the Full Scale Exercise	O. Nestler (FDDO)
	Coffee / Tee in between	
1130	Wrap-up of Full Scale Exercise	O. Nestler & S. Pratzler (FDDO)
1230	*Lunch*	
1400	Closing & Discussions between participants	FDDO & PROACTIVE

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

A freight train transporting various chemicals crashed on the open route, in the immediate vicinity of a railway station. As a result of the accident, an unknown substance escapes from a tank wagon. The escape of the unknown substance creates a toxic cloud, which moves in the direction of the train station. In the further course of use, the substance is identified as acrylonitrile. The Fire Department of Dortmund receives the message that around 20 people in the adjacent train station are suffering from various

symptoms after possible exposure to the hazardous substance. The symptoms range from nausea and discomfort, irritation of the eyes and mucous membranes to breathing difficulties and coughing. With the help of a drone, from the telecommunications unit, the area of the accident site and the station are explored in order to locate other injured people. The decontamination unit is requested, that people are affected and can start decontaminating the injured. In addition, the psychological care unit of FDDO who take care of those affected are alerted during the operation.

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)

    Practical training of the FDDO in the field of CBRN with focus on decontamination procedures of vulnerable population;

    Contribution of (vulnerable) civil volunteers recruited by PROACTIVE to evaluate the engagement between FDDOs first responders and a diverse group of supposedly affected civilians in a CBRNe environment;

    The profile of the invited experts is: first response practitioners (fire & rescue, police, military, emergency medical services), lecturers from CBRN Training Centres and academics or developers involved in research to improve CBRN preparedness, psychological care units;

  b.   Which parts are covered by external partners?

    Caused by some technical problems with FDDO drones, fire department of Werl was requested for support and they participated with a fotokite (wired drone).
    The injured persons were partly real vulnerable people and a certain part was represented by actors. The actors were necessary for the psychological care unit to train their skills.

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

    The JA did not extent the scenario

  Were there any extra briefings because of the JA?

    Yes. Weekly briefings. There were many aspects to clarify (ethical, security, safety, dissemination…)

f. If suspension (unplanned): why?

Enter text here

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

In order not to influence the readiness of the fire department, the exercise had to be coordinated with the city's calendar of events and the city's CoViD guidelines also had to be taken into account

h. Security/legal/ethical aspects encountered? --> if yes, see security/legal/ethical aspects questionnaire

Due to the participation of the civilian population in particular, these aspects had to be given special consideration.

4.3 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)?

Yes, planned before and included in the agenda

i. Reflection on objectives and lessons identified

i. Cost efficiency:

a. Leading questions:

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

Klik of tik om tekst in te voeren.Due to the structure of the JA and the included scenario additional material and equipment for the fire fighters was needed. There was not enough material in stock and had to be bought. Afterwards the additional material can be used for training purposes.

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. Due to the structure and scenario of the JA, it was necessary to rise the number of participants and resources to allow the realisation of the requirements of the joint aspect

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: 6 PM

  Duration: 1,5 year

  2.) Which actors were involved?

  The PROACTIVE partner took different roles for the exercise (planning, logistical, and observing) and involved some external observers from CSAB and ESAB.

  Concerning more details, see before

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.

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

Transport	Extra/combined	Own/not own

	Extra/combined	Own/not own
☐ **Shuttle bus**	☐Extra ☐Combined	☐Own ☐Not Own
☐ **Other** enter text here	☐Extra ☐Combined	☐Own ☐Not Own

Food	Extra/combined	Own/not own
☒ **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

Safety	Extra/combined	Own/not own
☐ **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** vests, safety equipment	☒Extra ☐Combined	☒Own ☐Not Own

Recording/dissemination	Extra/combined	Own/not own

	Extra/combined	Own/not own
☒ **Cameras/webcams**	☒Extra ☒Combined	☒Own ☐Not Own
☒ **Audio recorders**	☒Extra ☐Combined	☐Own ☐Not Own
☐ **Headphones**	☐Extra ☐Combined	☐Own ☐Not Own
☒ **Other** radio communication	☐Extra ☐Combined	☒Own ☐Not Own

Locations	Extra/combined	Own/not own
☒ **Auditorium/lecture hall**	☐Extra ☐Combined	☒Own ☐Not Own
☒ **(Class)rooms**	☐Extra ☐Combined	☒Own ☐Not Own
☒ **Other** vehicle hall, mensa	☐Extra ☐Combined	☒Own ☐Not Own

Other: Enter text here

    d. Financial resources (estimations)

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

            8.046€

        2.) How was the eNOTICE budget split?

            The material costs were split: One part was covered by eNOTICE (2.781€) and the other by own resources of the fire department (5.265€)

        3.) Was the project budget sufficient?

            1. Explain why/why not

                The project budget was not sufficient, the material used had to be procured because the quantity was not available and is generally very expensive. The fire department covered a part of the costs incurred.

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

The real benefit for all was the participation of vulnerable people even for themselves.

The FDDO personnel was not inaugurated before the exercise, so they were "surprised", especially because usually actors are playing disabled / vulnerable people. FDDO units learned a lot about the handling of people with a disability and other way around, the vulnerable people learned a lot about dangerous situations and the fire fighters work.

        2.) For the TC's of the network

The experience with "real" vulnerable people participating in an exercise like this is not very pronounced for everybody. Therefore the representatives of the observing TC's were strongly interested. The good experience may lead to a greater involvement of different groups of the society (vulnerable / not vulnerable) in further exercises.

    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	No participation									
2. External training centres and training professionals	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	The structures of the fire department, their approach and the work processes (SOPs) could be conveyed									
3. EU and national projects	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐

Please explain your answer	The structures of the fire department, their approach and the work processes (SOPs) could be conveyed									
4. Policy makers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	The structures of the fire department, their approach and the work processes (SOPs) could be conveyed									
5. Organisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	The structures of the fire department, their approach and the work processes (SOPs) could be conveyed									

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

As mentioned above the mutual understanding was the outstanding point which pushed the exercise. Fire fighters and vulnerable people got a deeper insight and feeling / impression for the processes. Both sides declared that they learned a lot and that this exercise reduced the fear of contact.

d. What were the mutual lessons identified?

The challenge for the fire fighters were the vulnerable people. They were surprised and insecure in their actions. How to decontaminate a blind person or a person sitting in a wheelchair? After this exercise the rescue units have more security how to handle situations with vulnerable people, as such situations are not as "daily business" and the management of situations with not vulnerable people. On the other hand the distance and even misunderstanding of the processes of the fire department from the point of view of the vulnerable people was reduced. This will / can lead to influence their behaviour.

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

1.) Attendance of participants?

Enter text here

2.) Contributions of participants?

Enter text here

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

Yes, the objectives have been achieved. On one hand, the civil volunteers could be brought closer to the structures and work processes of the rescue units. On the other hand, rescue units could practice dealing with vulnerable groups.

j. 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?	Enter text here									

iii. Were you satisfied with the reporting checklist?

☒Yes

☐No

iv. Please explain your answer

The checklist is easy to use and clarity and usefulness to the template.

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

Enter text here

5. Ranst JA 2022

5.1 Preparation and organisation

5.1.1 Context

VESTA is a multidisciplinary training centre (TC) (for fire fighters, paramedics and police officers) in Ranst, Belgium. As a TC, it is responsible for the practical and theoretical training and education of first responders inside and outside the province of Antwerp. In addition to this, VESTA is the training centre for CBRN in Flanders. This means that VESTA also conducts CBRN training and education. Additionally, VESTA, together with University of Antwerp, Vrije Universiteit Brussel, University of Gent and the KU Leuven, de Royal Military Academy and the Flemish professional association for nurses (NVKVV), hosts a postgraduate degree in disaster management. VESTA is also active in multiple European projects, focused on (CBRN) training, collaboration and innovations. One of these projects is the ISF project MELODY, which focuses on the creation of a harmonised CBRN curriculum. eNOTICE is another one of these projects. eNOTICE and MELODY worked together during this Joint Activity. Moreover, a new application (an online observation module) was tested and validated that was developed in cooperation with Campus VESTA.

5.1.2 Objectives

• Dissemination of the MELODY harmonised CBRN training curriculum;

• Examination for the students of the Postgraduate course Disaster Management;

• Multidisciplinary Training opportunity for first responders (firefighters, paramedics, police officers) of the Province of Antwerp;

• Validation of the digital evaluation module;

5.1.3 Communication strategy

We had four groups that we needed to communicate to, which required a careful tracking of what was send to who, and to make sure that the participants were not accidentally informed wrongly. We had to communicate to the following four groups:

-     eNOTICE consortium

  - about the consortium meeting;
  - about the TTT of 1 day;
  - about the policy meeting;
  - about the exercise;

-     MELODY consortium

  - About the consortium meeting and training event on Monday and Tuesday;
  - About the TTT of 2 days;

-     Group of trainers

  - About the TTT of 2 days;

-     Group of decision makers

  - About the TTT of 1 day;
  - About the policy meeting;

On top of communicating to these groups, firstly we had to recruit the trainings and decision makers. This was done by promoting the event in the eNOTICE forum and social media, at the VESTA social media and via MELODY. On top of that, VESTA mentioned the activity to project partners of related projects during events and such. MELODY also organised an introductory webinar about the TTT on the 8th of march, to give TCs a short introduction in to what they could expect for the event, and to motivate those that were perhaps not sure about attending.

We contacted the eNOTICE network, and the wider eNOTICE catalogue of training centers.

The registration of participants was as follows. Firstly they had to be aware of the event that was coming, and they had to be aware of the fact that there would be cost compensation up to a certain amount. eNOTICE would pay for the travel costs (up to 200 euros) and hotels (3 nights) of the decision makers, and MELODY for the trainers. This was to motivate TCs, and make sure there were not budgetary restraints preventing them from attending. the event was communicated on the social media of VESTA, eNOTICE and MELODY. People were redirected to the pre-registration form. In the form, it was made clear that filling it out did not automatically mean participation. This was so that the projects could filter the participants, if necessary. This was both for security reasons as well as to make sure there was a spread, and not all participants came from the same European country. The registration form also asked for consent to use the data of the participants for the event, as

well as their confirmation and agreement with the conditions of reimbursement. They also had to mention if they were a trainer or a decision maker.

Informed consent:
Please note that Campus VESTA, the eNOTICE project and the MELODY project have access to the results of this pre-registration. This is to make sure that we can keep up to date with respect to the amount of people who registered, who has registered and whose travel costs will be paid by the projects.

On top of that, during the event you may be photographed and/or recorded. These photos and videos can be used for dissemination purposes of Campus Vesta, the eNOTICE project or the MELODY project.

Participant selection
In this Joint Activity, you are able to choose which events you want to partake in. Based on this, you get a participant role. These are the available roles, the target audience and the events you will follow:

eNOTICE consortium member- as an eNOTICE consortium member, you will follow the schedule provided for the eNOTICE project, and you will pay for your own travel and substance costs.

MELODY consortium member- as a MELODY consortium member, you will follow the schedule provided for the MELODY project, and you will pay for your own travel and substance costs.

Trainer following the TTT. As a trainer, you can follow the 1,5 days of train the trainer of the MELODY consortium. On top of that, your travel costs and hotel costs will be reimbursed under certain conditions.

Decision makers of training centres including TTT. As a decision maker, you will follow 1 day of a train the trainer to be introduced to the MELODY curriculum. You will also participate in the eNOTICE policy meeting about sustainability of the network and cooperation with industry. Your travel costs and hotel costs will be reimbursed under certain conditions.

Decision makers of training centres excluding TTT. As a decision maker, you will participate in the eNOTICE policy meeting about sustainability of the network and cooperation with industry. Your travel costs and hotel costs will be reimbursed under certain conditions.

<u>Reimbursement of costs trainers</u>

The following costs will be reimbursed:

- travel costs like airplane or train;

- your maximum total costs is 200 per person. Any costs above will be paid by yourself;

This will be provided for you:

- 3 nights at the hotel B-INN or Aldhem, including breakfast;

- Lunch on the 19th and 20th;

- Dinner on the 19th;

The following costs will not be reimbursed:

- travel costs above 200 per person;

- items taken from the mini bar at the hotel (and other hotel facilities);

- alcoholic beverages;

- lunch not provided by VESTA;

- Dinner not provided by VESTA;

How will you get reimbursed?

- Your hotel room will be paid for you;

- Please send an invoice to SCKCEN including (copies of) detailed receipts, train tickets or boarding passes and other costs;

<u>Reimbursement of costs decision makers:</u>

The following costs will be reimbursed:

- travel costs like airplane or train;

- your maximum total costs is 200 per person. Any costs above will be paid by yourself;

This will be provided for you:

- 3 nights at the hotel B-INN or Aldhem, including breakfast;

- Lunch on the 19th and 20th;

- dinner on the 19th;

The following costs will not be reimbursed:

- travel costs above 200 per person;

- items taken from the mini bar at the hotel (and other hotel facilities);

- alcoholic beverages;

- lunch not provided by VESTA;

- dinner not provided by VESTA;

How will you get reimbursed?

- Your hotel room will be paid for you;

- Please send an invoice to Campus VESTA including (copies of) detailed receipts, train tickets or boarding pass and other costs;

5.1.4 Roles

Because this Joint Activity existed out of different aspects, the roles were different per section.

For the training:

- Trainers with CBRN and teaching experience;
- Organisers of the course;
- European projects team;

- Logistics;
- Catering;
- Reception;
- ICT;

For the exercise, the following roles were identified (in exercise):

- Fire Fighters;
- Police officers (federal police and local police);
- Police Academy;
- Students Postgraduate Disaster Management (policy – decision making);
- Paramedics;
- Medical staff;
- Hospitals;
- Civil Protection;
- Communication Staff;
- Competent authorities (Mayor);

And out of exercise:

- Exercise director;
- Exercise control;
- European projects team;
- Logistics;
- Catering;
- Reception;
- ICT;

5.2 Conduction

5.2.1 Budgeting and organisation

The budget for the JA was split between two European projects, and VESTA. This section only emphasises the costs for the JA of eNOTICE, not the cost of the exercise itself (paid by VESTA). The part of eNOTICE was €3677,49, however the total costs were double this amount (the other half was paid by ISF MELODY). This is excluding the personnel costs. The eNOTICE budget was split as follows:

Hotel costs for guests:	€955,90
Travel costs for guests (excl. hotels):	€400
Catering (for guests and consortium):	€2167,31
ICT necessities:	€154,28

The budget allotted to this (of the eNOTICE) project was sufficient. The travel costs for guests was also lower than expected. Because VESTA had their own busses, there were no extra transport costs.

5.2.2 Documentation
See The Annex III for all documentation

5.3 Evaluation

For VESTA generally the following **lessons were identified after the debriefing** :

1.   Most participants were interested in the MELODY curriculum after the TTT. But were they to use it, they would need to adapt it to national needs.

2.   Finding a way to do exercise evaluation online, would be preferable to doing it with paper (as is now often done), but does need to be refined further and fitted to the needs of the TC.

On top of that, the evaluation form of eNOTICE was used to collect lessons with regards to mutual benefits, clarity of expectations and cost efficiency. 7 participants filled in the evaluation form. The following was mentioned: (71%) made new networking connections and also renewed their networking connections. This is part of the mutual benefits. Another part of the mutual benefits was visiting a training centre to check out their infrastructure, and if it could be used for other projects. People mentioned that for VESTA the following infrastructure could be of use: highway, chemical plant (which as a matter of fact is the result of a cooperation with industrial partners), railway, apartment complex, airplane and generally having a comprehensive and well-equipped site with good access for live exercises.

The advantages of hosting a JA, as seen by the participants, were as follows:

-       To be able to exchange ideas with colleagues from other EU countries;

-       Multiple purposes to one trip. Multiple opportunities;

-       Larger scale of exercise creates a better representation of reality to improve the learning process/ curve;

The disadvantages of hosting a JA, as seen by the participants, were as follows:

-       Too much information at too short a period of time;

-       I personally did not see any;

-       Efficient use of resources- these exercises are expensive so to maximise the exposure to other projects and organisations makes them cost effective;

This teaches us that JAs in principle are mutually beneficial if there are multiple opportunities, if one can exchange ideas, and if there is a possibility to improve learning with a good representation of reality. These disadvantages show that these JAs have the potential to overwhelm the participants, and that a TC organising a JA should make optimal use of the resources, and maximise the exposure to other projects and organisations.

The next question was: "*What do you consider to be 'unique perceived benefits' of training centres that might influence your choice to work with them?"* The answers to this question can be applied wider than just VESTA, as it shows TCs how attract other partners to work together. The following answers were mentioned:

- Available at space, staff, good narrator for observers;

- Infrastructure for training, facilities, possibilities of various types of exercises for different types of trainees";

- "Facilities and Capabilities provided";

- "Possibility to host and organise large scale field exercises ";

- "The desire to shelter best practice and improve";

There was also a question on what was most interesting in the JA: the infrastructure of the TC, interaction with practitioners or something else. 2 mentioned infrastructure, one interaction with practitioners and 3 mentioned other:

- The possibility to speak with their representatives during the activities, and make comments;

- The large scale deployment of first response capabilities during the first incident;

- The facilities that Campus Vesta has to offer;

On top of that, all participants indicated that they now have a first impression of the possible requirements that practitioners may have, and that the expectations of the training centre were clear for this JA.

6. Rieti JA 2022

6.1 Preparation and organisation

a. <u>Context and Objectives</u>

The Italian Joint NBC Defence School is a NATO-affiliated specialised CBRN military training school which operates under the Italian Ministry of Defence. Located in Rieti, Italy, the NBC School offers a training area of approximately 2km^2, open to both military and civilian operators involved in CBRN defence and security. The facilities are also home to the CBRN Area Control Centre, responsible for information management and monitoring of potential CBRN events on Italian territory. The NBC School organizes specialised, international/NATO, and multidisciplinary training exercises ranging from theoretical courses to technical operational exercises. It works in close collaboration with the Italian Civil Protection Authorities including Fire Brigade, Police, and Emergency Medical Services. The NBC School has also participated in other EU-funded CBRN projects, including RESIST and VERTIgO.

Objectives for the Italian Joint NBC Defence School:

- Assess the interoperability of a multidisciplinary civilian/military team, their cooperation and to apply standard procedure in accordance with NATO and National standards;

- Improve the ability of different units to cope with their tasks;

- Test and improve operational procedures for first response (cordonation, zoning), HazMat containment, triage, decon (for those necessary) and survey CBRN (performed by the fire brigade). Sampling and identification of encountered CBRN agent(s);

- Training of decontamination of vulnerable people (decontamination unit of the Italian Joint NBC Defence School);

Objectives for eNOTICE Partners & Invited Experts/Observers:

- Evaluate the training and exercise from the perspective of the projects that they represents (and also from the perspective of the entity they belong to);

- Observation and identification of the interplay between the actors on scene;

- Identification of opportunities to strengthen the network of CBRN Training Centres;

- Identification of best practices to share with the eNOTICE community;

- Identification of input for ongoing eNOTICE Tasks;

Objectives for PROACTIVE:

- To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercise;

- To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe exercise, through response measures (eg. Tools, equipment, procedures) which are adapted to the needs of vulnerable persons;

- To evaluate the effectiveness of PROACTIVE pre-incident information and awareness during emergency communication with the public;

- To test the technical aspects of the PROACTIVE App in a live exercise environment;

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:

Involving vulnerable volunteers required a considerable effort. We contacted each individual separately to explain in detail the objectives of the exercise and potential stressors. Communication had to be handled with care and sensitivity. In some cases, even highly motivated people, while sharing the aims of the activity, decided to participate without actively taking part in the exercise.

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): social media

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?

The joint partners, such as CARIS Tor Vergata (http://caris.uniroma2.it/), Save the Children organization, CARITAS Rieti and some Associations active in the field of social inclusion of vulnerable groups supported by using their channels and networks.

c. <u>Difficulties encountered during the preparation/organization phase</u>.

A lot of preparatory work was done with the PROACTIVE project team, with whom we had numerous remote and in-person meetings. Of enormous advantage was the guidance provided by FDDO through the Dortmund JAs reporting checklist, the first to be collaborated with by the PROACTIVE project. However, the inclusion of vulnerable individuals as volunteers is challenging in itself by requiring a specific network of contacts that a CBRN training center does not normally have.

d. <u>Which were applicable Security/legal/ethical aspects encountered during the preparation/organisation phase</u>? (*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.

6.2 Conduction

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

ii. Place, time, date, etc.

Dates: 15. November (project meeting), 16. November (joint activity) – 17. November (project workshop)

Location: Joint NBC Defence School Headquarter - Piazza Marconi 7 -   Joint NBC Defence School NUBICH Training Area Via M. Curio Dentato.
02100 Rieti, Italy.

iii. Participants description
   a. Number of participants
   - 27 members of the Italian Joint NBC Defence School;
   - 17 fire fighters;
   - 16 members of The 7th CBRN Defense Regiment "Cremona";

- 4 carabinieri;
- 3 members of health service;
- 38 civil volunteers (14 vulnerable individuals);
- 16 external observers;
- 18 members of eNOTICE;
- 31 members of PROACTIVE;

b. Which organisations do the participants represent?
- General Fire Service;
- SIBCRA and Decontamination Unit;
- Command and Control Structure;
- Carabinieri ;
- National health service;
- Invited experts: CBRN stakeholders, mainly first responders and experts   involved in Research, Development and Innovation;
- Recruited volunteers: Civilians without former understanding of CBRNe or any disaster management in particular. Some civilians with vulnerabilities (e.g. visual impairment, hearing or mobility impairment etc.);
- Invited consortium partners: Performing key roles and responsibilities to enable an exercise including (vulnerable) civilians (e.g. handling of personal belongings, consent form processes, ensuring dignity throughout the exercise, evaluation etc.);
- Invited guests: CBRNe experts, first responders, ethics experts and representatives of civil society organisations (PROACTIVE advisory board members) and VIPs that observe the exercise and provide valuable feedback for PROACTIVE research activities;

ii. Agenda

Day 1: November 15, 10.00 - 16.30 Consortium meeting: Joint NBC Defence School - Piazza Marconi 7, 02100 Rieti	Day 2: November 16, 9.00 – 16.30 Exercise part 1: Joint NBC Defence School NUBICH Training Area Via M. Curio Dentato 02100 Rieti	Day 3: November 17, 9.00 – 14.30 Workshop: Joint NBC Defence School Piazza Marconi 7, 02100 Rieti

	De Briefing part 2: Joint NBC Defence School - Piazza Marconi 7, 02100 Rieti	
10.00 – 10.15: Registration of Participants 10.15 - 10.30 Welcome, intro – UCL/UNITOV 10.30 – 13.00: Consortium Meeting (including Coffee break) 13.00 – 14.00: Lunch 14.00 – 15.15: Consortium meeting conclusions/Joint Activity presentation 15.15 – 15.30: Coffee Break 15.30 – 16.30: Discussion and closing remarks	9.00 – 10.00: In Processing (Joint NBC Defence School Training Area) 10.30 - 12.30: Exercise 13.00-14.00: Lunch 14.00 – 16.00 De Briefing activities 16.00 transfer to hotel/s 18.30: Social Activity in Rieti **(TBD)** 19.30: Social Dinner	9.00 – 10.30 eNOTICE workshop part 1 10.30 – 10.45: Coffee Break 10.45 – 13.00: eNOTICE workshop part 2 13.00 – 14.00 Lunch 14.00: Transfer to Rome (City Center Termini Station Area) or to Rome Fiumicino airport **(TBD)**

Enter text here

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

" On 16th November, around 10hr am, train no. TR567345 in transit at the NUBICH railway station, is at the platform of the station itself awaiting departure scheduled for 10:05. Some passengers have already boarded while others are ready to get into. As is the case in all major railway stations, in addition to the POLFER (railway police), there is a patrol of the "Strade Sicure" device consisting of two soldiers from the Army and one from the Carabinieri. Not far from the aforementioned area, some anchoring activities are being carried out on a wagon for rail transport on which there is a tank car containing 10,000 liters of chlorine. The tank is equipped with all safety devices such as: protection shield, anti-overlapping device, buffer with anti-impact elements and internal and external sealing valves. Suddenly, at about 10:03, a burst is heard

coming from the logistics area facing the tracks where the anchoring and maneuvering activities of the tank wagon are in progress, near the cooling systems of the entire network of railway services (employee offices , ticket office, public area), with subsequent propagation of intense and dense smoke. In the moments immediately following, the civilian personnel present in the area begin to flee in different directions in panic crowding the square in front of the station while the POLFER staff tries to identify the exact location of the event to hypothesise its presumed nature. At 10:05 the passengers on the train who had not left the wagons are invited to get off by the security officers assisted by the "Strade Sicure" soldiers and taken to the square together with the other civilians. In the next few moments, some people begin to experience coughing, choking, breathing problems, headaches, ocular burning and muscle aches. Some civilians begin to call the local Carabinieri station while the POLFER alerts the Fire Brigade asking for the intervention of the NBCR nucleus suspecting a chlorine leak. On the basis of what happens, at about 10:10 am, the local authorities are notified of a potential accidental event which resulted in an involuntary spread of the chemical substance (in the specific case Chlorine).

    iv. 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)

This was a routine exercise to test the capabilities of the Italian Joint NBC Defence School assets involved in the intervention in the contaminated area following a CBRN event (accidental or voluntary).

The capabilities verified range from the dissemination of the alarm (warning) and from the application of the related measures. The exercise was also attended by civil volunteers (vulnerable and not vulnerable) recruited by PROACTIVE to evaluate the engagement between Italian Joint NBC Defence School first responders and a diverse group of supposedly affected civilians in a CBRNe environment.

The profile of the invited experts is: first response practitioners (fire & rescue, police, military, emergency medical services), lecturers from CBRN Training Centres and academics or developers involved in research to improve CBRN preparedness.

b. Which parts are covered by external partners?

In addition to the personnel of the Italian Joint NBC Defence School the exercise was attended by several different first responders each playing his or her real role:
- fire fighters;
- members of The 7th CBRN Defense Regiment "Cremona";
- carabinieri ;
- members of health service;
- civil volunteers;

The participation of actors was not planned.

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

The NUBICH training area offer the possibility to perform different types of activities in different scenarios, for this reason it was possible to accept the proposal form PROACTIVE project team to perform the activity in a railway/subway station scenario.

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

Much preparatory work has been done with the PROACTIVE project team, with whom we have had numerous meetings remotely and in person. We started holding meetings from about a year before the exercise with increasing frequency until it was weekly. There were many aspects to be clarified (ethics, safety, disclosure...).

e. If suspension (unplanned): why?

Not this time, but initially the second JA in Rieti was planned in 2020 then due to the COVID-19 pandemic it had to be rescheduled.

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

Yes, due to the bad weather conditions the day of exercise the scenario, initially planned outdoor in the NUBICH area Railway station facility, had to be partially modified and moved in the metro station indoor facility.

Luckily there was no new wave of COVID-19.

g. Security/legal/ethical aspects encountered? --> if yes, see security/legal/ethical aspects questionnaire.

Due to the participation of the civilian population in particular, these aspects had to be given special consideration.

6.3 The evaluation

a. What debrief/evaluation sessions did you host?

☒ Hot debrief

☒ Cold debrief

☐ Other Enter text here

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

Yes, planned before and included in the agenda

c. Reflection on objectives and lessons identified

i. Cost efficiency:

a. Leading questions:

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

Compared to the normal training activities planned by the Italian Joint NBC Defence School the JA of the eNOTICE project only required extra costs related to the presence of project partners and experts and the additional project activities, such as the project internal meeting and workshop.

These extra cost were covered through the eNOTICE project funds. The equipment and facilities used by all key actors involved required no changes, or extra costs.

There were additional costs associated with PROACTIVE project activities (e.g. transportation,

refreshments and costuming) for the civilian volunteers and vulnerable individuals involved, but these extra costs were paid with funds from PROACTIVE project.

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, but these were covered with EU projects funds. Furthermore, there are consistent benefits in cooperating with another EU project. For example, the refreshment service during the exercise was offered by the PROACTIVE project to all participants in the exercise not only to volunteers.

b. Human resources

1.) Number of person-months (person hours/FTE per month/human effort/ employer months) for JA organisation andduration, if applicable.

PM: 4 PM

Duration: 2 years

2.) Which actors were involved?

The PROACTIVE project team members took different roles for the exercise (planning, logistical, and observing) and involved some external observers from CSAB and ESAB.

c. Material resources (JA only)

1.) Which material resources did you use for the JA? Fill in whererelevant, 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.

Accommodation	Extra/combined	Own/not own

☐ **Tents**	☐Extra	☐Own
	☐Combined	☐Not Own
☒ **(hotel) rooms**	☐Extra	☒Own
	☐Combined	☐Not Own
☐ **Other** Klik of tik om tekst in te voeren.	☐Extra	☐Own
	☐Combined	☐Not Own

Transport	Extra/combined	Own/not own
☐ **Shuttle bus**	☒Extra	☐Own
	☐Combined	☐Not Own
☐ **Other**	☐Extra	☐Own
	☒Combined	☐Not Own

Food	Extra/combined	Own/not own
☒ **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

Safety	Extra/combined	Own/not own
☐ **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** vests, safety equipment	☒Extra	☒Own
	☐Combined	☐Not Own

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

	☐Combined	☐Not Own
☒ **Other** radio communication	☐Extra	☒Own
	☐Combined	☐Not Own

Locations	Extra/combined	Own/not own
☒ **Auditorium/lecture hall**	☐Extra	☒Own
	☐Combined	☐Not Own
☒ **(Class)rooms**	☐Extra	☒Own
	☐Combined	☐Not Own
☒ **Other** vehicle hall, mensa	☐Extra	☒Own
	☐Combined	☐Not Own

Other: Enter text here

    d.   Financial resources (estimations)

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

€2.491,50

2.) How was the eNOTICE budget split?

- Payment for catering service, for Nov. 15 and 17 €1.731,00
- Payment for social dinner Nov. 16. €760,00

F3.) Was the project budget sufficient?

1. Explain why/why not

Yes, it was sufficient.

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

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

The participation of vulnerable people represented a benefit for all. The Italian Joint NBC Defence School had the possibility to introduce further elements of realism to the standard training exercises and the most of all to get in touch with Associations active in the field of social inclusion of vulnerable groups like Save the Children and Caritas.

Italian Joint NBC Defence School units learned a lot about the handling of people with a disability and other way around, the vulnerable people learned a lot about dangerous situations and the fire fighters work.

	No benefit									Great benefit
6. industry	1□	2□	3□	4□	5□	6□	7□	8□	9□	10□
Please explain your answer	No participation									
7. External training centres and training professionals	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□
Please explain your answer	The structures of the Italian NBC Defence School, the School's approach and work processes (SOPs), especially during a multi-agency intervention, could provide insights or be conveyed.									
8. EU and national projects	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□
Please explain your answer	The structures of the Italian NBC Defence School, the School's approach and work processes (SOPs), especially during a multi-agency intervention, could provide insights or be conveyed									
9. Policy makers	1□	2□	3□	4□	5□	6□	7□	8☒	9□	10□
Please explain your answer	The structures of the Italian NBC Defence School, the School's approach and work processes (SOPs), especially during a multi-agency intervention, could provide insights or be conveyed									

| 10. Organisers | 1☐ | 2☐ | 3☐ | TC's | 4☐ | 5☐ | 6☐ | 7☐ | 8☒ | 9☐ | 10☐ |

| Please explain your answer | The structures of the Italian NBC Defence School, the School's approach and work processes (SOPs), especially during a multi-agency intervention, could provide insights or be conveyed |

2.) For the TC's of the network

> The experience with vulnerable people participating in an exercise like this is quite innovative. For this reason, representatives of the observer TCs were keenly interested. Good experience can lead to greater involvement of different groups in society (vulnerable/non-vulnerable) in further exercises.

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

1.) Industry

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

> As mentioned above the mutual understanding was the outstanding point which pushed the exercise. The Italian NBC Defense School personnel together with first responders from other intervening agencies and vulnerable people had the opportunity to get a deeper insight and feeling / impression for the processes. Both sides declared that they learned a lot and that this exercise reduced the fear of contact.

d. What were the mutual lessons identified?

> The first lesson learned from this activity is undoubtedly the great interest and participation shown by vulnerable

individuals, who clearly understood the usefulness of the initiative. The additional lesson learned during the exercise is the centrality of aspects related to communication between first responders and victims, which in cases where vulnerable people are present becomes really crucial. Again, training is crucial for first responders to know how to handle infrequent situations that may however arise.

e. To what extent were your expectations met in terms of 1.)
Attendance of participants?

Yes, we had numerous participants, including:

- 27 members of the Italian Joint NBC Defence School,
- 17 fire fighters,
- 16 members of The 7th CBRN Defense Regiment "Cremona",
- 4 carabinieri,
- 3 members of health service
- 38 civil volunteers (14 vulnerable individuals),
- 16 external observers,
- 18 members of eNOTICE,
- 31 members of PROACTIVE.

2.) Contributions of participants?

.

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

Yes, on one hand, the civil volunteers could be brought closer to the first responders and get in touch with their work processes. On the other hand, rescue units could practice dealing with vulnerable groups

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?	Both European projects that collaborated with JA had an informed consent form. The PROACTIVE project's form was developed for the involvement of larger audiences and vulnerable categories and was found to be much more extensive and comprehensive than that of the eNOTICE project. We chose to use it so that participants did not have to sign multiple informed consent forms. However, this complicated the ease of use of the form.

General Information sheet	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?	Useful and structured way to send out information

Evaluation and debriefing forms	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?	We adjusted the evaluation forms so that they fit into google forms in order to be submitted as an online survey.

Example of a registration form for external participants	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									

iii. Were you satisfied with the
        reporting checklist?

☒Yes

☐No

iv. Please explain your answer
     The checklist is easy to use and clarity and usefulness to the template

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

7. Warsaw JA 2023

The full report of the WSU Joint Activity, based on the T4.1 Guidance and Templates, is included in the following paragraphs.

7.1 Preparation and organisation

7.1.1 Context

War Studies University (WSU) is the strategic level academic entity acting under auspices of the Ministry of Defence. CBRN Defence Training Centre (CBRN DTC) is the subunit of WSU and has been involved in multiple projects related to the CBRN domain.

The CBRN Defence Training Centre is the teaching unit responsible for planning and organisation of training (education) in the scope of defence against weapons of mass destruction for the command and staff personnel and the personnel specialising in defence against weapons of mass destruction. The educational offer of the Centre is also aimed at the personnel of the external entities, including: crisis management bodies, rescue services and foreign institutions. The Centre is also an analytical and expert institution supporting the elements of the national and European system of defence against weapons of mass destruction. The research area is focused on development of new concepts of CBRN defence organization and technologies implementation to maintain commander's freedom of action for the purpose of NATO/EU lead operations in case of anticipated or actual CBRN hazards.

The tabletop exercise took place in Poland on March 8th, 2023 during the computer assisted CBRN hazard prediction course.

CBRN hazard prediction enables assessment of release distribution in the air and on the ground. Fast and reliable hazard assessment is important to determine boundaries of hazard area and initiate warning of troops/responders and population. There are multiple methods and tools designed to support prediction of CBRN hazards. Some of them reflect simplified prediction based on e.g. civilian ALOHA or military ATP-45 standards. The advantage of utilization of such tools is compatibility of manual and automated hazard prediction, ease of use and availability in the services. Advanced hazard prediction requires complex IT tools based on

mathematical modelling and detailed weather data like HPAC and similar ones. Processing of CBRN information resulting in hazard prediction is one of most demanded skills. It is obligatory for CBRN staff and desired for other services. Polish CBRN Defence Training Centre conducts dedicated 1-2 week courses for military and civilian personnel of National CBRN Warning and Reporting System. Joint Activity will use opportunity of final stage of course for CBRN military staff.

The training checked hazard prediction skills of CBRN warning and reporting system personnel.

7.1.2   Objectives, expected results and evaluation criteria

The main purpose of the exercise was to verify the knowledge and practical skills of using procedures for predicting CBRN threats using various scenarios of crisis situations and many methods and tools designed for the National Warning and Reporting System in Poland.

Evaluation criteria:

- improving the correctness of prepared messages and the timeliness of their sending,
- improving skills in predicting the effects of CBRN incidents and preparing recommendations for preventive actions,
- checking the procedures of CBRN rescue services cooperation in a crisis situation.

7.1.3   Type of exercise/activity and corresponding needs

This was a computer supported tabletop exercise for military staff responsible for CBRN warning and reporting issues within the Polish Armed Forces on different levels of command (from brigade level personnel from CBRN Sub Collection Centres – to national commands personnel from CBRN Area Control Center).

7.1.4   Roles

The exercise roles and responsibilities were distributed among the WSU staff:

- eNOTICE exercise coordinator – COL Mariusz Młynarczyk (WSU),
- eNOTICE exercise coordinator deputy for military affairs – LTC Adam Bagniewski (WSU),
- exercise operators – WSU employees - whose names cannot be cited in the public report.

Exercise scenario participants:

The participants whose names cannot be cited in the public report, included participants from military personnel of National CBRN Warning and Reporting System.

Exercise observers (eNOTICE):

N°	Participant organisation name (short name)	Participant name
1.	Université catholique de Louvain (UCL)	Olga Vybornova
		Jean-Luc Gala
2.	Campus Vesta APB (VESTA)	Maaike van de Vorst
		Kevin Carion
		Gustav Cools
3.	Fire Department Dortmund (FDDO)	Sylvia Pratzler-Wanczura
4.	Joint CBRN Defence Centre of Excellence Vyškov (JCBRN Defence COE)	Wolfgang Karl-Heinz Reich
		Roman Hlinovský
		Tomáš Michalčík
		Richard Hanák
5.	Middle East Technical University (METU)	Elif Surer
6.	West Midlands Police, National CBRN centre (WMP)	Gordon O'Haodha
		Neil Millward
7.	War Studies University, CBRN Defence Training Centre (WSU)	Adam Bagniewski
		Mariusz Młynarczyk
8.	Scientific and Research Centre for Fire Protection (CNBOP-PIB)	Adam Wieczorek

7.2 Conduction

This tabletop exercise was focused on full spectrum of CBRN incidents (nuclear, radiation, chemical and biological) portraying hypothetical threats. The exercise provided training in the scope of CBRN calculation, warning and reporting procedures according NATO standards ATP- 45(F). Additionally personnel from the CBRN W&R Collection Cells conducted required briefings and provided advice regarding recommended countermeasures.

During the activity the observers (eNOTICE) and the exercise management were observing trainees from the operating room equipped with monitors and the Internet communication. Live image was transmitted to control room to avoid interference with trainees.

Additionally after tabletop exercise eNOTICE consortium members were familiarised with other tools utilised for warning and reporting purposes.

Figure 5 (a and b) *General introduction briefing*
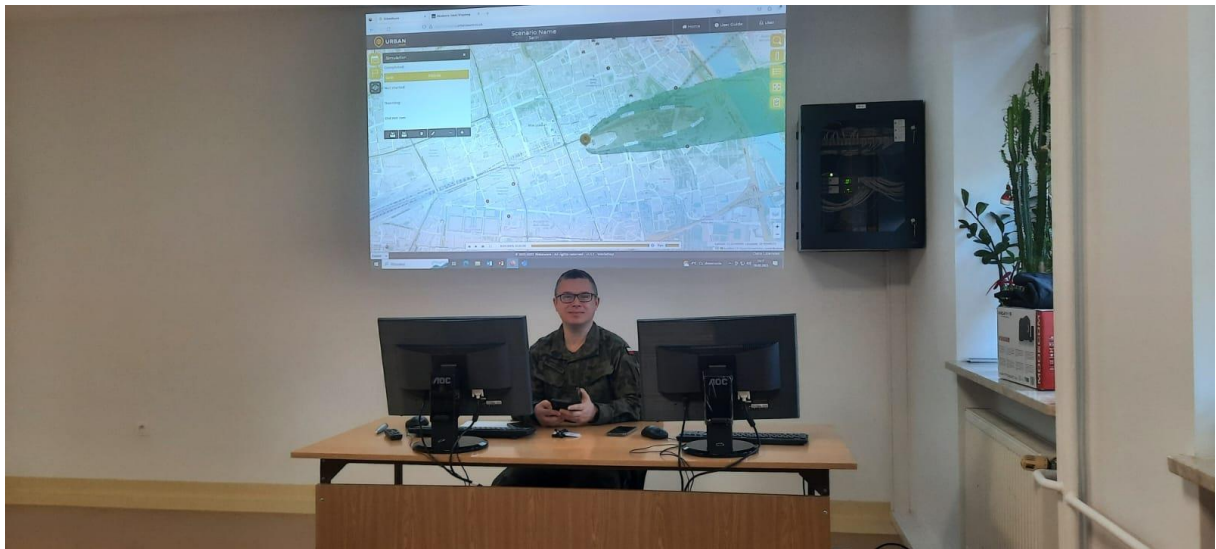
Figure 6 (a and b) UrbanAware presentation
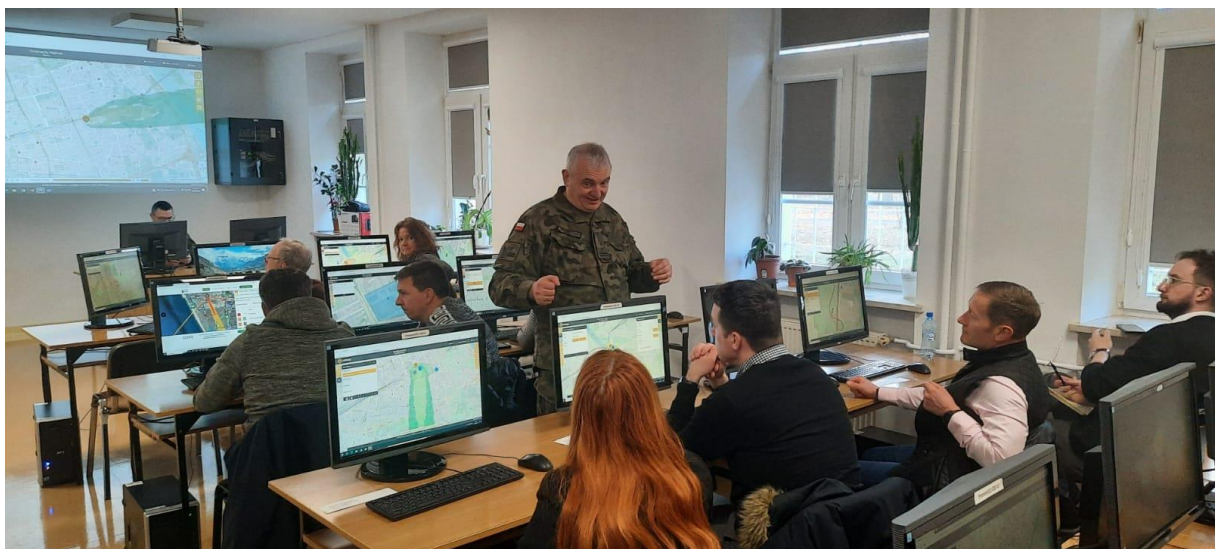
Figure 6 (c and d) *UrbanAware presentation*
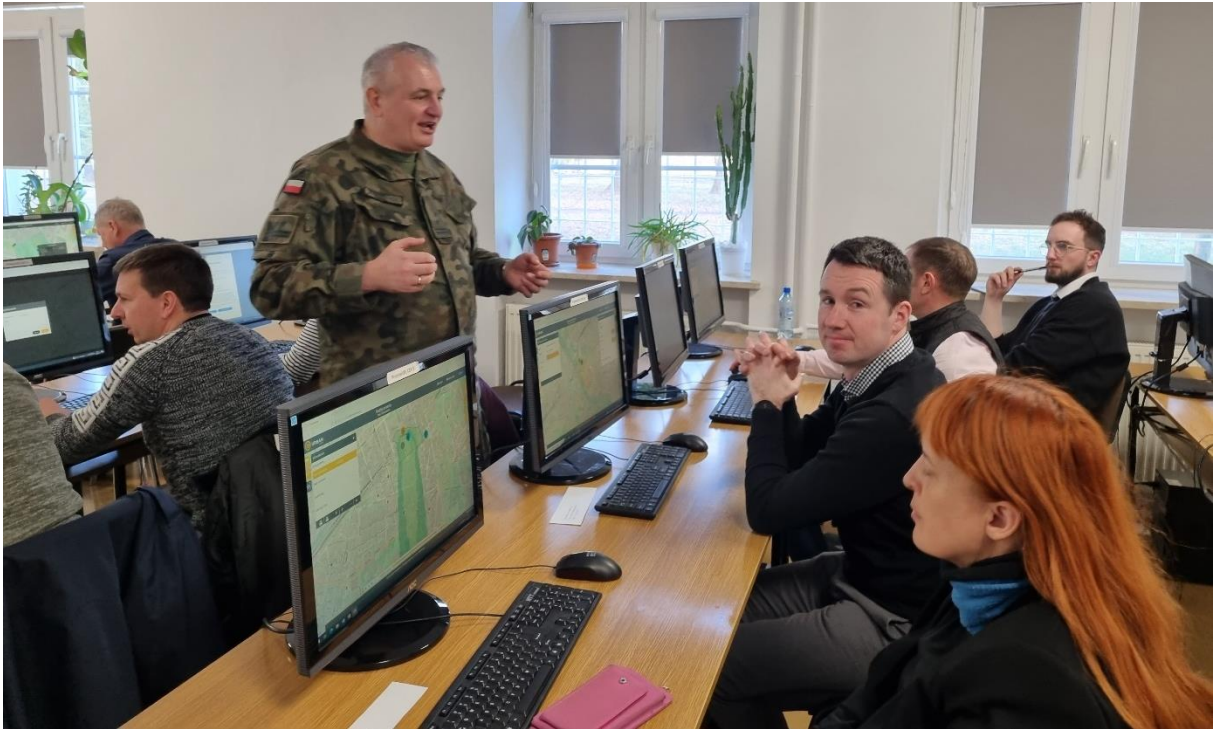
7.2.1 Budget

Financial participation of WSU was limited to covering the costs of using the premises, computers and other staff (c. a. EUR 800) as well as providing transportation service (c. a. EUR 300) and hosted dinners (c.a. EUR 1500) for participants.

7.2.2 Pictures

Figure 7 (a and b) Consortium meeting

Figure 7 (c) Consortium meeting

Joint Activity Registration Form eNOTICE partners

To confirm your attendance to eNOTICE Joint Activity organised in Warsaw, Poland on **7-9 March 2023** by War Studies University, please send the completed form to a.bagniewski@akademia.mil.pl, **NLT February 17, 2023**.

Joint Activity To be completed by the organiser of the exercise.			
Type of exercise:	Tabletop exercise		
Location:	**Address:**	WAR STUDIES UNIVERSITY CBRN Defence Training Centre Al. Gen Chruściela 103	
	City: WARSAW	**Zip code:**	00-910
	Country:	POLAND	
Timing:	**Begin:**	March 7, 2023, 10:00	
	End:	March 9, 2023, 11:00	
Attendant(s) To be completed by the attendant(s).			
Organisation:			
Representative (1):	**Name:**		
	E-mail:		
	Phone number:		
Function within the organisation:			
Role during the exercise:	OBSERVER		
ID /passport number			
Nationality			
Place and Date of birth			
Car licence plate number (if arrival by car)			
Arrival:			
Departure:			
Representative (2):	**Name:**		
	E-mail:		
	Phone number:		
Function within the organisation:			
Role during the exercise:	OBSERVER		
ID /passport N°			
Nationality			
Place and Date of birth			
Car licence plate n° (if arrival by car)			
Arrival:			
Departure:			
Comments:			

Administrative Information

eNOTICE Joint Activity at the CBRN Defence Training Centre of

the Polish Armed Forces, War Studies University,

Warsaw, Poland

General Information

The eNOTICE Joint Activity will take place at the CBRN Defence Training Centre of the Polish Armed Forces (CBRN DTC), War Studies University, Warsaw, Poland from **7th – 9th March 2023**. Detailed schedule of the event will be sent by the end of February 2023.

Attendance

The eNOTICE Joint Activity participants are requested to confirm their participation **NLT 17th February 2023** to the CBRN DTC POC LTC Adam BAGNIEWSKI (a.bagniewski@akademia.mil.pl) using the attached Registration Form (Enclosure 2).

COVID-19 restrictions

Please be familiar with current rules for entering and leaving Poland: https://www.gov.pl/web/coronavirus

JA in Poland participants must meet current vaccination restrictions.

Travel Information

Travelling by train: All capitols of neighboring countries are very well connected with Warsaw. Central Station is located in the city center.

Travelling by air: It is recommended to use the Warsaw Chopin Airport located in the city boundaries and very well connected with the city center.

Transfer from Warsaw Chopin Airport:

By bus: take a bus 175 to get to the Warsaw city center where recommended hotels are located. If you arrive late evening or during night hours, take a bus N32. Bus information: https://www.lotnisko-chopina.pl/en/public-transport.html

By train: take line S2 (directon: "Sulejówek Miłosna") to get to: city centre ("Warszawa Śródmieście" stop) or directly to War Studies University ("Warszawa Rembertów" stop).Train information: https://www.lotnisko-chopina.pl/en/train.html

By taxi: For safety reasons we strongly advise you to use licensed taxi services offered at Chopin Airport in front of arrivals terminal A. Taxi tariffs should be clearly displayed in the car window. The taxi fare from the airport to the city center is approx. 60 PLN (12 EUR).

Taxi information: **https://www.lotnisko-chopina.pl/en/taxi.html**

By Uber/Bolt: You can also use Uber/Bolt car services however they offer pickup from departures part of terminal which is located above the arrivals. Use elevator to get there.

CBRN DTC will provide a shuttle bus every morning and afternoon from/to recommended hotel.

GPS Coordinates

War Studies University is located in Rembertów district of Warsaw, however, it is very well communicated by train S2 line from airport and city centre. We encourage you to make virtual walk: https://modulor-vr.com/aszwoj/
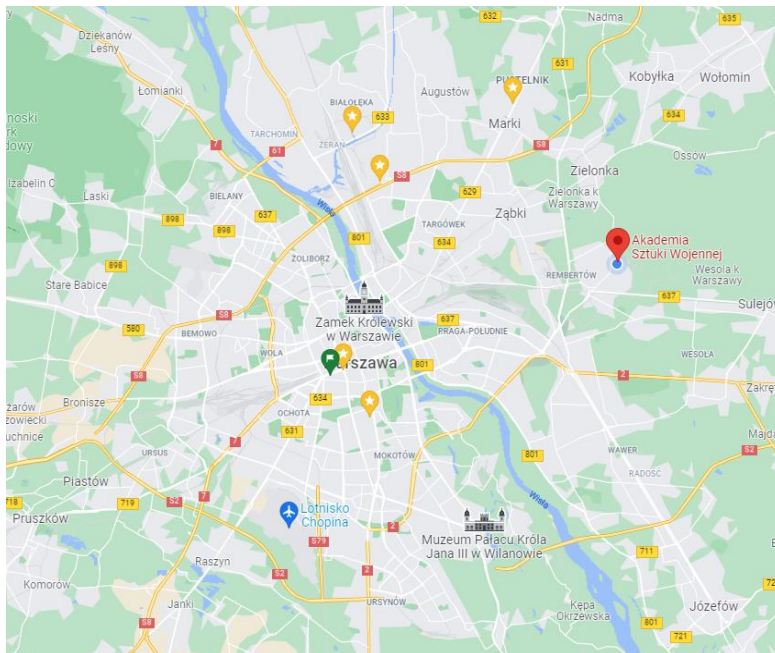
Entrance gate to WSU restricted area (location of CBRN DTC):

52.269111N, 21.177377E

Parking area inside WSU restricted zone: 52.270542N, 21.173043E

Parking

Parking in the military area is limited and all vehicles **have to be registered prior to their arrival**. Please fill in your vehicle details into the registration form.

Accommodation

There are several hotels with a good quality standard and for reasonable prices in Warsaw. Reservation is under your responsibility.

Recommended hotel:

NYX Warsaw Hotel is located in the city center next to Warsaw Central Train Station.

Address: 71 Chmielna street | 00-801 Warsaw |Poland

Web: https://www.leonardo-hotels.com/nyx-hotel-warsaw
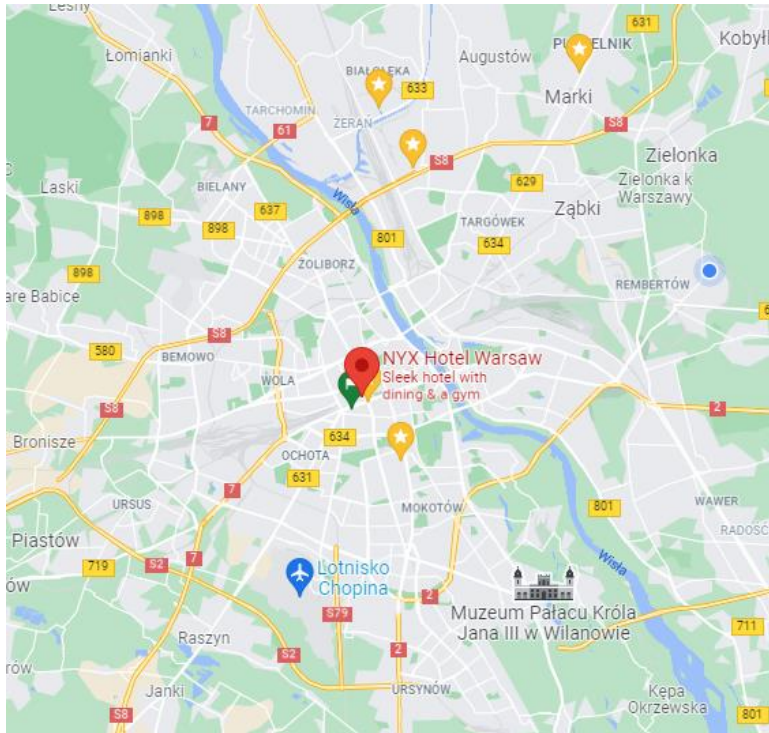
Reservations: reservations.warsaw@leonardo-hotels.com

Phone: +48 22 346 29 30

Special offer for eNOTICErs: PLN 550 for a Single Room or PLN 605 for Double Room (Down To Earth) with breakfast, wi-fi and open access to fitness area.

Virtual walk: https://leonardo-hotels.scaura.com/s/e7b87b18

Deadline for making a reservation: **17 February 2023**

Free booking cancellation possible **until 28 February 2023!**

Offer password: **ENOTICE**

We will provide transportation to and from this or nearby hotels (close to Railway Central Station) only.

7.3 Evaluation

7.3.1 Post exercise debriefing

On the day of the exercise on-site hot wash debriefing and Q&A sessions with attendees right after each part of the demo were made to catch immediate reactions of the observers.

The Joint Activity checked knowledge and skills of the selected personnel of the National Warning and Reporting System. The main goal of the JA was achieved at a high level. Simulated elements of the National Warning and Reporting System worked together well.

Main conclusions:

– tabletop exercise documentation and manual contained minor mistakes,

– the completed exercise checked also the information flow,

– the scenario was adjusted to JA limitations,

– provided software should be upgraded to analysis of hybrid scenarios.

7.3.2 Evaluation of the exercise

The exercise is assessed by the exercise management and all participants in the exercise. The main conclusions and recommendations are presented above.

8. Ranst JA 2023

8.1 Preparation and organisation

8.1.1 Context

The organiser for this Joint Activity is Campus Vesta (VESTA), a multidisciplinary training centre in Ranst, Belgium. VESTA is primarily responsible for the training of first responders in the province of Antwerp. On top of that, it is a recognised CBRN training centre. VESTA offers both basic and advanced (multidisciplinary) trainings in the area of disaster management. Moreover, VESTA also works with multiple companies, offering courses, sharing trainers and even creating new infrastructure together. On top of that, VESTA is a consortium partner of the eNOTICE project.

Two events within the JA were organised. Firstly the eNOTICE eFAIR (including a seminar) on May 12th and secondly the annual multidisciplinary field exercise at Campus Vesta which was the basis for the closing exercise of eNOTICE and the third field exercise of PROACTIVE. The objectives were as follows.

8.1.2 Objectives

What were the objectives of the eFAIR, the multidisciplinary exercise, the JA and the field lab during the last JA in Ranst? Below these objectives are described in detail as well as the way the UCL lab functioned in the frame of this JA.

eFAIR

- Networking between academics, companies and practitioners
- Bringing together academics, companies and practitioners
- Knowledge sharing between these actors
- eNOTICE dissemination of project lessons learned

Multidisciplinary exercise (VESTA)

- examination of the students of the Postgraduate course Disaster Management
- training of first responders of the province of Antwerp
- functional deployment of the mobile UCL laboratory (eNOTICE)
- Inclusion of civil society including vulnerable people (PROACTIVE)

Joint Activity (eNOTICE)

- Creation of mutual benefits

- cost efficiency

- creation of mutual lessons identified

UCL biological Lab

The Centre for Applied Molecular Technologies (CTMA) at the Université catholique de Louvain (UCLouvain, Belgium) is a mixed academic and clinical biotechnology platform, with strong research activities in the field of infectious diseases, including deep sequencing and diagnostics for on-site use and new tests to identify biological warfare agents, in partnership with international military and civilian networks. UCLouvain took part in the eNOTICE scenario by deploying its own mobile laboratory, B-LiFE, an operational analytical capability - a box-based rapid response mobile laboratory (Box-based RRML) for the identification of life-threatening pathogens (Fig 8 and 9), hence a extensive expertise of deployment in response to health and CBRN type crises, The B-LiFE team was ready in its deployed lab and had already carried out a 'dry run' for the laboratory (Figure 10).

***Figure 8**. Site location of the B-LiFE Lab - eNOTICE, Ranst, 13 May 2023*
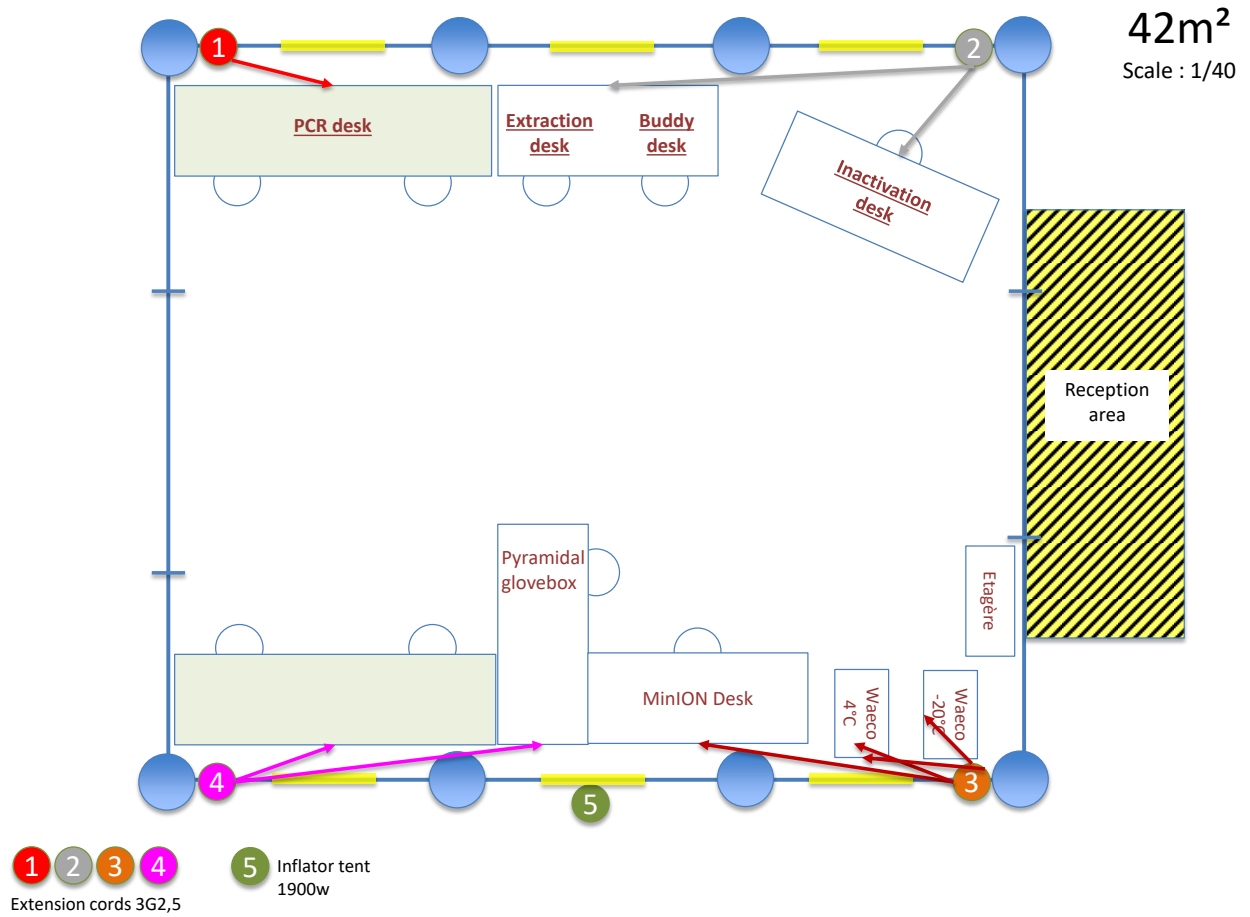
Figure 9. *General modular organization of the B-LiFE Lab - eNOTICE, Ranst, 13 May 2023*
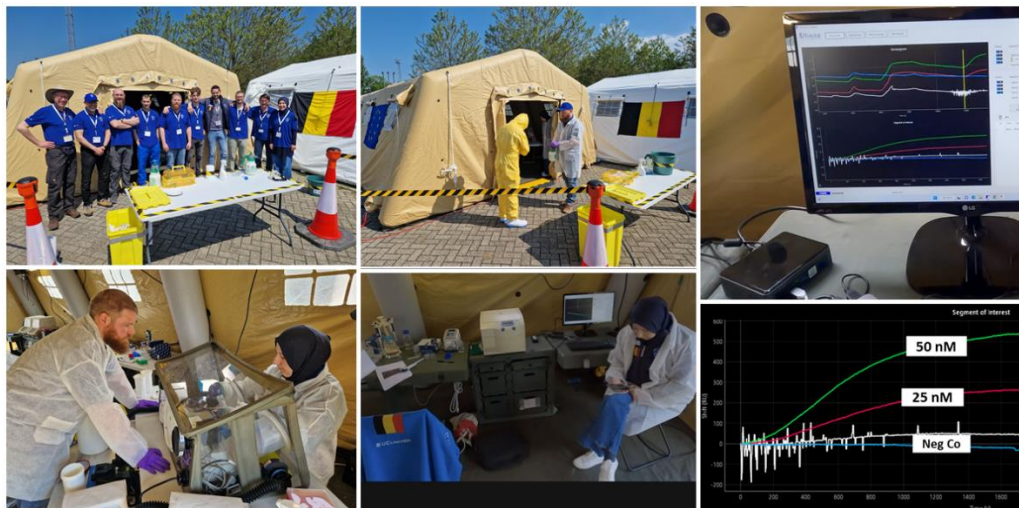
Figure 10. *Activities of the B-LiFE Lab - eNOTICE, Ranst, 13 May 2023.*

(a) qPCR

The B-LiFE laboratory received a sample of pie suspected of being contaminated with Staphylococcus aureus. A fraction of this sample was inactivated under a negative pressure hood. Genetic material was extracted using a commercial kit. Extracted DNA was subjected to qPCR and LAMP (Loop Mediated Isothermal Amplification). No amplification signal was generated, demonstrating the absence of Staphylococcus aureus in the sample. The positive and negative controls commonly used in molecular biology techniques were used to validate the test. The results were sent to the crisis management team.

(b) LAMP (Loop Mediated Isothermal AMPlification)

Rapid and reliable identification of the causative agent of a biological threat remains the primary objective of a mobile laboratory. By using the LAMP technique as part of our diagnostics, we are able to identify a wide range of bacterial or viral pathogens using a minimum of equipment and resources. During this exercise, the LAMP reaction was carried out at a constant temperature (65°C) and amplification results were evaluated by real-time fluorescence or colorimetric endpoint in less than 35 minutes. In addition, to overcome the potential error of analysing colour change by 'naked eye', a home-made LAMP colorimetric reader was designed and used on-site to accurately measure and indicate LAMP-positive samples. Using this technology, we were able to quickly (>35 min) and correctly identify the presence of Staphylococcus in a complex matrix (contaminated cheesecake). These results corroborate those obtained by the reference qPCR described above.

(c) Third generation sequencing (Oxford Nanopore Technology – Minion)

Although technologies such as qPCR or LAMP are highly sensitive, they are generally used to provide a rapid response on the presence or absence of a pathogen. However, the COVID-19 pandemic has prompted the use of whole genome sequencing (WGS) to monitor and study genomic evolution and identify the emergence of new variants. In the case of microbial infections, high-throughput sequencing is increasingly being used to assess the genetic context of microbial antibiotic resistance (AMR) and the virulence of resistant strains.

During the eNOTICE exercise, we used the MinION Mk1C field nanopore sequencer developed by Oxford Nanopore Technologies (Fig 11A). This portable device has the advantage of performing real-time base calls and genomic analyses to detect genes and markers

of interest without having to transport samples to reference laboratories that are sometimes a long way away.

During this exercise, we used adaptive sequencing, which is a tool for enriching species that are not very abundant in metagenomic samples. In practice, depending on the pathogen or genes of interest targeted, a reference sequence is recorded on the instrument and as soon as the first few hundred bases of a molecule are sequenced, a decision is made. If the molecule is 'on target', sequencing can continue. If the molecule is "off target", the molecules are ejected by reversing the current through the pore, freeing the pore to capture a new molecule. The advantage of this bioinformatics enrichment is that it is inexpensive and increases the number of samples that can be processed on a single sequencing device, thereby reducing the cost of sequencing.

To test adaptive sequencing in the field, we created synthetic samples with an increasing proportion (0.1, 1 and 10%) of Staphylococcus epidermidis (SE) DNA in extracted human DNA. Analysis of the HTS data was carried out using the free online agent EPI2ME. This application was designed to facilitate routine bioinformatics analyses by allowing users to run workflows in a desktop application with an easy-to-use graphical interface. Two workflows were used: What's in my pot (WIMP), which enables taxonomic classification of base sequences, and Antimicrobial Resistance (AMR), which enables detection of genes responsible for antimicrobial resistance.

When sequencing model samples containing an increasing amount of SE genome, we were only able to identify the presence of SE in the most concentrated sample. The proportion of bacterial reads (0.86%) was also lower than expected (Fig 11B). AMR analysis enabled us to identify various resistance genes, including a mecA methicillin resistance gene (Fig 11C).
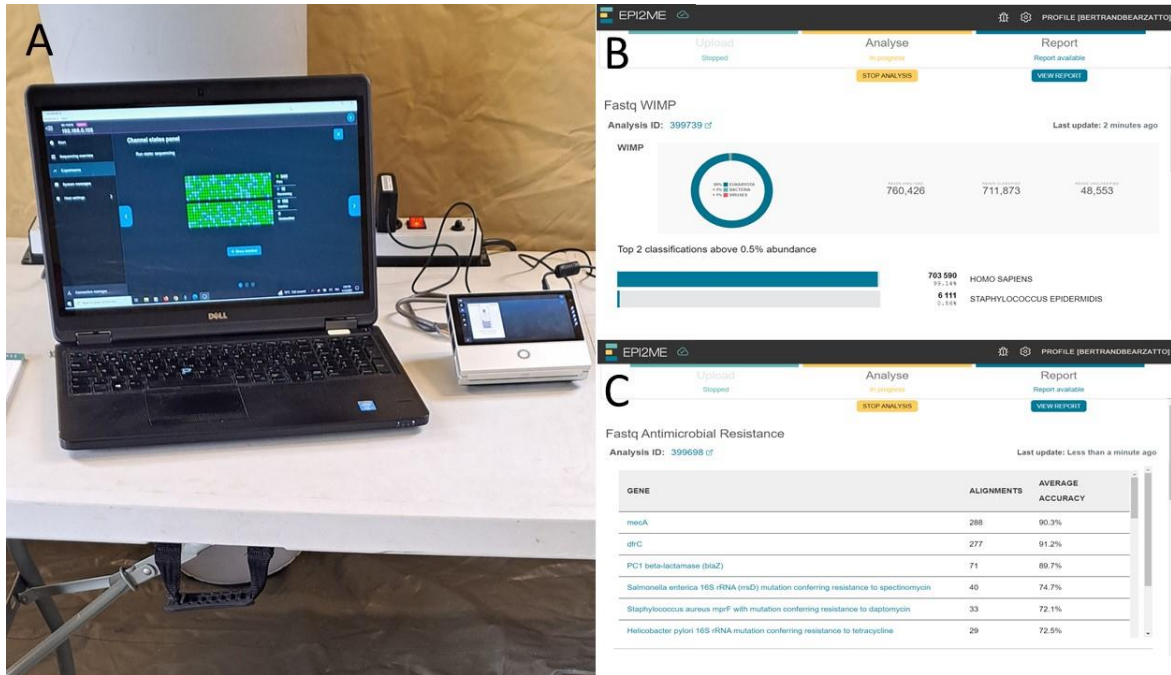
Figure 11. *MinION Mk1C device (A); WIMP analysis shows the detection of Staphylococcus epidermidis in a human sample (B); AMR analysis shows the identification of the mecA methicillin resistance gene present in the sample (C). (eNOTICE, Ranst, 13 May 2023)*

(d) Camelid antibody-based SPR detection of ricin in the B-LiFE mob lab

Figure 12. *Camelid antibody-based SPR detection of ricin conducted by B-LiFE in the field (eNOTICE, Ranst, 13 May 2023)*

For the first time, we used surface plasmon resonance (SPR), adapted to field conditions, to detect fragment A of the toxin in water (Fig 12). SPR is widely used in fields such as biochemistry, drug discovery, proteomics and surface chemistry to study protein-protein interactions, antibody-antigen binding, DNA hybridization, interactions between small molecules, etc. It provides valuable information on the structure and function of molecules. It provides valuable information on binding kinetics, thermodynamics, specificity and affinity, making it a powerful tool for understanding biomolecular interactions and characterising molecular recognition processes. This assay would not have been possible without the development of highly sensitive single-domain antibodies, also known as nanobodies or VHHs (variable domain heavy chain antibodies only), which are small antibody fragments derived from camelid (e.g. camel, llama) or shark antibodies. They consist of a single antibody domain, making them smaller and more compact than conventional antibodies.

Because of their unique properties, nanobodies have received a great deal of attention in scientific research and medical applications. In our facility, we have combined SPR and nanobodies to be able to detect very low concentrations of ricin A chain fragments, down to 25nM (Fig 13). We aim to extend this detection capability to very low concentrations by screening our nanobody libraries to obtain highly stable, high-affinity single-domain antibodies.
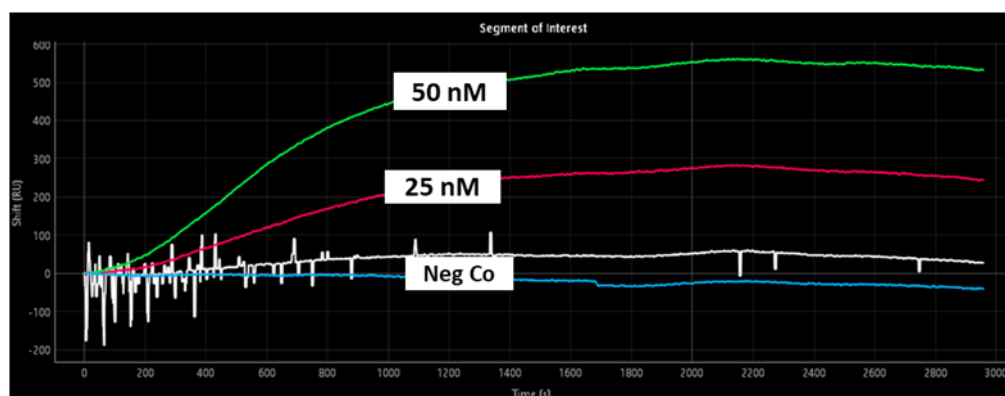
Figure 13. *Detection of Ricin A fragment (Red and Green Curves) (eNOTICE, Ranst, 13 May 2023)*

8.2 Lessons learnt

The joint activities of eNOTICE provided opportunities for academic innovations to be presented and explained to practitioners. Some eNOTICE-driven innovations have made their way directly into practitioners' workflows. This was highlighted by the most recent joint activity

at the Vesta Campus in May 2023, when new toxin and pathogen identification methods were successfully tested for the first time in the B-LiFE mobile field laboratory and are now part of the laboratory's capacity and capability.

8.2.1 *Specific lessons learnt from the lab deployment*

(a) LAMP and qPCR

LAMP is faster than qPCR, but the two methods are complementary. The normal algorithm adopted in the B-LiFE mobile laboratory is to perform a LAMP test first, followed by a confirmatory qPCR test and, if positive, high-throughput sequencing. LAMP and qPCR are now integrated into the B-LiFE analytical workflow.

(b) SPR-based detection of ricin chain A:

The adaptation of surface plasmon resonance (SPR) technology to field conditions and its use in our mobile B-LiFE laboratory in Ranst during the eNOTICE exercise in May 2023 has yielded a number of specific lessons about the practical implementation of SPR experiments. These include

Experimental optimisation: SPR experiments require careful optimisation of various parameters, such as ligand immobilisation, analyte concentration, flow rates and temperature. The exercise highlighted the importance of systematically optimising these parameters to ensure reliable and reproducible results. This includes determining the appropriate ligand density, selecting the right immobilisation chemistries and optimising the analyte injection conditions.

Regeneration of the sensor surface: Over time, the sensor surface can become clogged or saturated with analyte molecules, resulting in reduced sensitivity and accuracy. The exercise highlighted the need for effective methods of regenerating the sensor surface to ensure consistent and reliable measurements. This involves developing regeneration protocols that effectively remove bound analytes while preserving the integrity of the immobilised ligand.

Quality control and calibration: Accurate calibration and quality control procedures are essential for obtaining reliable SPR data. The exercise highlighted the importance of regular calibration using appropriate reference samples and standards. This ensures that the SPR instrument is operating correctly and providing accurate measurements. In addition, routine quality checks, such as monitoring sensor stability and reproducibility, are essential to identify and correct any potential problems that could affect data integrity.

(c) <u>Adaptive high throughput sequencing – ONT technology</u>:

1) The method of sample preparation for optimal adaptive sequencing is time-consuming, requiring a combination of mechanical fragmentation using g-TUBES and a library preparation protocol with ligation to avoid short DNA fragments. Small fragments are incompatible with the process of deciding whether to keep or reject a sequence. Sample preparation conditions must therefore be optimised and shortened.

2) EPI2ME applications allow simple online data analysis. However, these applications are not very flexible. Having in-house analysis tools should allow us to optimise all the parameters in order to improve the results. An in-house live analysis pipeline is currently being developed and will soon be available for testing and validation under field conditions.

8.2.2 <u>**Advantages and disadvantages of doing it as a Joint Activity (i.e. in collaboration with Campus Vesta, and with PROACTIVE project)**</u>

There are several advantages to collaboration between different groups:

- Pooling expertise and knowledge by bringing together knowledge, skills, new perspectives and ideas that improve the outcome of the joint activity.

- Sharing resources reduces costs and increases the efficiency of the exercise.

- Increased sample size and diversity.

On the other hand, if we look at the disadvantages, we find that the coordination challenges are the greatest:

- This type of joint activity requires strong communication and coordination skills between several groups.

- Considerable effort is needed to align objectives and expectations.

Last but not least, joint activity involves different perspectives, opinions and priorities, which can lead to conflict or disagreement and make decision-making more complex.

Budget of lab deployment in a nutshell:

Costs of the materials transportation: 1536 €

Accommodation of staff: 3.935 €

Other costs (dissemination materials, lab reagents and consumables): 15.249 €

Multidisciplinary exercise (PROACTIVE tactical objectives)

- To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.

- To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.

- To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.

- To conduct an experimental trial of the efficacy of the PROACTIVE pre-incident information for influencing attitudes, perceptions and behaviours during an emergency incident response.

- To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, complexity, and channels.

- To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.

- To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.

- To evaluate how usable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g. communication needs, better information exchange).

- To develop the understanding of factors that may increase public compliance during CBRNe incidents.

- To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment as well as societal dimensions are considered by first responders and researchers in dealing with CBRNe incidents.

8.2.3 Communication strategy

We communicated with multiple different groups for this joint activity.

Civil society including vulnerable people

With the inclusion of PROACTIVE in the VESTA multidisciplinary field exercise came the need for clear communication with civil society. Firstly this was focused on recruitment of vulnerable people specifically because they might be a difficult group to reach. Where possible we tried to focus on contact persons from hubs, rather than individual persons. Thus we focused

on contacting organisations like organisations for deaf people, blind people, a scouting group for people with disabilities, an athletics group for people with disabilities, an organisation working to provide housing for people with disabilities and elderly homes.

We contacted the key persons of these organisations and invited them to a briefing a year before the exercise. VESTA and PROACTIVE were present at these briefings, which were completely voluntarily without any obligation before or after. Then we kept into contact with these groups while they were asking their contacts about possibly participating in the exercise. Whenever needed, VESTA would come out and do a briefing in Flemish at the place of the organisation. As the exercise approached, participants were asked to register online (or VESTA registered them if they asked us to do so, based on a paper form they completed). All registered participants were informed beforehand of the time schedule of the exercise, given a briefing about safety and security, and a quick overview about the scenario without giving away the whole scenario. This was mainly to find out who did and who did not want to be decontaminated, since the scenario entailed contamination through taking food (B-component) and an agent being thrown over the volunteers (C-component). They were instructed beforehand about wearing swimwear underneath and taking reserve clothing with them as well. On the day of the exercise, all participants were given a briefing before heading to the exercise location. They did focus groups with PROACTIVE afterwards. On top of that, VESTA sent an email with the lessons identified/ learned of the exercise as a debrief, to show how valuable their participation was.

eNOTICE and eNOTICE network

We communicated via email to the eNOTICE consortium and network. This was done via targeted emails to the eNOTICE consortium and the network. The network members could get their travel costs refunded, which was only an option for network members, but this did mean that the communication had to be targeted. You can find the invitation for eNOTICE consortium and network in annex.

Companies

For the eFAIR it was important to contact companies and invite them to the event. This was done via multiple channels: firstly VESTA reached out to companies we had collaborated together with in the past, secondly, eNOTICE had worked with companies in the past as well,

for example during policy meetings. Thirdly some invitees also suggested some companies that we could invite. The invitation for the companies is in annex. We also invited the EU coordination team and stakeholders from the European institutions.

PROACTIVE

Working together with PROACTIVE, we were all focused on communicating well with each other. Therefore we appointed key contact persons to communicate with. All communication went via these contact persons. This was to avoid confusion on both sides and so that there were always people that were aware of all discussions and agreements. Then the contact persons would liaise internally to make sure that the made agreements were honoured. PROACTIVE did all communication to PROACTIVE observers and VESTA to the eNOTICE visitors. One small difficulty of communication was in terminology:

"observers" in Vesta ("observatoren in Dutch") are the people that do the formal evaluation of the students of the post graduate degree, and they share observations for the first responders on scene. This role comes with its own authorisation during the exercise, because observators can go inside the perimeter during the exercise. This while "observers" for PROACTIVE are the visitors that will view the exercise for that project and making observations. For VESTA, this group would most accurately be called visitors, since they would not be allowed in the perimeter.

Belgium first responders

For the eFAIR specifically, we also targeted Belgium first responders, most specifically Advisor of dangerous goods. They were invited through our internal network and contacts. On top of that, we contact key persons of different (firefighter) networks, to spread the message among their members.

UCL Lab

Our communication with the UCL lab was mainly based around two topics: 1. Their role in the exercise and 2. The accommodations they would need with regards to water, electricity, internet etc. These communications were mostly done via e-mail, but a representative of the lab also came to the campus beforehand to scout out the location and the area of the exercise, and discuss the accommodations.

8.3 Conduction

8.3.1 Budgeting and organisation

The budget for this JA was estimated around 9935,- euros. Not all invoices have been received yet, so the complete realisation will differ slightly from this number. This cost was divided as follows:

Hotel and travel cost of the guest: 3200,- (Estimation)

Print material: 786,- (Split with PROACTIVE)

Catering: 6000,- (3x lunch, 1x dinner)

This does not include the costs that PROACTIVE covered.

8.3.2 Documentation

For the documentation we refer to the annex.

8.4 Evaluation

8.4.1 Debriefing

There were multiple benefits for VESTA, the organising training centre. Firstly, we were able to work with civil society volunteers with no extra cost to us. This allowed us a unique opportunity. Secondly, it allowed VESTA to (re)establish contact with industry in Belgium and in Europe, and it allowed us to show the training centre. Thirdly, we invited staff and trainers from the campus as well to the eFAIR. This meant that the information shared there is now also available in multiple departments in VESTA.

Some more specific lessons learned for VESTA are:

1.   We need to work on communication, especially with vulnerable people.

2.   There was not a lot of attention to the children and the presence of a dog

3.   One of the narrators would also like to include the involvement of vulnerable people in a future exercise in his own professional environment

4.   The inclusion of especially vulnerable people limits the amount of scenarios you can play, but is nonetheless very valuable

5.   The collaboration between academics, companies and training centres was found to be of great value to all

6.   There should be more clarity and basic training for first responders regarding B threats, and the possible role of a mobile lab in such a scenario

7.   It would have been ideal to have more networking time during the eFAIR.

9. The JAs of the eNOTICE project

9.1 Timeline of JAs with major lessons learned

This section shows an overview of all the JAs in the eNOTICE project, and the evolutions in the way of working. Firstly, **Figure 16** (below) shows the full timeline of all JAs.

In total there have been 17 Joint Activities, including the final conference.

The final conference will not be discussed in this JA planning report, because it has not occurred yet at the time of writing this analysis. On top of that, it is not centred around an exercise, course, or tabletop based on a CBRN event, which makes it more difficult to classify. It is instead a dissemination event of the project.

Off all the 16 JAs (excluding the final conference) that took place during the eNOTICE project, 56% were field exercises, 19% were based around a course, 19% were based around a tabletop exercise and 6% around a virtual reality scenario. This is represented in **Figure 14**.
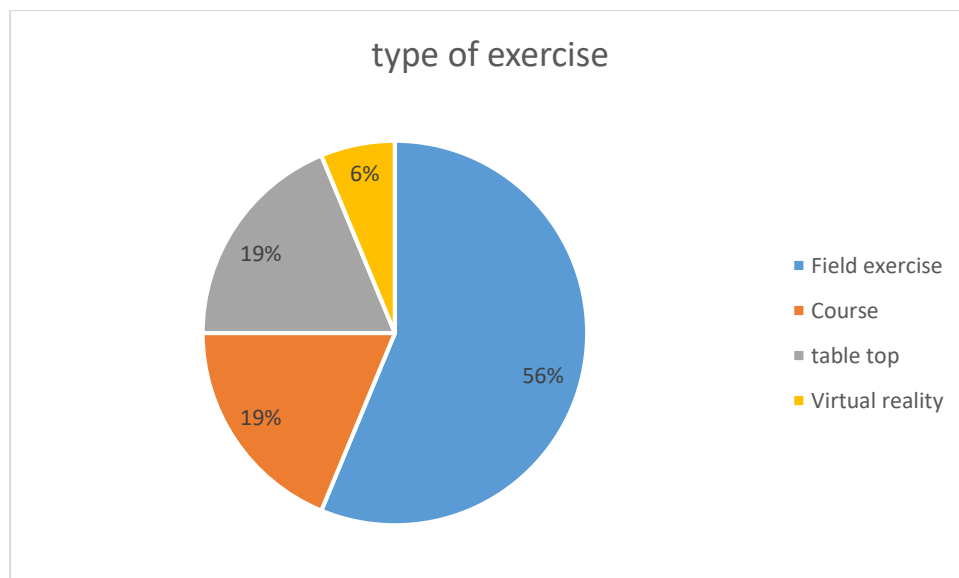
Figure 14 Type of exercise

Furthermore, there was a good spread over the disciplines of the JAs. The majority, 44% were multidisciplinary, 31% were military, 13% were fire, rescue and relief, and lastly, 6% were

medical and 6% law enforcement. This shows that all disciplines were represented during the eNOTICE project. See figure 15 for the overview.
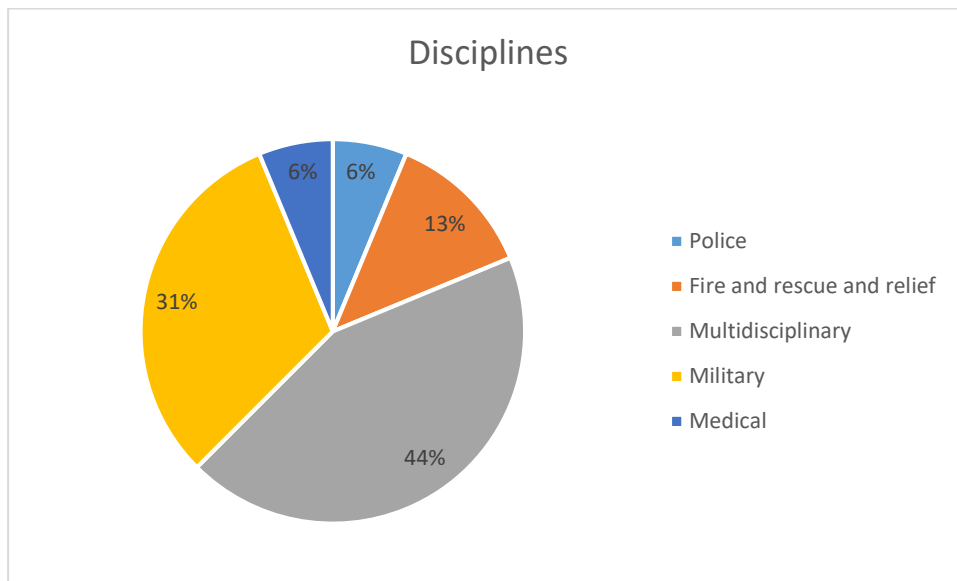
Figure 15 *Disciplines*

When looking at the history of the Joint Activities, several key moments can be highlighted, and the JAs can be divided into several different categories. The first category would represent the first two JAs that took place, in 2017 and 2018 (Gurcy and Nimes). These were the JAs that took place before the methodology for the organisation of a JA was finalised in D4.1, January 31st 2018. This category could be called the experimental JAs, because it is about the first experiment of inviting people to a training, course or exercise, and finding out how to do that. It is about checking where the priorities of the project should lay and examining what the potential benefits of JAs are. **Lessons learned** identified for this category show:

1. That a briefing for eNOTICE observers is imperative;
2. There should be a strong focus on the unique benefits of training centres;
3. Integrating existing solutions in courses or exercises can be difficult, staff needs to be trained in those solutions beforehand;
4. The complex human factor might makes gathering lessons learned difficult;

Then we move on to the second category, which starts with the Biogarden JA in Brussels. This is the first JA that was able to use the created methodology in D4.1, and it uses the **lessons learned** from the first category. This category can therefore be called the application category. Here the goal was to apply the methodology to the JAs, and find out if the created templates are useful in organising a JA. It also further expands upon the potential benefits of JAs. On top

of that, this category includes the first JAs with military partners. This category ends with the METU joint Activity in Turkey. A few **key lessons** of this category were:

1. The use of an observers' guide is of added value;
2. VIPS should be a separate category of observers;
3. The maturity of the technology impacts if it can be used in a Joint Activity;
4. JAs can be a good vehicle to introduce new technology/innovation for training;
5. Military-civilian cooperation is of added value, both for civilians and the military;
6. Feedback should be focused on the joint aspect of the joint activity;
7. There is a need for harmonisation and standardisation;
8. The templates are not always filled in, since partners already have their own templates that they are already used to using;

Between the second and third category, the COVID pandemic took place. During this time, the templates were revised as a follow-up of feedback received from consortium partners as well as participants. This revision was focused on creating a standardized reporting method for JAs, as well as making sure the organising party did not need to duplicate efforts. The third is also the last category, and uses these new templates. On top of that, in this category three exercises with the H2020 project PROACTIVE were organised, which influenced the lessons learned. Moreover, the final conference took place in Brussels. The **final lessons** identified of this category are:

1. Inclusion of vulnerable people is a challenge for first responders, since there are no standardised guidelines;
2. The reporting system of the JAs needed to be standardised;
3. Civ-mil cooperation allows for valuable knowledge sharing;
4. Some JAs are multipurpose, but the amount of information can overwhelm people;
5. The collaboration between academics, companies and training centres was found to be of great value to all;
6. Sharing between European projects and close collaboration can create the mutual benefits we aimed for;

All in all, a few key elements have been found in the **overall lessons learned**.

Firstly there is an emphasis on closer collaboration between military and civil partners. Multiple JAs have mentioned that this is crucial, specifically for CBRN disaster management.

Because the eNOTICE network is in the unique position to contain both military and civil training centres, it should continue to emphasize the working together of these groups.

Secondly, there should be some form of standardisation in the reporting of the JAs, to be able to compare the diverse types of JAs in some ways. However, there should still be flexibility as well, thus allowing for organising parties to make use of what they are familiar with.

Thirdly, cooperation between academics, companies and training centres should be encouraged because it adds value for all partners. The eNOTICE network could play a vital role in creating and maintaining that connection, whereby JAs could be the appropriate vehicle for this cooperation. Thus the eNOTICE network should continue with the organisation of JAs and the invitation of private companies/industries to those JAs.

Fourthly, during the JAs , knowledge sharing was almost always seen as an important benefit, thus the eNOTICE network should continue to find a way to share knowledge, but also keeping in mind the "translation" that is sometimes needed between companies, academics and first responders. Therefore the creation of a peer reviewed library that contains academic information but also operational information from first responders as well as from the industry can be of a great benefit in order to increase CBRN preparedness between training centres.

Fifthly, three JAs specifically focused on vulnerable people due to eNOTICE's collaboration with the PROACTIVE project. During these JAs it was found that there are currently very little guidelines for first responders working with vulnerable people in a CBRN scenario. Therefore the eNOTICE network could be the beginning of making those guidelines, and testing them during new JAs. This would allow first responders to make use of the experience of previous JAs of the eNOTICE network.
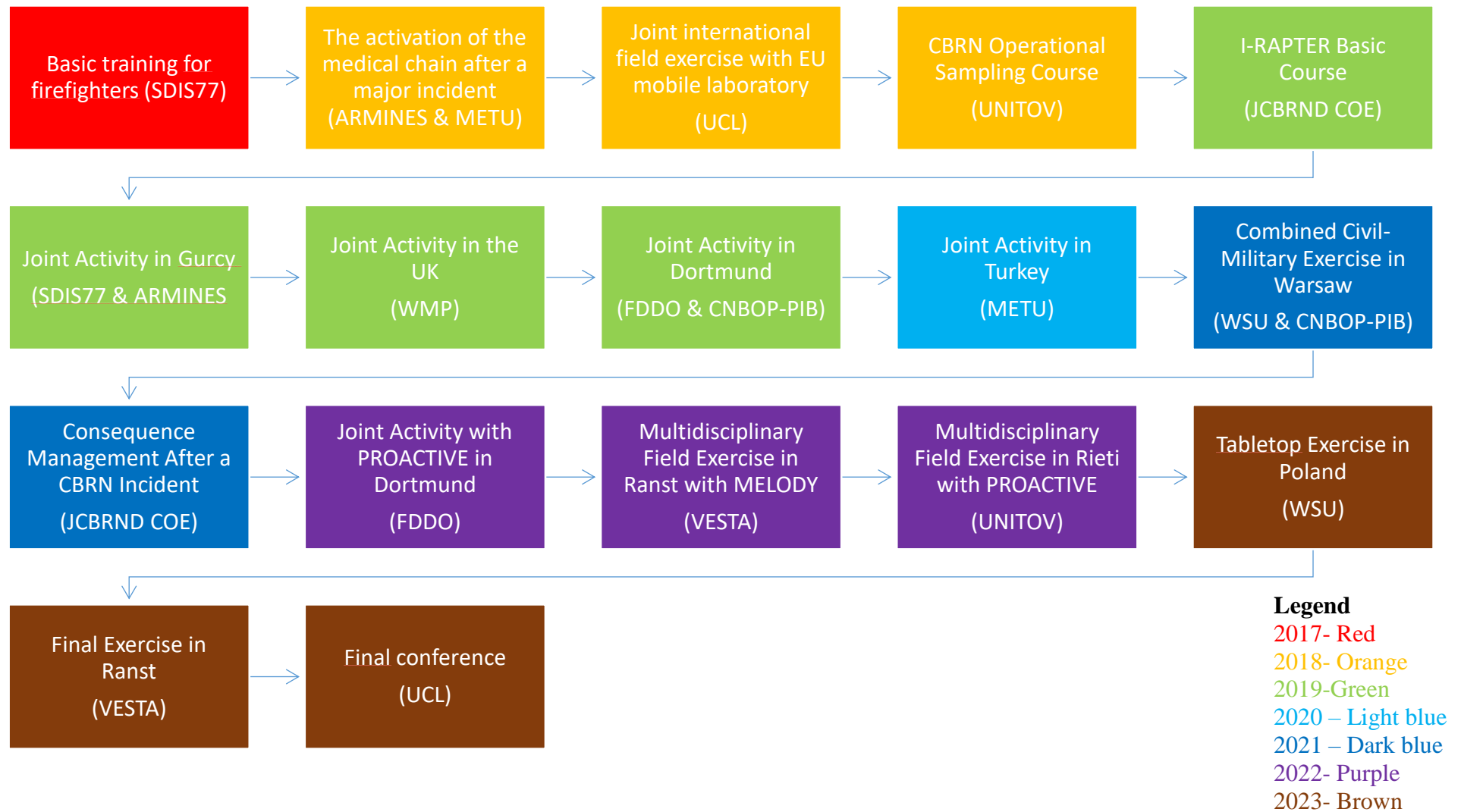
Figure 16 *Timeline of the Joint Activities*

10. Conclusion

This report is the final JA planning report of the eNOTICE project. The report covers a full report on the joint activities in Dortmund (2022) by FDDO, in Ranst (2022) by VESTA, in Rieti (2022) by UNITOV, in Warsaw (2023) by WSU and the final exercise in Ranst (2023) by VESTA with inclusion of the UCL lab.

The main lessons identified for the Dortmund JA in 2022 by FDDO was the challenge for fire fighters working with vulnerable people, and the fact that there were no standardised procedures. Thus, it is recommended to standardise procedures surrounding vulnerable people. For the Ranst JA in 2022 by VESTA, standardisation was also a theme, because it introduced a harmonised CBRN curriculum to trainers from different countries. The Rieti JA in 2022 by UNITOV also included vulnerable people. It showed the importance of civil-military cooperation, and the crucial aspect of communication with vulnerable people. The Warsaw JA in 2023 by WSU was a TTX about hazard prediction modelling. These lessons identified in this JA was that the scenario of the TTX had to be adjusted to fit a JA, and that the TTX also checked information flow, not only hazard prediction. Finally, the Ranst JA in 2023 demonstrated the importance of working together as academics, industry and training centres. On top of that, it highlighted the lessons learned in Dortmund and Rieti with regards to the inclusion of civil society and vulnerable people.

In total 17 Joint Activities took place during this project, including the final conference. Three different categories could be distinguished.
- Firstly, the Joint Activities that took place before the methodology of JAs was finalised. These JAs found out how the inclusion of guests would work in practise, and what possible benefits training centres could get from them.
- The second category applied the methodology and expanded upon it, but also had key lessons regarding the benefit of military- civilian cooperation, the need for harmonisation and standardisation and the maturity of the technologies that can be included in JAs.

- The third and last category reinforced these lessons even more, and added the component of civil society volunteers and the PROACTIVE project. This showed even more that collaboration between EU project can increase mutual benefits, and that the vulnerable people are a challenge for first responders.

The key lessons learned from the JAs of the eNOTICE project can be summed up as follows:
- Civil- military cooperation is crucial, specifically for CBRN disaster preparation and management. This has been emphasized by multiple Joint Activities.
- Standardisation for reporting JAs is important to be able to compare the diverse JAs in some way, but should leave room for flexibility as well
- Cooperation between academics, industry and training centres should be encouraged and add value for all partners. JAs are an appropriate vehicle for this type of cooperation.
- The ENOTICE network should continue finding ways to share knowledge, as it is seen as one of the most important benefits of the JAs. The creation of a peer reviewed library for first responders that contains academic information and operational information could thus be a great next step for the network.
- In the cooperation with PROACTIVE, the inclusion of vulnerable people in a CBRN scenario clearly showed that there should be guidelines for first responders working with vulnerable people. This could also be a next step for the network.

11.   Annex I Dortmund JA

11.1 General Information Sheet eNOTICE for a Joint Activity

Part A: Summary description of the objectives and topic of the CBRN Exercise

Main activity

eNOTICE JA

Practical training of the FDDO in the field of CBRN with focus on decontamination procedures of vulnerable population

Invited activity

eNOTICE

Participation of national experts, proposed or invited by the eNOTICE Consortium Members.

The profile of the invited experts is: first response practitioners (fire & rescue, police, military, emergency medical services), lecturers from CBRN Training Centres and academics or developers involved in research to improve CBRN preparedness, psychological care units.

PROACTIVE

Participation of the PROACTIVE Consortium and Advisory Board Members as active roles and observers in the practical part of the training (e.g. evaluation, catering etc.).

Contribution of (vulnerable) civil volunteers recruited by PROACTIVE to evaluate the engagement between FDDOs first responders and a diverse group of supposedly affected civilians in a CBRNe environment.

1	Type of activity and contact details of the hosting exercise	Type of activity and contact details of the invited activity

Organising partner: FDDO with support of ProActive	External guests will participate in the exercise as passive observers.
Full scale field exercise on 07. May 2022	
- The aim of the exercise is the training of large scale events with hazardous substances - The field exercises will be held in Dortmund. The venue will set up inspiring background for detection and identification procedures, as well as decontamination.	

2 Objectives and evaluation criteria of the hosting exercise	**Objectives and evaluation criteria of the invited activity**
- Improvement of coping capacity of different units concerning their tasks - Test and improve operating procedures of first intervention, HazMat containment, decontamination and casualty treatment - Training of decontamination of vulnerable people (decontamination unit of FDDO) - Training of reconnaissance using aerial systems (communication unit of FDDO) - Training of critical situation (psychological care unit of FDDO)	**Objectives for the invited experts** - Observation and identification of the interplay between the actors on scene - Reflection on the added value of opening activities up to other stakeholders in the field of safety and security with focus on CBRN threats - Identification of opportunities to raise the understanding within the triangle: rescue units – industry – scientists **Objectives for the partners & observers** - Identification of opportunities to strengthen the network of CBRN Training Centres; - Identification of best practices to share with the eNOTICE community; - Identification of input for ongoing eNOTICE Tasks. **Objectives for PROACTIVE** - To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercise with at least 15% of these representing vulnerable groups. - To evaluate the effectiveness of First Responders to recognise vulnerable people during the exercise.

- To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe exercise, through response measures (eg. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.

- To evaluate the effectiveness of PROACTIVE pre-incident information and awareness during emergency communication with the public.

- To evaluate if communication with the public during the exercise is pitched at an appropriate level in terms of language, complexity and channels.

- To test the technical aspects of the PROACTIVE App in a live exercise environment.

- To evaluate the effectiveness of the PROACTIVE App in supporting the needs of Civil Society (e.g. communication needs, better information exchange).

- To develop the understanding of factors that influence public compliance during CBRNe incidents.

3	Main scenario: short description	Description of the invited activity
	On the morning of 07th may, on the premises of the ABZ in Dortmund it comes to an accident. A freight train transporting various chemicals crashed on the open route, in the immediate vicinity of a railway station. As a result of the accident, an unknown substance escapes from a tank wagon. The escape of the unknown substance creates a toxic cloud, which moves in the direction of the train station. In the further course of use, the substance is identified as acrylonitrile. The Fire Department of Dortmund receives the message that around 20 people in the adjacent train station are suffering from various symptoms after possible exposure to the hazardous substance. The symptoms range from nausea and discomfort, irritation of the eyes and mucous membranes to breathing difficulties and coughing. With the help of a drone, from the telecommunications unit, the area of the accident site and the station are explored in order to locate other injured people. The decontamination unit is requested, that people are affected and can start decontaminating the injured. In addition, the psychological care unit of FDDO who take care of those affected are alerted during the operation.	- Observing research projects & (end) users: tbd. - **PROACTIVE *("PReparedness against CBRNE threats through cOmmon Approaches between security praCTItioners and the VulnerablE civil society")*:** this Horizon2020 project can help security practitioners make CBRNe crisis preparedness and response fair, accessible and inclusive. Liaising with the civil society, including vulnerable groups, PROACTIVE is co-creating a crisis communication system for both practitioners and citizens as well as pre-incident information materials. These outputs, combined with recommendations on how to include civil society in training exercises, will allow CBRNe practitioners and policymakers to improve societal resilience (https://proactive-h2020.eu/)

5	Profile of the participants of the hosting exercise	Profile of the participants of the invited activity
The exercise will be an end-user oriented exercise, where different end-users will train their response to a given scenario (railway accident). The key-players are: - General Fire Service (professional and volunteer) - Decontamination Unit - Command and Control Structure - Psychological Care Unit of FDDO		- Invited experts: CBRN stakeholders, mainly first responders and experts involved in Research, Development and Innovation of unmanned systems and CBRN PROACTIVE - Recruited volunteers: Civilians without former understanding of CBRNe or any disaster management in particular. Some civilians will have certain vulnerabilities (e.g. visual, hearing or mobility vulnerabilities etc.) - Invited consortium partners: Performing key roles and responsibilities to enable an exercise including (vulnerable) civilians (e.g. handling of personal belongings, consent form processes, ensuring dignity throughout the exercise, evaluation etc.) - Invited guests: CBRNe experts, first responders, ethics experts and representatives of civil society organisations (PROACTIVE advisory board members) and VIPs that observe the exercise and provide valuable feedback for PROACTIVE research activities.

IFR Institut für Feuerwehr- und Rettungstechnologie der Feuerwehr Dortmund

Stadt Dortmund Feuerwehr

Part B1: Practical organisation – Agenda (Draft 04.04.2022)

Friday, 06th May 2022	
1300	*Welcome coffee*
1400	Welcome & Introduction (FDDO)
1415	Theoretical presentation of the Full Scale Exercise (FDDO)
1445	Presentation of exercise objectives (PROACTIVE)
	Coffee / Tea in between (ABZ)
1515	Visit of the site (FDDO)
1600	Summary & Outlook (FDDO)
1700	*Official Dinner in Dortmund for eNotice (tbd)*

Saturday, 7th May 2022 – Full Scale Exercise	
0800	Registration of Participants & Welcome and instructions (FDDO)
0900	Demonstration of the Full Scale Exercise (FDDO)
	Coffee / Tee in between
1130	Wrap-up of Full Scale Exercise (FDDO)
1230	*Lunch*
1400	Closing & Discussions between participants (FDDO & PROACTIVE)

Part C: Practical organisation – To be communicated to all organisations/persons who registered for participation

Practical information	
Dates:	06. May (project meeting) – 07. May (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 – 1st floor (meeting)
Hotel/ accommodation:	As there is a good connection (by metro) between the Hotel NH 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) xxx **Office:** +49 (0) xxx
	E-mail: swanczura@stadtdo.de
Deadline for registration:	01.03.2022
Dress code for exercise	Please consider appropriate clothing for the exercise: - Weather-proof (**space for observers is only partly roofed**) - Sturdy shoes
Transfer information	
Plane:	**From Düsseldorf Airport (DUS) to Dortmund main station (*Dortmund Hauptbahnhof*):** By train: Using the train is the fastest and easiest option to go to Dortmund. You can use the InterCityExpress (ICE), the RegionalExpress (RE) or the S-Bahn. We suggest to use the RegionalExpress, as it offers the best balance between time and price (S-Bahn too slow, ICE too expensive) and there is no need to change the train for your trip to Dortmund. Taking this into account, your options are - Regional-Express (RE6) direction: *Minden (Westf)* - Regional-Express (RE1) direction: *Hamm (Westf)* For further information, please visit: https://www.bahn.com/en/view/index.shtml **From Dortmund Airport to Dortmund main station (*Dortmund Hauptbahnhof*):** for information, please visit https://www.dortmund-airport.com/bus-and-train

Highway:	Connections to more distant parts of Germany are maintained by Autobahn routes A1 and A2, which traverse the north and east city limits and meet at the *Kamener Kreuz* interchange north-east of Dortmund. In combination with the Autobahn A45 to the west these form the Dortmund Beltway.
Way to the Training Centre (ABZ)	By metro / train from the Dortmund main station: Taking the U41 Direction "*Brambauer*". Exit at Güterstraße (6th stop), ask Google

Way from the metro/tram station "*Güterstraße*" to the Training Centre of the Fire Brigade (*Ausbildungszentrum* (ABZ) der Feuerwehr, Seilerstraße 15)

Way from the metro/tram station "*Güterstraße*" to the Training Centre of the Fire Brigade (*Ausbildungszentrum* (ABZ) der Feuerwehr, Seilerstraße 15)

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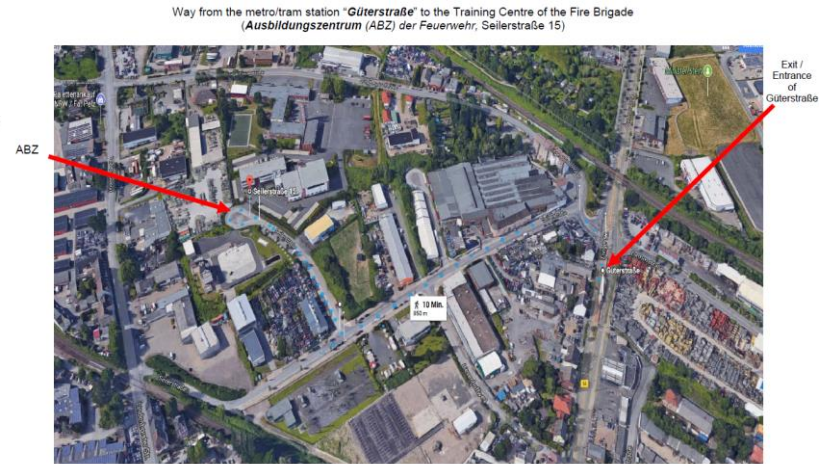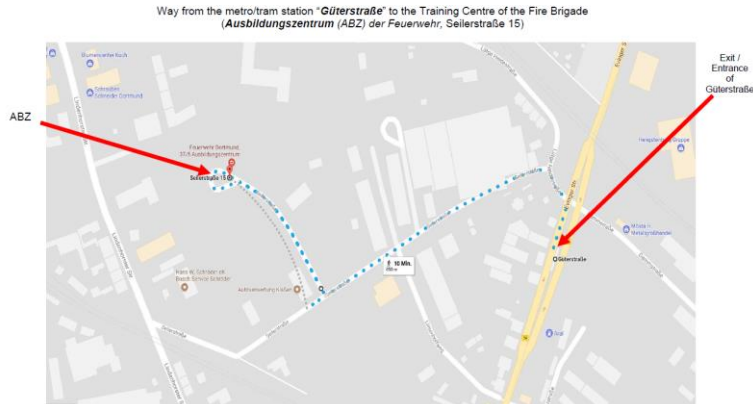
11.2 Pictures

Figure 17 *Briefing of the leading officers concerning the exercise and expected situation*

Figure 18 *Preparation of the technical equipment for the reconnaissance*

Figure 19 *Visiting of the scene after the exercise*

Figure 20 *Hot-wash debriefing & exchange of officers*

Figure 21 Guiding the volunteers (incl. vulnerable people) to the exercise point of accident

12. Annex II Ranst JA 2022

12.1 Reporting Checklist Ranst JA 2022

1. Preparation and organisation
   a. Context and Objectives

Context:
The organising party was Campus Vesta (VESTA). VESTA is a multidisciplinary (for fire fighters, paramedics and police officers) training centre (TC) in Ranst, Belgium. As a training centre, it is responsible for the practical and theoretical training and education of first responders in the province of Antwerp. VESTA also trains first responders outside of the province. In addition to this, VESTA is the training centre for CBRN in Flanders. This means that VESTA also conducts CBRN training and education. Additionally, VESTA, together with University of Antwerp, Vrije Universiteit Brussel, University of Gent and the KU Leuven, de Royal Military Academy and the Flemish professional association for nurses (NVKVV), hosts a postgraduate degree in disaster management. VESTA is also active in multiple European projects, focused on (CBRN) training, collaboration and innovations. One of these projects is the ISF project MELODY, which focuses on the creation of a harmonised CBRN curriculum. eNOTICE is another one of these projects. eNOTICE and MELODY worked together during this Joint Activity. On top of that, a new application (an online observation module) was tested and validated that was developed in cooperation with Campus VESTA.

Having outlined the context in which the joint activity took place. The following objectives were specified for this JA:
   – Dissemination of the MELODY harmonised CBRN training curriculum
   – Examination for the students of the Postgraduate course Disaster Management
   – Multidisciplinary Training opportunity for first responders (firefighters, paramedics, police officers) of the Province of Antwerp
   – Validation of the digital evaluation module

   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:

We were mostly successful in communicating our expectations to the participants. They knew what the objectives were, and most (not all) had taken a look at the material that was sent to them beforehand. Communication was a challenge in the sense that we were working with an audience consisting of 4 different target groups that all were attending with a slightly different agenda:

- Members of the MELODY consortium;
- Members of the eNOTICE consortium;
- Trainers following 1.5 days of Train The Trainer;
- Decision makers following 1 day Train the Trainer and the eNOTICE policy meeting.

This meant that all e-mails and communications had to be slightly adjusted in focus and sent out at least 4 times to all 4 different groups; this in order to get the message across.

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): Phone calls

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): Via a Webinar

       iii. To what extent was your dissemination strategy influenced by the joint aspect? It was strongly influenced by the Joint Aspect. We invited visitors from all over Europe, this is not generally common for just the postgraduate exercise. On top of that, the Train the Trainer of the MELODY event required us to give more information than only about the exercise, and opened up the Joint Activity to more people from different training centres. Without any of the projects, the Train the Trainer would not have taken place, and the people would not have been invited. Thus it had a major effect on the organisation of the exercise and the JA. The exercise would of course have been disseminated, for example by local media, but the joint aspect did add more dissemination effort, including a press notice about specifically the joint aspect and the cooperation between two European Projects at Campus Vesta (not published by (local) media).

     c. Difficulties encountered during the preparation/organization phase.

In the beginning, recruiting participants was difficult and we were initially disappointed by the amount of registrations. In order to negate this, we extended the deadline to sign up, and increased our dissemination efforts. This worked and we were satisfied with the number of participants that attended the event.

     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) Safety and security of participants while they were observing the exercise- this was mitigated by a thorough safety briefing in combination with "guides" being available during the physical displacements of the participants-observers during the JA (FTX)

   2. The JA conduction
     a. Practical information (*upload the general information sheet to answer some these questions*)
       i. Place, time, date, etc.

Date and time

18th of May 2022- 21st of May 2022 (eNOTICE consortium)

19th of May 2022- 20th of May 2022 (Trainers and decision makers)

Campus Vesta
Oostmalsesteenweg 75
2520 Ranst
Belgium

ii.   Participants description
a.   Number of participants
65 registered participants

b.   Which organisations do the participants represent?
The participants represent firstly the eNOTICE consortium and the MELODY consortium; these consortia include training centres and universities.
There were also trainers and decision makers of training centres, both military and civil.
iii.   Agenda

Wednesday, 18th of May 2022- Consortium meeting	
08:15	Bus to Campus Vesta from hotels
08:45	Coffee and tea at Campus Vesta
09:15	Consortium meeting
12:30	Lunch
13:30	Presentation of the VESTA JA
14:30	Tour of the terrain
16:00	Bus back from Campus Vesta to hotels

Thursday, 19th of May 2022- Train the Trainer	
08:15	Bus to Campus Vesta from hotels
08:45	Coffee and tea at Campus Vesta
09:00	Welcome to the Campus
09:15	Melody TTT - part 1
10:45	Break
11:15	Melody TTT- part 2

12:45	Lunch
13:45	Melody TTT- part 3
15:30	Break
16:00	Melody TTT- part 4
17:00	Drinks and networking
18:00	Networking dinner
20:30	Bus from Campus Vesta to hotels

Friday, 20th of May 2022- Policy meeting	
08:15	Bus to Campus Vesta from hotels
08:45	Coffee and tea at Campus Vesta
09:00	Welcome to the Campus
09:15	eNOTICE policy meeting – part 1
10:45	Break
11:15	eNOTICE policy meeting – part 2
12:30	Lunch
13:30	Bus from Campus Vesta to hotels

Saturday, 21th of May 2022- the exercise	
08:15	Bus to Campus Vesta from hotels
08:45	Coffee and tea at Campus Vesta
9:00	Final briefing/ instructions
09:30	Observing the exercise
12:00	Lunch
13:00	Evaluation
14:00	Coffee and closing
14:30	Bus from Campus Vesta to hotels

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

This section will only address the scenario of the multidisciplinary exercise, not the scenario discussions done during the train the trainer. The scenario consisted of three consecutive and cumulative incidents:

1. It is storming; there are wind gusts and thunderstorms. There is a lightning strike in a chemical factory, which quickly evolves into an expanding fire. Two employees died because of the lightning strike, while eight more have serious burns, and two have difficulty breathing.

2. Meanwhile, there is a small flooding on the highway. This is causing multiple cars to slip and an accident to occur, involving more than 13 vehicles. Nine of these cars are stuck on the side of the road and they catch fire. Nine persons are stuck in their vehicles. Three persons, including a motor driver have died.

3. Because of the heavy rain, landslides have started happening near an apartment complex, this caused some of the gas pipelines to leak. The gas reached the underground parking garage and a fire has started there. The fire spread quickly through the apartment building. There are still people inside of the building. Six have been able to get outside, but they were caught in the smoke. Two of them have light burns. On top of that, there are ten people on the roof, of which four are suffering from serious burns. One person has heart problems, and two are suffering from the smoke.

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)

For this JA, technically two events should be counted as the 'original event'. Firstly, the multidisciplinary field exercise organised by Campus Vesta for the examination of the students in the postgraduate degree disaster management. Secondly, a dissemination event of the ISF MELODY project to spread information about the harmonised CBRN curriculum. Seeing as the timing and the contents were closely related to the eNOTICE planning and interest, it was decided to merge the MELODY event and the eNOTICE JA together.

The extra element was not only the merging of events for the two projects, but also the presence of the eNOTICE consortium during the postgraduate exercise. For the merging of these events, it was decided to do a train the trainer and invite eNOTICE consortium members and representatives of the training centres in the network as well. Additionally, a digital observation module developed in collaboration with Campus Vesta was used during the exercise by the consortium members and guests to test and validate it.

b.   Which parts are covered by external partners?

The Train the Trainer was mostly covered by the MELODY project, as an external partner. They also covered the costs of the trainers that participated in the 1,5 day train the trainer. eNOTICE covered the costs of decision makers that participated in the 1 day TTT and the policy meeting.

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

It did not influence the scenario of the postgraduate disaster management exercise.

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

Yes, the briefings about field exercise were in Dutch, so we created a briefing in English for the visitors. This briefing also contained background information such as:

- Safety and security rules at Campus Vesta
- The functioning of the Belgium disaster management system
- Guided tour around Campus Vesta
- Meaning of the different vests in the exercise
- How to use the digital observation module

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)

COVID-19 did not have a direct effect on the conduction of the JA. However, it was made clear to all participants how to act in case of symptoms/ positive testing.

e. Security/legal/ethical aspects encountered? --> if yes, see security/legal/ethical aspects questionnaire

3. The evaluation

b. 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)?

Given the complexity of the JA, a short evaluation session was held whilst the FTX was ongoing. This was followed up by a more thorough evaluation, especially with our partners and with a view to next year's JA.

    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?

For this event, there were not many extra resources needed that VESTA did not already have. The shuttle bus were extra because of the guests, with our 'normal' exercise these would not have been used. Catering was partially our own and partially extra to make sure that we would not impact on the normal business at the school. On top of that, we created naming badges for the JA, and provided ICT infrastructure such as webcams, microphones and audio recording.

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

If these had to be two separate events, more resources would have been needed, probably even twice as much or more. For example', with the JA, the costs and efforts of personnel could be divided, and some things (such as e.g. arrange transport, hotels etc.), only needed to happen once for the entire event. this meant that not only was the burden shared, it was also less because resources could be combined.

On top of that, the JA allowed for a network event that brought many people in the CBRN field of Europe together, which allowed for fruitful discussions to occur.

Additionally, given the specifics of the FTX and bearing in mind the number of English speaking visitors, we engaged to have "guides" available.

    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:
Total PMs (both projects):   6,09
    PMs (eNOTICE):   3,42

Duration: approximately 1 year, however this is difficult to put an exact number on, as we originally had a JA in 2020 which was cancelled but was prepared, and a JA in 2021 which was also cancelled. Thus we have been working on organising a JA for over 2 years, but for this specific JA, approximately a year. Some of the work done previous however was used for this JA

   2.) Which actors were involved?

Team European projects, logistics and catering, financial department, ICT support, reception desk, consortium members MELODY, trainers, firefighters, police, medical emergency staff, Red Cross, civil protection, communication, ICT, Catering, Logistics

   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.

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

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

Food	Extra/combined	Own/not own
☐ **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

** Lunch and drinks were partially our own, and partially catering

Safety	Extra/combined	Own/not own
☐ **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** Coloured vests	☐Extra ☒Combined	☒Own ☐Not Own

Recording/dissemination	Extra/combined	Own/not own
☒ **Cameras/webcams**	☐Extra ☒Combined	☒Own ☐Not Own
☒ **Audio recorders**	☒Extra ☐Combined	☒Own ☐Not Own
☐ **Headphones**	☐Extra ☐Combined	☐Own ☐Not Own
☒ **Other Microphone**	☒Extra ☐Combined	☒Own ☐Not Own

Locations	Extra/combined	Own/not own
☐ **Auditorium/lecture hall**	☐Extra ☒Combined	☒Own ☐Not Own
☐ **(Class)rooms**	☒Extra ☐Combined	☒Own ☐Not Own
☐ **Other** Terrain	☐Extra ☒Combined	☒Own ☐Not Own

Other: Enter text here

    d. Financial resources (estimations)
        1.) What were the total material costs of the JA?

The part of eNOTICE was €3677,49, however the total costs were double this amount. Because this was a JA we shared the costs with another projects. This is excluding the personnel costs.

2.) How was the eNOTICE budget split?

Hotel costs for guests:	€955,90
Travel costs for guests (excl. hotels):	€400
Catering (for guests and consortium):	€2167,31
ICT necessities:	€154,28

3.) Was the project budget sufficient?

1. Explain why/why not

Because it was a Joint Activity, the project budget was indeed sufficient. We spend less then budget, partially because even though decision makers were allowed to ask up to 200 euros per guest for travel costs, most decision makers did not send an invoice (yet), thus this cost was lower than expected. On top of that, VESTA has their own busses and thus does not need to hire anyone for bus services etc., which can normally also be a significant part of the budget.

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

This was a collaboration of two European projects (eNOTICE and MELODY), and there was the opportunity to test a digital evaluation application. For the joint aspect, there was a clear benefit: spreading information and knowledge in the form of the MELODY curriculum to the eNOTICE network, as well as outside of the network. On top of that, this:

- Allowed networking opportunities between the partners of the projects, but also between partners of the projects and trainers and decision makers of the visiting training centres;
- The eNOTICE project could also find out more about and use the innovative evaluation app that is being developed, and see the opportunities that are being developed in this area.
- It is worthwhile to mention that representatives of the PROACTIVE project also attended the FTX as "visitors – observers"; this with a view to the JA taking place in May 2023.

2.) For the TC's of the network

All TC's in the network had the opportunity to get some of their travel costs reimbursed while attending this JA. This was to lower the financial burden that participation could represent. The hotel room was paid for the participants, and up to 200 euros of their travel costs. On top of that, they had two lunches and dinners paid for. The TC's could send both trainers and policy makers to the JA, to get to know a harmonised fully developed MELODY CBRN training curriculum, and to discuss and influence the future of the eNOTICE network.

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
7. industry	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	The app developers now have more knowledge about what practitioners would like to see in an evaluation app, and they were able to test/validate their application.									
8. External training centres and training professionals	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☒	10☐
Please explain your answer	All external TCs and training professionals of the eNOTICE network and outside were invited. This gave them the unique opportunity to follow the first Train the Trainer of the MELODY project and to get to know a harmonised CBRN curriculum									
9. EU and national projects	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☒	10☐
Please explain your answer	Both eNOTICE and MELODY benefited from their participation in this Joint event, both with regards to networking and dissemination, as well by sharing the burden of costs.									
10. Policy makers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☒	10☐
Please explain your answer	Policy makers could participate in the eNOTICE policy meeting and further decide and discuss the future of the network, as well as attending the train the trainer of the MELODY curriculum, and learning about the possibilities of the European Harmonised CBRN curriculum									
11. Organisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	VESTA has made new contacts and was able to introduce everyone to the campus. On top of that, our own trainers and decision makers could participate in the week as well. This caused further internal dissemination of both projects. They also listened to the feedback that was given during the exercise, and the TTT, and could thus make use of the knowledge of other training centres.									

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

This event contributed to a further spreading of a harmonised CBRN curriculum for first responders. If more first responders were trained in this (or other CBRN curriculum) the standard of CBRN knowledge of first responders would go up. This would mean that first responders will be able to recognise a possible CBRN incident quicker, and know what to do to keep themselves and the people around them safe.

On top of that, the application can make evaluating of exercises easier, by making the evaluation online with easy to understand dashboards. This could mean that more observations could be made, and exercises could have quicker feedback for first responders. All of this allows for an aggregation of data (on the basis of multiple exercises), thus allowing for a further analysis of them.

Additionally, the international guests also gave feedback on the exercise and compared their way of working with what they were seeing in the exercise. This led to a fruitful discussion where both groups learned from each other.

d. What were the mutual lessons identified?

For VESTA generally the following lessons were identified:
1. Most participants were interested in the MELODY curriculum after the TTT
   ☐ But were they to use it, they would need to adapt it to national needs
2. Finding a way to do exercise evaluation online, would be preferable to doing it with paper (as is now often done), but does need to be refined further and fitted to the needs of the TC.

2. On top of that, the evaluation form of eNOTICE was used to collect lessons with regards to mutual benefits, clarity of expectations and cost efficiency. 7 participants filled in the evaluation form. The following was mentioned: (71%) made new networking connections and also renewed their networking connections. This is part of the mutual benefits. Another part of the mutual benefits was visiting a training centre to check out their infrastructure, and if it could be used for other projects. People mentioned that for VESTA the following infrastructure could be of use: highway, chemical plant (*which as a matter of fact is the result of a cooperation with industrial partners*), railway, apartment complex, airplane and generally having a comprehensive and well-equipped site with good access for live exercises.

The advantages of hosting a JA, as seen by the participants, were as follows:
- To be able to exchange ideas with colleagues from other EU countries
- Multiple purposes to one trip. Multiple opportunities.
- Larger scale of exercise creates a better representation of reality to improve the learning process/ curve.

The disadvantages of hosting a JA, as seen by the participants, were as follows:
- Too much information at too short a period of time

- I personally did not see any
- Efficient use of resources- these exercises are expensive so to maximise the exposure to other projects and organisations makes them cost effective

This teaches us that JAs in principle are mutually beneficial if there are multiple opportunities, if one can exchange ideas, and if there is a possibility to improve learning with a good representation of reality. These disadvantages show that these JAs have the potential to overwhelm the participants, and that a TC organising a JA should make optimal use of the resources, and maximise the exposure to other projects and organisations.

The next question was: "What do you consider to be 'unique perceived benefits' of training centres that might influence your choice to work with them?" The answers to this question can be applied wider than just VESTA, as it shows TCs how attract other partners to work together. The following answers were mentioned:
- Available at space, staff, good narrator for observers
- Infrastructure for training, facilities, possibilities of various types of exercises for different types of trainees",
- "Facilities and Capabilities provided",
- "Possibility to host and organise large scale field exercises ",
- "The desire to shelter best practice and improve "

There was also a question on what was most interesting in the JA: the infrastructure of the TC, interaction with practitioners or something else. 2 mentioned infrastructure, one interaction with practitioners and 3 mentioned other:
- The possibility to speak with their representatives during the activities, and make comments
- The large scale deployment of first response capabilities during the first incident
- The facilities that Campus Vesta has to offer

On top of that, all participants indicated that they now have a first impression of the possible requirements that practitioners may have, and that the expectations of the training centre were clear for this JA.

    e. To what extent were your expectations met in terms of
        1.) Attendance of participants?

In the beginning there was some difficulty finding participants, this was solved by pushing the sign up deadline back and increasing our dissemination efforts. In the end there was a satisfactory number of participants

2.) Contributions of participants?

The participants were all active and participated in all parts of the JA, amongst others by giving comments/ feedback in "real time" to the whole group of participants/ observers. They exceeded expectations!

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

The exercise was also an exam, and the exam was taken by the students of the Post Graduate course on Disaster Management. On top of that, the second objective was to train the first responders of the province of Antwerp (and beyond). This was also done.

Last, but not least the FTX also had as an objective to familiarise the consortium members of the PROACTIVE project with the facilities available at Campus Vesta. This in view of the JA with PROACTIVE in 2023

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?	Because we were working with two European projects, both had informed consent forms. We decided to combine both informed consent form, making sure that all information of both projects was present, but that the participant did not have to sign multiple informed consent forms. However, this complicated how easy to use the form was.									

General information sheet	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?	Useful and structured way to send out information									

Evaluation and debriefing forms	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?	We adjusted the evaluation forms so that they fit into the evaluation app									

Example of a registration form for external participants	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

Overall, it touched upon all points of the JA. The only difficulty is that we had a 'double' joint activity, so this was difficult for structuring the answers.

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

Enter text here

12.2   General information sheet

General Information Sheet eNOTICE Joint Activity at Campus Vesta (BE), May 2022

Part A: Summary description of the objectives and topic of the CBRN Exercise

Main activity	Invited activity
The two main activities are a multidisciplinary field exercise, organised by Campus Vesta, and a train the trainer of the harmonized CBRN curriculum from the European project MELODY for the purpose of: − Dissemination of the MELODY harmonised CBRN training curriculum − Examination for the Postgraduate course Disaster Management − Training opportunity for first responders of the Province of Antwerp − Validation of the online observation module The exercise will include multiple incidents due to a big lightning storm in the Procince of Antwerp.	The European research project joining the Campus Vesta exercise is **MELODY**. MELODY is a project that is currently developing a harmonised CBRN curriculum for first responders. The MELODY project has created a train the trainer, and would like to invite trainers from the eNOTICE network and consortium. This way the curriculum can be disseminated among multiple European Training centres and there will be multiple European trainers that are able to teach the curriculum. Guests that are invited for this activity are: − TC decision makers − TC trainers

1 Type of activity and contact details of the hosting exercise	Type of activity and contact details of the invited activity
Organising partner: Campus Vesta (BE)	**Joining project: MELODY**
EU projects director contact: Wendy van den Branden: wendy.vandenbranden@campusvesta.be	
Exercise Director: Ronald Ackermans, ronald.ackermans@campusvesta.be	**Overall goal of the project:** *to create a harmonised CBRN curriculum for first responders without prior experience this this field*
eNOTICE contact: Maaike van de Vorst, maaike.vandevorst@campusvesta.be	Project Coordinator: Carlos Rojas Palmos, carlos.rojas.palma@sckcen.be
MELODY contact: Dirk Broeckx dirk.broeckx@campusvesta.be	
	More information at MELODY | MELODY (sckcen.be)
Full scale field exercise on 21ᵗʰ May 2022	
- The field exercises will be held in Ranst (near Antwerp, Belgium).	**Train the trainer on the 19ᵗʰ and 20ᵗʰ May 2022**
- There will be approximately 200 players/participants involved.	- The train the trainer will be held in Ranst (near Antwerp, Belgium)
	- There will be approximately 50 paticipants involved
Contact details campus Vesta:	
Oostmalsesteenweg 75 2520 Ranst	
+32 3 205 19 50	
http://www.campusvesta.be/	

2 Objectives and evaluation criteria of the hosting exercise	Objectives and evaluation criteria of the invited activity

The field exercise has a double purpose, training and examination, each with their own objectives and evalution criteria: 1. **Training goals for all participating first response disciplines and players :** – Diverse training objectives, defined by each participating discipline for their own staff (monodisciplinary) – Multidisciplinary aspects such as: coordination, communication, information flows, cooperation, interoperability,etc. – Evaluation criteria are defined per discipline. 2. **Examination for the course participants of the Postgraduate Disaster Management:** – Multiple students involved – Objectives vary, every participant has a specific role and dedicated tasks, such as: play the role of leading officers on the field, play the role of decision makers in the operational command center, play the role of diverse functions in the strategic coordination center chaired by the major (student).	1. **Objectives for the invited Activity (MELODY)** - Dissemination of the harmonised CBRN curriculum throughout Europe - Training trainers from all over Europe in the harmonised CBRN curriculum 2. **All other invited observers will be asked to provide feedback on the 'Joint' aspect of the exercise, which is the main focus of eNOTICE. Observers will be asked to share their impressions and reflections on the added value and opportunities for improvement of opening up an existing training exercise for observations and testing by a research project. Minimum aspects to be covered are:** – Cost efficiency of using an existing exercise – Joint Activity as an instrument for the exchange of knowledge and good practices – Validation of the online observation module

3 Main scenario: short description	Description of the invited activity
For safety and security reasons the scenario can not be revealed in detail. The following summary description is available for your information:	**Joining research project:** **MELODY (ISPF-2018) -** *To define, develop and deploy a harmonised CBRN training curriculum for first responders and medical staff.*

The scenario will be CBRN, focused on chemical. The exercise will be longer than normal, because more students have to graduate due to COVID the past two exercises could not continue.

During the exercise multiple events will take place. The scenario:

It is storming, there are wind gusts and thunderstorms. There is a lightning strike in a chemical factory, which quickly evolves into an expanding fire. Two employees died because of the lightning strike, while eight more have serious burns, and two have difficulty breathing.

Meanwhile, there is a small flooding on the highway. This is causing multiple cars to slip and an accident to occur, involving more than 13 vehicles. Nine of these cars are stuck on the side of the road and they catch fire. Nine persons are stuck in their vehicles. Three persons, including a motor driver have died.

Because of the heavy rain, landslides have started happening near an apartment complex, this caused some of the gas pipelines to leak. The gas reached the underground parking garage and a fire has started there. The fire spread quickly through the apartment building. There are still people inside of the building. Six have been able to get outside, but they were caught in the smoke. Two of them have light burns. On top of that, there are ten people on the roof, of which four are suffering from serious burns. One person has heart problems, and two are also suffering from the smoke.

Giving the fact that this is an examination and training opportunity, students and first responders are not previously informed on any aspect of the scenario. Therefore, this information is strictly confidential.

Invited European research and networking projects:

PROACTIVE (H2020-SU-FCT-2018)- *PReparedness against CBRNE threats through cOmmon Approaches between security praCTItioners and the VulnerablE civil society.* https://proactive-h2020.eu

4. Profile of the participants of the hosting exercise	Profile of the participants of the invited activity
This exercise will be practitioner-driven. Different first responders will train their deployment in response to a given scenario. Among the different roles and key-players are : - Fire Fighters; - Police officers (federal police and local police) ; - Police Academy ; - Students Postgraduate Disaster Management (policy – decision making) ; - Paramedics ; - Medical staff ; - Hospitals ; - Civil Protection ; - Communication Staff ; - Competent authorities (Mayor) - …	- H2020 DRS, FCT, GM projects partners and coordinators - ISF project coordinators - Academic partners - End users/practitioners/first responders/trainers/decision makers - Members of the eNOTICE network of CBRN training centers

5.   Facilities used for the activity

Campus Vesta – Ranst (Antwerp) – Belgium

Campus Vesta
Oostmalsesteenweg   75
2520 Ranst
Belgium
www.campusvesta.be

A shuttle bus will be arranged to transfer you from the hotel to the campus.

Part B1: Practical organisation – Agenda

Wednesday, 18th of May 2022- Consortium meeting	
08:15	Bus to Campus Vesta from B-INN
08:45	Coffee and tea at Campus Vesta
09:15	Consortium meeting
12:30	Lunch
13:30	Presentation of the VESTA JA
14:30	Tour of the terrain
16:00	Bus back from Campus Vesta to B-INN

Thursday, 19th of May 2022- Train the Trainer	
08:15	Bus to Campus Vesta from Aldhem and B-INN
08:45	Coffee and tea at Campus Vesta
09:00	Welcome to the Campus
09:15	Melody TTT - part 1
10:45	Break
11:15	Melody TTT- part 2
12:45	Lunch
13:45	Melody TTT- part 3
15:30	Break
16:00	Melody TTT- part 4
17:00	Drinks and networking
18:00	Networking dinner
20:30	Bus from Campus Vesta to Aldhem and B-INN

Friday, 20th of May 2022- Policy meeting	
08:15	Bus to Campus Vesta from Aldhem and B-INN
08:45	Coffee and tea at Campus Vesta
09:00	Welcome to the Campus
09:15	eNOTICE policy meeting – part 1
10:45	Break

11:15	eNOTICE policy meeting – part 2
12:30	Lunch
13:30	Bus from Campus Vesta to Aldhem and B-INN

Saturday, 21th of May 2022- the exercise	
08:15	Bus to Campus Vesta from B-INN
08:45	Coffee and tea at Campus Vesta
9:00	Final briefing/ instructions
09:30	Observing the exercise
12:00	Lunch
13:00	Evaluation
14:00	Coffee and closing
14:30	Bus from Campus Vesta to B-INN

Part C: Practical organisation – To be communicated to all organisations/persons who registered for participation

Practical information	
Dates:	18/05/22- 21/05/22
Location:	Campus Vesta Oostmalsesteenweg 75 2520 Ranst Belgium
Meetings and exercise:	3rd floor, room 3A.08, 3A.09, 3A.10, Gaspakkengebouw, multiple observation spaces on the campus
Hotel/ accommodation:	B-INN in Lier. A shuttle bus will be arranged from the B-INN to campus VESTA for the Joint Activity. Contact details of a taxi company will be present on VESTA as well, for those that need to leave earlier on Friday or Saturday
Contact person:	Name: Maaike van de Vorst
	Mobile: +32473564563
	E-mail: Maaike.vandevorst@campusvesta.be
Dress code for exercise	Please note that you will spend time outside during the guided tour, the train the trainer and the exercise. There will be no shelter available. Please dress appropriately for the weather, and take good
Transfer information	
Plane:	We would recommend you the go the Brussels Airport-Zaventem. There is a railway station underground in the airport building. Please make sure to always use the official name of the airport station: "Brussels Airport-Zaventem". Other names will not give the right location of the airport station. From the airport, you can take the train to Lier. You can make your train ticket reservation online via: https://www.belgiantrain.be/en/tickets-and-railcards/airports/brussels-airport/ At Lier station, you can take a taxi to the hotel, or take the bus: number 560, 561, 570 or 571 for six stops until Lier Hoogveldweg. From Antwerp Airport you can take a taxi to the station Antwerp-Berchem, then take the train to Lier. You can make your train ticket reservation online via: https://www.belgiantrain.be/en/tickets-and-railcards/airports/brussels-airport/
Highway:	You can approach Lier via the E19 or the A13, and then then drive to the ring in Lier. You can then take the exit N14/AZ Sint-Maarten at R6. Follow the Aarschotsesteenweg until you reach the hotel

Way to the Hotel	(see plane and highway)

12.3   Photos of the JA

Figure 22 *Start of the Train the Trainer*

Figure 23 *Scenario discussion*

Figure 24 *Field exercise, scenario at the apartment building*

13.   Annex III Rieti JA 2022

13.1   Reporting check list (see above)

12.2   General information sheet

General Information Sheet eNOTICE for a Joint Activity

Main activity	Invited activity
eNOTICE – field exercise with the focus on CBRN Event National Plan implementation.	eNOTICE Participation of national experts, proposed or invited by the eNOTICE Consortium Members. The profile of the invited experts is: first response practitioners (fire & rescue, police, military, emergency medical services), lecturers from CBRN Training Centres and academics or technology developers involved in research to improve CBRN preparedness, psychological care units. PROACTIVE Participation of the PROACTIVE Consortium and Advisory Board Members as active roles and observers in the practical part of the training (e.g. evaluation, catering etc.). Contribution of (vulnerable) civil volunteers recruited by PROACTIVE to evaluate the engagement between the Italian Joint

NBC Defence School's first responders and a diverse group of supposedly affected civilians in a CBRNe environment.

Organising partner:	**Joint Research project:**
SCUOLA INTERFORZE PER LA DIFESA NBC (SCNBC),	In such CBRN events, activities of cordonation, zoning, aid of the strikes, triage, decon (for those necessary) and survey CBRN (performed by the fire brigade) are the main focus for life saving. Sampling and identification of encountered CBRN agent(s) is of key importance for the determination of further action.
the exercise aims to test the capabilities of the assets involved in the intervention in the contaminated area following a CBRN event (accidental or voluntary).	
The measures that will be verified start from the dissemination of the alarm (warning) and from the application of the related measures. "Voluntary" civilian personnel will take part in the exercise in order to integrate the evaluation of the European partner project PROACTIVE (PReparedness against CBRNE threats through cOmmon Approaches between security praCTItioners and the VulnerablE civil society) whose main goal is to enhance preparedness against and response to a CBRNe incident through a better harmonization of procedures between various categories of practitioners, and a better understanding of the needs of vulnerable citizen groups.	That action may be strictly military operational, but it will often extend to a legal-political level. Typically, military action will require mitigation or elimination of the effects of the CBRN agent on the primary mission.
	As concerns the sampling, a qualified level of confidence can only be obtained by the application of proper procedures.
	As concerns the analysis in agent identification, a qualified level of confidence can only be obtained from proper analysis equipment and skilled personnel that is generally only available in a laboratory environment.
	PROACTIVE project will have its own objectives:
	- IDENTIFY behavioural issues associated with responding to a CBRNe incident and potential shortcomings in existing practitioner procedures and tools with respect to vulnerable groups ;
	- IMPROVE real-time communication and collaboration with the use of new tools such as mobile apps for better situational awareness and better response coordination ;

	- TEST combinations of selected tools in joint field exercises which deliberately involve a diverse population that encompasses vulnerable citizens and non-trained staff ; - PROVIDE human-centred recommendations for EU standards concerning the integration of CBRNe technologies and innovations that are better adapted to the needs of all citizens.

2	**Objectives and evaluation criteria of the hosting exercise** **Objectives and evaluation criteria of the invited activity**

Objectives:

to assess the interoperability of multidisciplinary civilian/military team, their cooperation and to apply standard procedure in accordance with NATO and National standards. This exercise will also be exploited by professional end-users to identify needs.

Evaluation criteria:

Survey and Monitoring:
☐ Survey;
☐ Ground Deposition Monitoring;
☐ Radiation Sources Monitoring;
☐ Surface CR contamination survey.
☐ Ground laying and monitoring.
Collection, handle, package, preservation and transport of the following samples:
☐environmental such as: low volume particulate air, surface soil, surface water, vegetation and pasture, swipes and smears;
☐ unusual powders, liquids, defused munitions, arthropod vectors of disease.

Objectives for all the invited observers:

- Evaluate the training and exercise from the perspective of the projects that they represents (and also from the perspective of the entity they belong to);
- Observation and identification of the interplay between the actors on scene;
- Identification of opportunities to strengthen the network of CBRN Training Centres;
- Identification of best practices to share with the eNOTICE community;

Objectives for the invited activity (PROACTIVE):

- To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercise.
- To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe exercise, through response measures (eg. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.
- To evaluate the effectiveness of PROACTIVE pre-incident information and awareness during emergency communication with the public.
- To test the technical aspects of the PROACTIVE App in a live exercise environment.

3	Main activity: short description	Description of the invited activity

The following scenario will be evaluated:

" On 16th November, around 10hr am, train no. TR567345 in transit at the NUBICH railway station, is at the platform of the station itself awaiting departure scheduled for 10:05. Some passengers have already boarded while others are ready to get into. As is the case in all major railway stations, in addition to the POLFER (railway police), there is a patrol of the "Strade Sicure" device consisting of two soldiers from the Army and one from the Carabinieri. Not far from the aforementioned area, some anchoring activities are being carried out on a wagon for rail transport on which there is a tank car containing 10,000 liters of chlorine. The tank is equipped with all safety devices such as: protection shield, anti-overlapping device, buffer with anti-impact elements and internal and external sealing valves. Suddenly, at about 10:03, a burst is heard coming from the logistics area facing the tracks where the anchoring and manoeuvring activities of the tank wagon are in progress, near the cooling systems of the entire network of railway services (employee offices , ticket office, public area), with subsequent propagation of intense and dense smoke. In the moments immediately following, the civilian personnel present in the area begin to flee in different directions in panic crowding the square in front of the station while the POLFER staff tries to identify the exact location of the event to hypothesise its presumed nature. At 10:05 the passengers on the train who had not left the wagons are invited to get off by the security officers assisted by the "Strade Sicure" soldiers and taken to the square together with the other civilians. In the next few moments, some people begin to experience coughing, choking, breathing problems, headaches, ocular burning and muscle aches. Some civilians begin to call the local Carabinieri station while the

PROACTIVE ("PReparedness against CBRNE threats through cOmmon Approaches between security praCTItioners and the VulnerablE civil society"): this Horizon2020 project can help security practitioners make CBRNe crisis preparedness and response fair, accessible and inclusive. Liaising with the civil society, including vulnerable groups, PROACTIVE is co-creating a crisis communication system for both practitioners and citizens as well as pre-incident information materials. These outputs, combined with recommendations on how to include civil society in training exercises, will allow CBRNe practitioners and policymakers to improve societal resilience (https://proactive-h2020.eu/)

POLFER alerts the Fire Brigade asking for the intervention of the NBCR nucleus suspecting a chlorine leak. On the basis of what happens, at about 10:10 am, the local authorities are notified of a potential accidental event which resulted in an involuntary spread of the chemical substance (in the specific case Chlorine).

The territorial organization, in compliance with the National Plan and the descending Local Plan of the Prefecture of Nubich, activates the assets for the management of the emergency starting at 10:20, sending health assistance (Military Red Cross), Police, Carabinieri, the municipal Police and the NBCR Nucleus of the Fire Brigade for the emergency activities of the case.

At 10.40 am, through the Interministerial Technical Civil Defence Commission for the emergency, the cooperation of personnel belonging to the 7th CBRN Defence Regiment is asked in order to carry out the sampling activities of suspect material in the contaminated area subject.

At the same time, the CBRN AREA CONTROL CENTER is asked to make a forecast on the area of expected contamination by examining the chlorine leak and, subsequently, with the analysis data of the 7th CBRN Regiment

The staff of the CBRN Specialist Unit carries out surveys and sampling for their subsequent dispatch to the analysis laboratories.

4	Facilities used for the activity	If relevant, extra facilities needed for the activity

5 Profile of the participants of the hosting exercise	Profile of the participants of the invited activity
National civilian/military assets involved in the National Plan implementation	- Invited experts: CBRN stakeholders, mainly first responders and experts involved in Research, Development and Innovation of technologies for CBRN applications PROACTIVE - Recruited volunteers: Civilians without former understanding of CBRNe or any disaster management in particular. Some civilians will have certain vulnerabilities (e.g. visual, hearing or mobility vulnerabilities etc.) - Invited consortium partners: Performing key roles and responsibilities to enable an exercise including (vulnerable) civilians (e.g. handling of personal belongings, consent form processes, ensuring dignity throughout the exercise, evaluation etc.) - Invited guests: CBRNe experts, first responders, ethics experts and representatives of civil society organisations (PROACTIVE advisory board members) that observe the exercise and provide valuable feedback for PROACTIVE research activities.

Day 1: November 15, 10.00 - 16.30	**Day 2: November 16, 9.00 – 16.30**	**Day 3: November 17, 9.00 – 14.30**
Consortium meeting: **Joint NBC Defence School - Piazza Marconi 7, 02100 Rieti**	**Exercise part 1: Joint NBC Defence School NUBICH Training Area Via M. Curio Dentato 02100 Rieti** **De Briefing part 2: Joint NBC Defence School - Piazza Marconi 7, 02100 Rieti**	**Workshop: Joint NBC Defence School Piazza Marconi 7, 02100 Rieti**

10.00 – 10.15: Registration of Participants	9.00 – 10.00: In Processing (Joint NBC Defence School Training Area)	9.00 – 10.30 eNOTICE workshop part 1
10.15 - 10.30 Welcome, intro – UCL/UNITOV	10.30 - 12.30: Exercise	10.30 – 10.45: Coffee Break
10.30 – 13.00: Consortium Meeting (including Coffee break)	13.00-14.00: Lunch	10.45 – 13.00: eNOTICE workshop part 2
13.00 – 14.00: Lunch	14.00 – 16.00 De Briefing activities	13.00 – 14.00 Lunch
14.00 – 15.15: Consortium meeting conclusions/Joint Activity presentation	16.00 transfer to hotel/s	14.00: Transfer to Rome (City Center Termini Station Area) or to Rome Fiumicino airport **(TBD)**
15.15 – 15.30: Coffee Break	18.30: Social Activity in Rieti **(TBD)**	
15.30 – 16.30: Discussion and closing remarks	19.30: Social Dinner	

Part B: Practical organisation

Agenda

12.3 Accommodation, directions, practical info:

HOW TO REACH RIETI

BY CAR FROM FIUMICINO AIRPORT TO RIETI (TOLL 1.50 €)

TRAIN FROM FIUMICINO AIRPORT TO FARA SABINA STATION

+

BUS (COTRAL) FROM FARA SABINA STATION TO RIETI

https://www.oraribus.com/autobus-cotral-fara+in+sabina-rieti

Accommodation in Rieti (all of them with NBC School special agreement dedicated)

Hotel 4 Stagioni
Address: P.zza Cesare Battisti 14, 02100 Rieti
+39 0746.271071 / 271117 / 271091 / 271072
Web page: https://www.hotelquattrostagionirieti.it/en/

Hotel Cavour
Address: Piazza Cavour, 10, 02100 Rieti RI
+39 0746 485252 - info@hotelcavour.net
Web page: https://www.hotelcavour.net/it/

Hotel Serena
Address: Via dei salici 46/A - 02100 Rieti RI
+39 0746 270930 - info@hotelserenarieti.it
Web page: https://www.hotelserenarieti.it/

Photos of the Rieti JA[3]

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[3] https://proactive-h2020.eu/2023/04/13/photos-from-our-rieti-cbrne-training-exercise-out-now/

Figure 25 *Image of volunteers inside the metro (pre-incident)*

Figure 26 *Image of first responders inspecting the metro station (post-incident)*

Figure 27 *Image of public decontamination*

Figure 28 Image of tracing

Figure 29 *Image of SIBCRA procedures*

Figure 30 Image of observers debriefing (post-exercise)

Figure 31 Photo with exercise volunteers

eNOTICE Observers Exercise Results

What was your role at the JA in Rieti

8 responses

- eNOTICE partner
- Participating EU Project observer/expert
- Invited expert

75%

25%
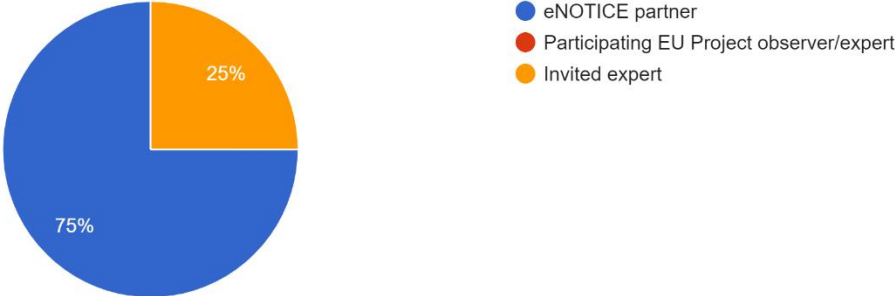
eNOTICE Partner Observations

Did you make any new networking connections while you were at the JA?

6 responses

- Yes
- No
- Maybe

100%

Did you renew any networking connections while you were at the JA?

6 responses

- Yes
- No
- Maybe

16.7%

83.3%
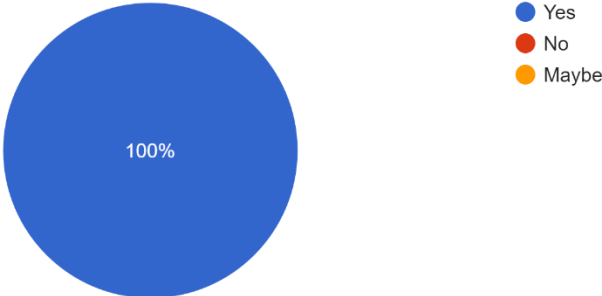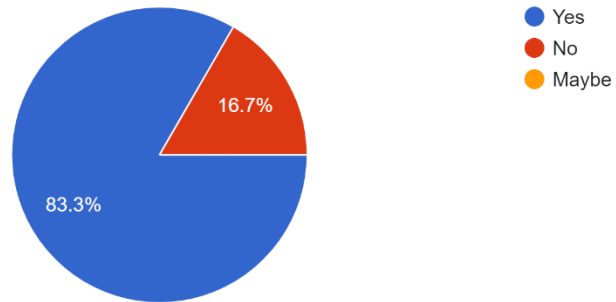
Were the expectations of the Training Centre clear to you as a participant?

6 responses
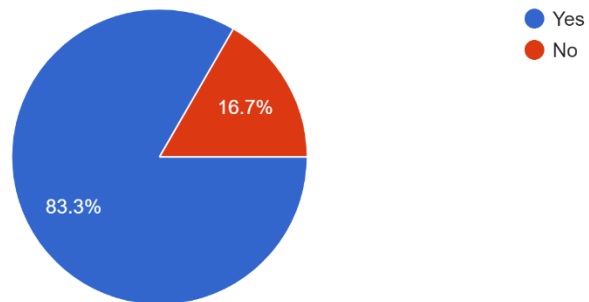
- Yes
- No

16.7%

83.3%

In your view, what were the advantages of hosting a JA like this one, instead of 'just' an exercise/course/normal activity?

6 responses

collaboration with another project with different research objectives and way of working is always enlightening

More opportunities for networking, discussions for anticipated JA activities and socialising.

The realistic scenario and the many participants made the activity very useful in order to collect a lot of feedback.

Both parties could learn from each others point of view, and you have a financial benefit: instead of 2 exercises for 2 parties, there is 1 exercise for 2 parties. This means that both can save money by pitching in together for 1 exercise

an opportunity to put faces to names and meet other partners

Connecting people from the professional field

In your view, what were the disadvantages of hosting a JA, instead of 'just' an exercise/course/normal activity?

6 responses

the other project might be too "invasive", disturbing the normal exercise

Being out of the office for longer time.

The weather. Kidding. Nothing.

You need to collaborate outside of your organisation, and that means there is the risk of the collaboration going wrong, or one party dominating over the other party so that not all objectives can be fulfilled

NA

None

149

Other feedback or suggestions you would like to share with us?

6 responses

Thank you for the huge efforts you have made for eNOTICE partners, and for meeting all requirements of PROACTIVE project!

My first participation at the JA and I really liked it. It provided me all what I anticipated but more importingly it provided me the opportunity to better jointly cooperate in this specific dossier. I am looking forward for the next itiration.

Add a speaker who can explain in detail how the activities; they are developing. Sometimes, from the outside, it can be difficult to understand what is happening.

Perhaps next time it might be good to have the hot debrief in a closed room, with less noise. Thank you very much for organising the exercise!

thoroughly enjoyed meeting people. It would have been good to have been told it was the first exercise that Fire and the military had trained together as it explained a lot.

-

Participating EU Project Expert Observations

Did you make any new networking connections while you were at the JA?

0 responses

No responses yet for this question.

Did you renew any networking connections while you were at the JA?

0 responses

No responses yet for this question.

Were the expectations of the Training Centre clear to you as a participant?

0 responses

No responses yet for this question.

What infrastructure did you see that provokes interest for use within the project(s) you are involved in?

0 responses

No responses yet for this question.

In your view, what were the advantages of hosting a JA like this one, instead of 'just' an exercise/course/normal activity?

0 responses

No responses yet for this question.

In your view, what were the disadvantages of hosting a JA, instead of 'just' an exercise/course/normal activity?

0 responses

No responses yet for this question.

What do you consider to be 'unique perceived benefits' of training centres, that might influence your choice to work with them?

0 responses

No responses yet for this question.

Do you consider this type of exercise as an interesting setting for testing, as part of the technical development process in an EU project?

What was most interesting: interaction with practitioners, the infrastructure, other?

0 responses

No responses yet for this question.

After observing the joint activity, do you feel like you have first impression of the possible requirements that practitioners may have?

0 responses

No responses yet for this question.

Invited Expert Observations

Did you make any new networking connections while you were at the JA?

2 responses

- Yes
- No
- Maybe

100%

Did you renew any networking connections while you were at the JA?

2 responses

- Yes
- No
- Maybe

100%
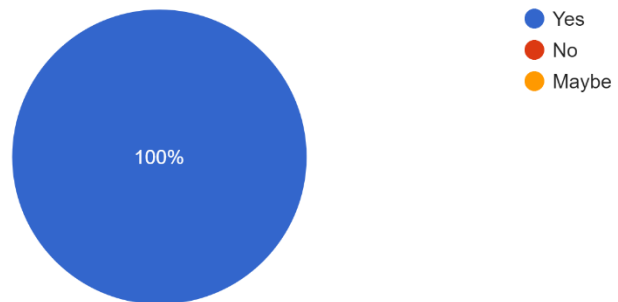
Were the expectations of the Training Centre clear to you as a participant?

2 responses
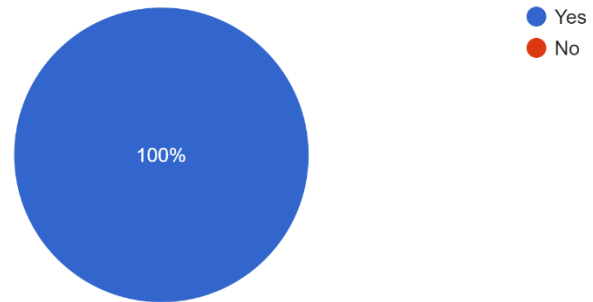
- Yes
- No

100%

What infrastructure did you see that provokes interest for use within the project(s) you are involved in?

2 responses

NUBICH

how the scenario was developed and executed

What do you consider to be 'unique perceived benefits' of training centres, that might influence your choice to work with them?

2 responses

Realistic scenarios and experienced trainers

the team job and the infrastructures

Do you consider this type of exercise as an interesting setting for testing, as part of the technical development process in an EU project?

What was most interesting: interaction with practitioners, the infrastructure, other?

2 responses

Yes, they are interesting. Most interesting was the operating procedures used by the practitioners during the exercise.

practiotioners and infrastructures

After observing the joint activity, do you feel like you have first impression of the possible requirements that practitioners may have?
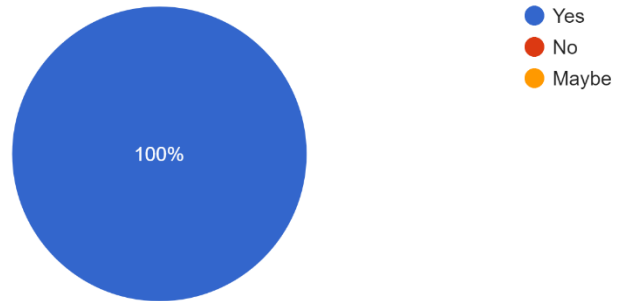
2 responses

- Yes
- No
- Maybe

50%

50%
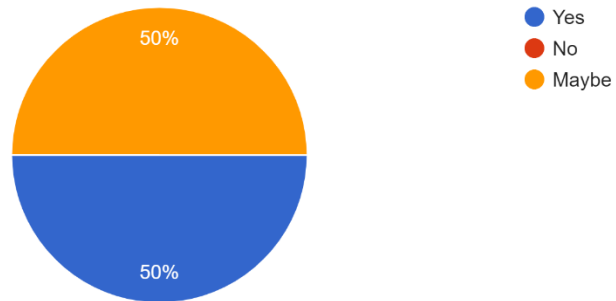
14. Annex IV Warsaw JA 2023

14.1 Reporting Checklist Warsaw JA

1. Preparation/organization

a. Context and Objectives

The main goal of this exercise was verification of knowledge and skills of practical using procedures of prediction of CBRN hazards using various scenarios of crisis situations and multiple methods and tools designed for the National Warning and Reporting System in Poland.

Evaluation criteria:

- improving the correctness of prepared messages and the timeliness of their sending,

- improving skills in predicting the effects of CBRN incidents and preparing recommendations for preventive actions,

- checking the procedures of cooperation of CBRN rescue services in a crisis situation.

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:

There were no communications problems during the preparatory phase or in the JA itself. Exercise development team was small and internal communication effective.

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 ?

It was only tabletop exercise as a final stage of training of military CBRN Warning and Reporting System personnel.

c. Difficulties encountered during the preparation/organization phase.

There was no difficulties.

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

☒E.g. informed consent of participants

☒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)

2. The JA conduction

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

      i. Place, time, date, etc.

      War Studies University, Warsaw, Poland 8th March 2023.

      ii. Participants description

        a. Number of participants

        15 participants from different military staff responsible for Warning and Reporting issues within the Polish Armed Forces on different levels of command and as observers 16 eNOTICE projects members.

        b. Which organisations do the participants represent?

        Polish Armed Forces

        From eNOTICE: UCL, VESTA, FDDO, JCBRND COE, METU, WMP, WSU, CNBOP-PIB.

      iii. Agenda

DAY	TIME	EVENT

Day 1 Mar 6, 23	Full day	Travelling to Warsaw, Poland and accommodation in hotels
Day 2 Mar 7, 23	10.00 – 10.10	Welcome intro
	10.10 – 12.30	eNOTICE meeting (part1)
	12.30 – 13.30	Lunch
	13.30 – 16.00	eNOTICE meeting (part2)
	16.00 – 16.30	eNOTICE meeting summary
	17.00	Hosted dinner
Day 3 Mar 8, 23	10.00 – 10.30	Introduction to exercise
	10.30 – 12.00	Observation of exercise
	12.00 – 13.00	Lunch
	13.00 – 14.00	Exercise hot wash up
	14.00	Transportation to airport/railway station
	19.00	No-hosted dinner

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

This tabletop exercise was focused on different CBRN incidents (nuclear, radiation, chemical and biological) among Poland. The exercise trained in CBRN calculation, warning and reporting procedures according NATO standards ATP-45(F). Additionally personnel from the CBRN W&R Collection Cells used their skills to brief and provide advice to commanders on tactical and operational level regarding to aspects of CBRN incidents will be enhanced, CBRN countermeasures and reporting.

During the activity the observers (eNOTICE) and the exercise management were in the operating room equipped with monitors and the Internet (lan) communication. Live images were transmitted online to the screens which watched the exercise via cameras.

    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)

            The JA was organized around a regular residential course at the CBRN Defence Training Centre (WSU).

        b. Which parts are covered by external partners?

            Not applicable.

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

            Not applicable.

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

The introducing briefing reflected aspects of CBRN hazard prediction and assessment and participation of eNOTICE partners as observers in this JA.

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)

Ukraine War

e. Security/legal/ethical aspects encountered? --> if yes, see security/legal/ethical aspects questionnaire –

During introducing briefing which encompasses specific security aspects during JA.

3. The evaluation

a. What debrief/evaluation sessions did you host?

☒ Hot debrief

☐ Cold debrief

☐ Other

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

Yes

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?

No

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

N/A

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.

WSU

PM: 5

Duration: 5

2.) Which actors were involved?

WSU foreign cooperation office, Logistic Department,

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.

Accommodation	Extra/combined	Own/not own
☐ **Tents**	☐Extra ☐Combined	☐Own ☐Not Own
☐ **(hotel) rooms**	☐Extra ☐Combined	☐Own ☐Not Own
☐ **Other** Klik of tik om tekst in te voeren.	☐Extra ☐Combined	☐Own ☐Not Own

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

Food	Extra/combined	Own/not own
☒ **Drinks**	☒Extra ☐Combined	☐Own ☒Not Own
☒ **Lunch**	☒Extra ☐Combined	☐Own ☒Not Own
☒ **Dinner**	☒Extra ☐Combined	☐Own ☒Not Own

☒ **Other** – social dinner	☒Extra	☐Own
	☐Combined	☒Not Own

Safety	Extra/combined	Own/not own
☐ **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

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

	☐Combined	☐Not Own
☐ **Headphones**	☐Extra	☐Own
	☐Combined	☐Not Own
☐ **Other**	☐Extra	☐Own
	☐Combined	☐Not Own

Locations	Extra/combined	Own/not own
☒ **Auditorium/lecture hall**	☒Extra	☐Own
	☐Combined	☒Not Own
☒ **(Class)rooms**	☒Extra	☒Own
	☐Combined	☐Not Own
☐ **Other computer lab**	☒Extra	☒Own
	☐Combined	☐Not Own

d. Financial resources (estimations)

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

1,500-2,000 EUR

2.) How was the eNOTICE budget split?

1,500 EUR for the event WSU.

WSU – transportation and one host-dinner, covering the costs of using the premises, computers and other staff.

3.) Was the project budget sufficient?

    1. Explain why/why not

e-Notice budget was sufficient because the tabletop exercise was a part of course financed from the budgets of Ministry of Defence.

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

Exchange information between eNOTICE partners what tools could be used for using for warning and reporting purposes after CBRN incident.

    2.) For the TC's of the network

Enhancing their knowledge within area of functioning CBRN Warning and Reporting Systems in EU country on the example of Poland.

  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
12. industry	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐	10☒

Please explain your answer	To test new software.									

13. External training centres and training professionals	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☒	10☐

Please explain your answer	To compare own procedures, to improve mutual cooperation,
	Getting knowledge

14. EU and national projects	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☒	10☐

Please explain your answer	To familiarize how each country cope with CBRN issues/events in different countries EU.
	Information exchange between national and EU projects.

15. Policy makers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐	10☒

Please explain your answer	What is the impact of toxic substances on people within hazardous area after CBRN events. To build their awareness.

16. Organisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐	10☒

Please explain your answer	To show own (national) capabilities within CBRN area.

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

Information exchange and personal networking between personnel from different organization/element of W&R System.

d. What were the mutual lessons identified?

For the WSU to teach more about different approach of hazard prediction to consider how cope with gaps during this process.

e. To what extent were your expectations met in terms of
1.) Attendance of participants?

An amount of participants and observers of exercise met our expectations.
2.) Contributions of participants?

Due to the deep expertise and experience in the CBRN field, discussions, exchange of opinion and evaluation of the exercises were very relevant and fruitful.

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?	Enter text here									

iii. Were you satisfied with the reporting checklist?

☐Yes

☐No

iv. Please explain your answer

Every JA (exercise/course) has its own specificity and it is difficult to adapt a checklist adequate to each activity.

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

No

14.2   General information sheet
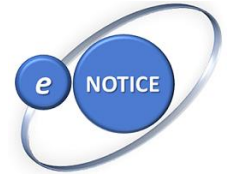
General Information Sheet eNOTICE for a Joint Activity
Part A: Summary description of the objectives and topic of the CBRN Exercise

Main activity	Invited activity

The eNOTICE Joint Action will use opportunity of tabletop exercise to be held on 8th of March during the computer assisted CBRN hazard assessment course.

N/A

1 Type of activity and contact details of the hosting exercise	Type of activity and contact details of the invited activity
Organising partners: WSU **Tabletop exercise** The basis for joint action will use opportunity of tabletop exercise to be held on 8th of March during the computer assisted CBRN hazard prediction course.	N/A

2 Main scenario: short description	Description of the invited activity
CBRN hazard prediction enables assessment of release distribution in the air and on the ground. Fast and reliable hazard assessment is important to determine boundaries of hazard area and initiate warning of troops/responders and population. There are multiple methods and tools designed to support prediction of CBRN hazards. Some of them reflect simplified prediction based on e.g. civilian ALOHA or military ATP-45 standards. The advantage of utilization of such tools is compatibility of manual and automated hazard prediction, ease of use and availability in the services. Advanced hazard prediction requires complex IT tools based on mathematical modelling and detailed weather data like HPAC and similar ones. Processing of CBRN information resulting in hazard prediction is one of most demanded skills. It is obligatory for CBRN staff and desired for other services. Polish CBRN Defence Training Centre conducts dedicated 1-2 week courses for military and civilian personnel of National CBRN Warning and Reporting System. Joint Activity will use opportunity of final stage of course for CBRN military staff.	N/A

3 Facilities used for the activity	If relevant, extra facilities needed for the activity
CBRN Defence Training Centre of Polish Armed Forces within War Studies University: - Class rooms; - Communication & conference rooms;	N/A

4 Profile of the participants	Profile of the participants of the invited activity
- CBRN specialists (military trainees); - eNOTICE consortium member.	N/A

Meeting attendees:

N	Organization	Name
1	Université catholique de Louvain (UCL)	Olga Vybornova Jean-Luc Gala
2	Campus Vesta (VESTA)	Maaike van de Vorst Luc Calluy (online) Stefaan Goris Kevin Carion Gustav Cools
3	Service Départemental d'Incendie et de Secours de Seine et Marne (SDIS77)	-
4	Association pour la recherché et le développement de méthodes et processus industriels (ARMINES)	-
5	Fire Department Dortmund (FDDO)	Sylvia Pratzler-Wanczura
6	Safety innovation centre (SIC)	-
7	Joint CBRN Defence Centre of Excellence Vyškov (JCBRND COE)	Wolfgang Reich Roman Hlinovský Tomáš Michalčík Richard Hanák
8	Middle East Technical University (METU)	Elif Surer
9	University of Rome Tor Vergata and The Italian Joint NBC Defense School (UNITOV)	Daniele Di Giovanni (online)
10	West Midlands Police (WMP)	Gordon O'Haodha Neil Millward

		Mariusz Młynarczyk
11	War Studies University, CBRN Defence Training Centre (WSU)	Adam Bagniewski
12	Scientific and Research Centre for Fire Protection (CNBOP-PIB)	Adam Wieczorek

General Agenda

DAY	TIME	EVENT
Day 1 *6 Mar 2023*	Full day	Travelling to Warsaw, Poland and accommodation in hotels
Day 2 *7 Mar 2023*	10.00 – 10.10	Welcome intro
	10.10 – 12.30	eNOTICE meeting (part1)
	12.30 – 13.30	Lunch
	13.30 – 16.00	eNOTICE meeting (part2)
	16.00 – 16.30	eNOTICE meeting summary
	17.00	Hosted dinner
Day 3 *8 Mar 2023*	10.00 – 10.30	Introduction to exercise
	10.30 – 12.00	Observation of exercise
	12.00 – 13.00	Lunch
	13.00 – 14.00	Exercise hot wash up
	14.00	Transportation to airport/railway station
	19.00	No-hosted dinner

Consortium meeting Agenda

Tuesday, March 7, 2023

Time		Item	Presenter
Start	**End**		
10.00	10.10	Welcome intro	UCL and WSU
10.10	10.30	Discussion and preparation for Final conference	UCL + all

10.30	10.50	The contents of the library to be put on ECC	All
10.50	12.30	Recording interviews	WSU + all
12.30	*13.30*	*Lunch*	
13.30	14.30	Introduction to CBRN hazard prediction	WSU
14.30	15.00	Announcement of the next JA in Campus Vesta, May 13, 2023	VESTA
End of the meeting			

15. Annex V Ranst JA 2023

15.1 Reporting checklist Ranst JA 2023

2. Preparation/organization

   a. Context and Objectives

   The organisation organising this Joint Activity is Campus Vesta (VESTA), a multidisciplinary training centre in Ranst, Belgium. VESTA is primarily responsible for the training of first responders in the province of Antwerp. On top of that, it is a recognised CBRN training centre. VESTA offers both basic and advanced (multidisciplinary) trainings in the area of disaster management. On top of that, VESTA also works with multiple companies, offering courses, sharing trainers and even creating new infrastructure together.

   On top of that, VESTA is a consortium partner of the eNOTICE

   Two events within the JA were organised. Firstly the eNOTICE eFAIR (including a seminar) on May 12th and secondly the annual multidisciplinary field exercise at Campus Vesta which was the basis for the closing exercise of eNOTICE and the third field exercise of PROACTIVE. The objectives were as follows.

   eFAIR

   - Networking between academics, companies and practitioners
   - Bringing together academics, companies and practitioners
   - Knowledge sharing between these actors
   - eNOTICE dissemination of project lessons learned

   Mutldisciplinary exercise (VESTA)

   - examination of the students of the Postgraduate course Disaster Management
   - training of first responders of the province of Antwerp
   - functional deployment of the mobile UCL laboratory (eNOTICE)
   - Inclusion of civil society including vulnerable people (PROACTIVE)

   Joint Activity (eNOTICE)

- Creation of mutual benefits
- cost efficiency
- creation of mutual lessons identified

UCL biological Lab

See above

Multidisciplinary exercise (PROACTIVE tactical objectives)

- 1 To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.
- 2 To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.
- 3 To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.
- 4 To conduct an experimental trial of the efficacy of the PROACTIVE pre-incident information for influencing attitudes, perceptions and behaviours during an emergency incident response.
- 5 To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, complexity, and channels.
- 6 To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.
- 7 To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.
- 8 To evaluate how usable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g. communication needs, better information exchange).
- 9 To develop the understanding of factors that may increase public compliance during CBRNe incidents.
- 10 To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment as well as societal dimensions are considered by first responders and researchers in dealing with CBRNe incidents.

b. Communication and dissemination strategies

	Very un-successful									Very successful
5. 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:

We communicated with multiple different groups for this joint activity.

Civil society including vulnerable people

With the inclusion of PROACTIVE in the VESTA multidisciplinary field exercise came the need for clear communication with civil society. Firstly this was focused on recruitment of vulnerable people specifically because they might be a difficult group to reach. Where possible we tried to focus on contact persons from hubs, rather than individual persons. Thus we focused on contacting organisations like organisations for deaf people, blind people, a scouting group for people with disabilities, an athletics group for people with disabilities, an organisation working to provide housing for people with disabilities and elderly homes.

We contacted the key persons of these organisations and invited them to a briefing a year before the exercise. VESTA and PROACTIVE were present at these briefings, which were completely voluntarily without any obligation before or after. Then we kept into contact with these groups while they were asking their contacts about possibly participating in the exercise. Whenever needed, VESTA would come out and do a briefing in Flemish at the place of the organisation. As the exercise approached, participants were asked to register online (or VESTA registered them if they asked us to do so, based on a paper form they completed). All registered participants were informed beforehand of

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the time schedule of the exercise, given a briefing about safety and security, and a quick overview about the scenario without giving away the whole scenario. This was mainly to find out who did and who did not want to be decontaminated, since the scenario entailed contamination through taking food (B-component) and an agent being thrown over the volunteers (C-component). They were instructed beforehand about wearing swimwear underneath and taking reserve clothing with them as well. On the day of the exercise, all participants were given a briefing before heading to the exercise location. They did focus groups with PROACTIVE afterwards. On top of that, VESTA sent an email with the lessons identified/ learned of the exercise as a debrief, to show how valuable their participation was.

eNOTICE and eNOTICE network

We communicated via email to the eNOTICE consortium and network. This was done via targeted emails to the eNOTICE consortium and the network. The network members could get their travel costs refunded, which was only an option for network members, but this did mean that the communication had to be targeted. You can find the invitation for eNOTICE consortium and network in annex.

Companies

For the eFAIR it was important to contact companies and invite them to the event. This was done via multiple channels: firstly VESTA reached out to companies we had collaborated together with in the past, secondly, eNOTICE had worked with companies in the past as well, for example during policy meetings. Thirdly some invitees also suggested some companies that we could invite. The invitation for the companies is in annex.

PROACTIVE

Working together with PROACTIVE, we were all focused on communicating well with each other. Therefore we appointed key contact persons to communicate with. All communication went via these contact persons. This was to avoid confusion on both sides and so that there were always people that were aware of all discussions and agreements. Then the contact persons would liaise

internally to make sure that the made agreements were honoured. PROACTIVE did all communication to PROACTIVE observers and VESTA to the eNOTICE visitors. One small difficulty of communication was in terminology:

"observers" in Vesta ("observatoren in Dutch") are the people that do the formal evaluation of the students of the post graduate degree, and they share observations for the first responders on scene. This role comes with its own authorisation during the exercise, because observers can go inside the perimeter during the exercise. This while "observers" for PROACTIVE are the visitors that will view the exercise for that project and making observations. For VESTA, this group would most accurately be called visitors, since they would not be allowed in the perimeter.

Belgium first responders

For the eFAIR specifically, we also targeted Belgium first responders, most specifically Advisor of dangerous goods. They were invited through our internal network and contacts. On top of that, we contact key persons of different (firefighter) networks, to spread the message among their members.

UCL Lab

Our communication with the UCL lab was mainly based around two topics: 1. Their role in the exercise and 2. The accommodations they would need with regards to water, electricity, internet etc. These communications were mostly done via e-mail, but a representative of the lab also came to the campus beforehand to scout out the location and the area of the exercise, and discuss the accommodations.

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?

It was strongly influenced by the joint aspect. Usually we might invite some first responders to be observers for the exercise, but now we invited a lot of external parties to watch the exercise as well. On top of that, the eFAIR also required us to reach out not only to our network of first responders, but also to both VESTA's and ENOTICE's network of industry.

c. Difficulties encountered during the preparation/organization phase.

As already mentioned, there was some confusion with regards to the terminology of "observers". On top of that, recruiting civil society volunteers was not easy and required a lot of time and effort, both during working hours and after. On top of that, it was complex working with so many partners at the same time, and making sure that all the objectives were met whilst not complicating things even more because of the larger number of parties involved.

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.

3. The JA conduction

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

 i. Place, time, date, etc.

 May 11th- May 13th 2023, Ranst in Belgium

 ii. Participants description

  a. Number of participants

11th of May":

eNOTICE Consortium meeting:

12 participants (not counting online)

12th of May:

eFAIR

124 registrations

107 signature of participants (companies, eNOTICE, PROACTIVE, Belgium first responders and VESTA)

13th of May:

70 participants (companies, eNOTICE, PROACTIVE, film crew for both projects)

  b. Which organisations do the participants represent?

eNOTICE consortium and network members

PROACTIVE consortium and observers

Belgium first responders, mostly advisors dangerous goods

VESTA relevant staff and trainers

Film crew for dissemination

 iii. Agenda

Thursday, 11th of May 2023- Consortium meeting	
08:15	Bus to Campus Vesta from Aldhem
08:45	Coffee and tea at Campus Vesta
09:15	Consortium meeting
12:30	Lunch
13:30	Consortium meeting

14:30	Presentation of the VESTA JA + evaluation
16:00	Bus back from Campus Vesta to Aldhem

Friday, 12th of May 2023- eFAIR	
08.30	Building up stands for all stand holders
09:45	Bus to Campus Vesta from Aldhem
10:00	Coffee and tea at Campus Vesta
10:30	Welcome to the Campus
10:35	Goals of the eFAIR and safety information
10.40	eNOTICE: lessons learned and the future
11:05	Walk around the fair + coffee and tea
11:30	Civil and Military collaboration
12:15	Panel: vulnerable people in disaster scenario's
12:45	Lunch + walk around the fair
13:45	VR and CBRN demo/talk
14:30	Elevator pitch Industry
15:10	Walk around fair + Coffee and Tea
15:40	Pooling of resources in the eNOTICE network
16:00	Innovation and research implementation in training centres: brainstorm
16:30	Closing of conference
17:00	Walk around Fair with a drink
18:00	Social dinner- BBQ
21.00	Bus back to Aldhem

Saturday, 13th of May 2023- the exercise	
08:15	Bus to Campus Vesta from Aldhem
08:45	Coffee and tea at Campus Vesta
9:00	Final briefing/ instructions + splitting up in groups
09:30	Observing the exercise
12:00	Lunch
13:00	Evaluation
15:00	Coffee and closing
15:30	Bus from Campus Vesta to Aldhem

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

The scenario entailed a CBRN component, focused on Biological and chemical. The exercise comprised 2 scenario's because of the number of postgraduate students that needed to take their exam. The events took place in (for the purpose of the exercise) 2 (artificial) municipalities,

which meant there were 2 municipal coordination centres, and 2 operational coordination centres.

During the exercise multiple events took place. The scenario:

VESTA was, for the purpose of the exercise, changed in a university, specifically a university focused on bio-medical science. The university organised a fund raiser and invited the UCL bio lab to give a short demonstration during the events. The fundraiser existed of 2 parts: a formal reception and a party for students.

The "university" had recently expelled 4 students for misbehaviour. They sent a message to the university promising to make them pay, by making them victims of their own faculty by making them get a taste of their own medicine.

Scenario 1

The formal reception is underway. (Retired) staff and their families are enjoying some snacks and having a good time. After a few moments, people start getting ill and getting symptoms like vomiting, diarrhoea etc. On top of that, two of the disgruntled students manage to gain access to the building and throw a white powder over some of the attendees.

Scenario 2

The party with a DJ and students + their family is well under way. The disgruntled students manage to get access to the party and they disperse a liquid over the attendees. People that have been hit by the fluid are getting symptoms. The students try to run away but they end up in a fight. During the fight, they draw their knives which results into multiple injuries. The students then run away and hide somewhere in town.

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)

There were multiple areas that made it a joint activity, best shown in the VENN diagram in **Figure 32.** Normally only the yellow circle would take place, the VESTA annual exercise for the Postgraduate students. Now there were companies invited, the UCL laboratory was added, the PROACTIVE element with civil society volunteers was added, and representatives of the eNOTICE network and of companies and academics were present. This means that there were a lot of extra elements included in the joint activity.

VESTA exercice

UCL labo

PROACTIVE
(civil society)

eNOTICE
network

Involvement
of companies
+academics
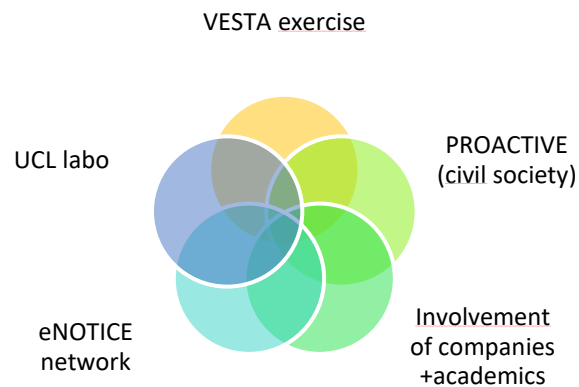
Figure 32 Venn diagram JA Ranst

b. Which parts are covered by external partners?

The PROACTIVE involvement was covered by external partners. On top of that, companies paid for their own travel and hotel costs. eNOTICE paid for the network members that wanted to join.
The companies that participated in the eFair took care of their own expenses.

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

It did influence the scenario in this case. Because there were civil society volunteers including vulnerable people, we had to make sure that scenario 1 was appropriate for them. For example, we

could not include too much violence in that scenario, because we did not want the children to see that and think it was real. On top of that, because of our cooperation with PROACTIVE, we were asked to include decontamination in the exercise as well.

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

Yes, we had to have extra briefings. We had an extra briefing on May 11th for the eNOTICE consortium and the PROACTIVE consortium. On top of that, in the morning of May 13th, we briefed the eNOTICE network members, the PROACTIVE observers and the companies. We also arranged a separate briefing on May 13th for the civil society volunteers to make sure they knew roughly what was going to happen.

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? --> if yes, see security/legal/ethical aspects questionnaire

4. The evaluation

b. 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)?

Yes, there was enough time, all participants of eNOTICE and PROACTIVE and the companies were able to join the hot debrief sessions.

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?

Working together with PROACTIVE, all resources needed for the vulnerable people were given by them. On top of that the network members of eNOTICE were paid for by the eNOTICE budget of the JA. These were both extra resources, but VESTA did not bear the financial cost itself. Buses could be used for both the eNOTICE consortium members and network members, this was a combined resources

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

There were less resources needed for the combination, then having to do all of the 5 aspects apart, because that would be 3 exercises (VESTA exercise, PROACTIVE exercise, UCL lab exercise), and would need involvement of the eNOTICE network and the companies in all three, to reach the same effect as we now did in 1 JA.

        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: Enter text here

Duration: Enter text here

            2.) Which actors were involved?

Exercise management

Exercise staff

Catering

Logistics

Reception

Prevention advisor

EU   project   team   of   VESTA
first responders

Vesta observers

Companies

Academics

eNOTICE Network members

eNOTICE consortium members

PROACTIVE consortium members

PROACTIVE observers

Civil society volunteers

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.

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

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

Food	Extra/combined	Own/not own
☒ **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

Safety	Extra/combined	Own/not own
☐ **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** tabards	☒Extra	☒Own
	☐Combined	☐Not Own

Recording/dissemination	Extra/combined	Own/not own
☒ **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

Locations	Extra/combined	Own/not own
☒ **Auditorium/lecture hall**	☒Extra	☒Own
	☐Combined	☐Not Own
☒ **(Class)rooms**	☒Extra	☒Own
	☐Combined	☐Not Own
☐ **Other** exercise terrain	☐Extra	☒Own
	☒Combined	☐Not Own

Other: Enter text here

      d. Financial resources (estimations)

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

The budget for this JA was estimated around 9935,- euros. Not all invoices have been received yet, so the complete realisation will differ slightly from this number. This cost was divided as follows:

Hotel and travel cost of the guest: 3200,- (Estimation)
Print material: 786,- (Split with PROACTIVE)
Catering: 6000,- (3x lunch, 1x dinner)
This does not include the costs that PROACTIVE covered.

2.) How was the eNOTICE budget split?

The eNOTICE budget was used for the joint aspect of the Joint Activity. This is mainly the eFAIR, and the added visitors for the multidisciplinary field exercise. It was used for travel costs of the eNOTICE network members, catering for the visitors (not including PROACTIVE and their visitors) and print material.

3.) Was the project budget sufficient?

1. Explain why/why not

The project budget was sufficient

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

There were multiple benefits for VESTA, the organising training centre. Firstly, we were able to work with civil society volunteers with no extra cost to us. This allowed us a unique opportunity. Secondly, it allowed VESTA to (re)establish contact with industry in Belgium and in Europe, and it allowed us to show the training centre. Thirdly, we invited staff and trainers from the campus as well to the eFAIR. This meant that the information shared there is now also available in multiple departments in VESTA.

Some more specific lessons learned for VESTA are:

1. We need to work on communication, especially with vulnerable people.
2. There was not a lot of attention to the children and the presence of a dog
3. One of the narrators would also like to include the involvement of vulnerable people in a future exercise in his own professional environment
4. The inclusion of especially vulnerable people limits the amount of scenarios you can play, but is nonetheless very valuable
5. The collaboration between academics, companies and training centres was found to be of great value to all
6. There should be more clarity and basic training for first responders regarding B threats, and the possible role of a mobile lab in such a scenario
7. It would have been ideal to have more networking time during the eFAIR.

2.) For the TC's of the network

There were multiple benefits for the TC's of the network.

1. They were able to connect with companies and academics, and share knowledge with these groups.
2. They were able to attend an exercise with civil society volunteers. This allowed TC's hopefully to see how Belgium first responders react to vulnerable people specifically. It could also help them reflect on their own training and their own inclusion of vulnerable people.
3. There were also expert narrators. These narrators could answer the questions of the participants. This allowed the TC's to both learn more about organising an exercise in Belgium, and to see how first responders are responding, and should be responding in Belgium

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
11. industry	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	The feedback that we received from the industry was that the eFAIR was intimate and small, but that this allowed for much more precise networking. On top of that, they mentioned that a training centre was "the place to be", because they could see how such a facility looked, and how first responders fit into that environment.									
12. External training centres and training professionals	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	They could benefit from the knowledge of academics and get to know multiple companies and their innovation, including visiting the UCL mobile laboratory. They also could attend the multifaceted multidisciplinary exercises with civil society volunteers and learn from that.									
13. EU and national projects	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☒	10☐
Please explain your answer	By working together in this JA, PROACTIVE was able to work inside the framework of the VESTA annual exercise, instead of having to organise their own exercise. This saved resources for both VESTA (resources for the inclusion of civil society) and for PROACTIVE (resources to organise an exercise. On top of that, there were multiple EU projects present during the eFAIR (Vertigo, MED1stMR, PROACTIVE) and a network that was a result of an EU project (Virtual reality police network- from the SHOTPROS project).									
14. Policy makers	1☐	2☐	3☐	4☐	5☐	6☐	7☒	8☐	9☐	10☐
Please explain your answer	Policy makers were not the first target audience of this JA. Nonetheless the JA could have had benefits for them as well, since it was both an opportunity to inform policy about civil society and vulnerable people in									

disaster situations. It could also inspire policy with regards to the new innovation and knowledge they received									

15. Organisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☒	9☐	10☐
Please explain your answer	As already mentioned before, as organisers there were many benefits, including the civil society volunteers inclusion but also to opportunity to learn about new innovations and expand our network.									

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

The inclusion of civil society volunteers was of great societal benefits, because it allowed for more awareness about vulnerability during disasters. It also allowed for greater connection between academics, industry and first responders, these connections can be used later on to innovate.

d. What were the mutual lessons identified?

1. There were some logistical challenges because of all the different participants and all the different objectives
2. There should be specific guidelines developed for the treatment of vulnerable people in a disaster scenario, including decontamination
3. Organising events that are attended by industry, academics and first responders are of benefit for all of the participants

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

1.) Attendance of participants?

We were happy with the number of participants in attendance, both with regards to the eFAIR, as well as the exercise

2.) Contributions of participants?

195

> The participants contributed well to everything. They were active during the eFAIR, and networked with each other. At the end of the day the energy did drop a bit, and some already left before the social dinner, even though they had registered for that dinner. During the exercise the participants were active and engaged the narrators. We are very satisfied with that.

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

eFAIR

During the eFAIR the objectives were to network, to share knowledge and to disseminate the eNOTICE lessons learned, all of these things were accomplished during this JA.

Multidisciplinary exercise (VESTA)

During the exercise, our objectives were met as well. There was the examination of the students of the postgraduate degree Disaster management, the first responders of the province of Antwerp were trained, the UCL laboratory was included and there were a high number of civil society volunteers present.

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?	Enter text here									

General information sheet	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									

Evaluation and debriefing forms	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									

       iii.   Were you satisfied with the reporting checklist?

          ☒Yes

          ☐No

       iv.   Please explain your answer

          It allowed all information that was necessary to be reported

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

       none

15.2   General information sheet Ranst JA 2023

General Information Sheet eNOTICE Joint Activity at Campus Vesta (BE), May 2023

Part A: Summary description of the objectives and topic of the CBRN Exercise

Main activity

The two main activities are firstly, the multidisciplinary4 field exercise, organised by Campus Vesta with involvement/ inclusion of vulnerable people (min. 15%). This based on the cooperation agreement between eNOTICE and the PROACTIVE project.

The scenario of the exercise will mostly likely include both a B and a C scenario, but this is still "work in progress".

The second activity will be an eFAIR to showcase the power of the eNOTICE network. It will be a day with a market of around 5 private companies, and speakers about topics such as: civil and military collaboration, Virtual Reality and Mixed Reality training, innovation and research application in Training centres, vulnerable people in crisis situations and more.

Invited activity

The European research project joining the Campus Vesta exercise is **PROACTIVE**. PROACITVE is a project with which eNOTICE already had a Joint Activity on 2 separate occasions: in Dortmund and in Rieti. Their goal is to include vulnerable people and civil society volunteers into a disaster exercise to check how the first responders deal with real volunteers.

UCL is also taking up an active role in the exercise, with the mobile lab being deployed.

Target audience for joint activity:

- TC decision makers and trainers

- TC employees responsible for research and innovation/ quality management

- Employees responsible for R & I in first responder organisations

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44 For easy reference: the FR services in Belgium are called "disciplines", whereby Discipline 1 (D1) = Fire Brigade, D2 = Medical Services, D3 = Police, D4 = Logistics, D5 = Communication

1 Type of activity and contact details of the hosting exercise	Type of activity and contact details of the invited activity
Organising partner: Campus Vesta (BE) General director: Pieter van Turnhout: pieter.vanturnhout@campusvesta.be EU projects director contact: Wendy van den Branden: wendy.vandenbranden@campusvesta.be Exercise Director: Ronald Ackermans, ronald.ackermans@campusvesta.be eNOTICE contact: Maaike van de Vorst, maaike.vandevorst@campusvesta.be **Full scale field exercise on 13th May 2023** - The field exercises will be held in Ranst (near Antwerp, Belgium). - There will be approximately 250 players/participants involved. **Contact details campus Vesta:** Oostmalsesteenweg 75 2520 Ranst +32 3 205 19 50 http://www.campusvesta.be/	**Joining project: PROACTIVE** **Overall goal of the project**: to enhance preparedness against and response to a CBRNe incident through a better harmonisation of procedures between various categories of practitioners, and a better understanding of the needs of vulnerable citizen groups. Project Coordinator: Grigore Havarneanu More information at: https://proactive-h2020.eu/

2 Objectives and evaluation criteria of the hosting exercise	Objectives and evaluation criteria of the invited activity

The field exercise has a double purpose, training and examination, each with their own objectives and evalution criteria:

3. **Training goals for all participating first response disciplines and players :**

   – Diverse training objectives, defined by each participating discipline for their own staff (monodisciplinary)

   – Multidisciplinary aspects such as: coordination, communication, information flows, cooperation, interoperability, treatment of victims etc.

   – Evaluation criteria are defined per discipline.

4. **Examination for the course participants of the Postgraduate Disaster Management course:**

   – Multiple students involved

   – Objectives vary, every participant has a specific role and dedicated tasks, such as: play the role of leading officers on the field, play the role of decision makers in the operational command center, play the role of diverse functions in the strategic coordination center chaired by the major (student).

- **Objectives for the invited Activity (PROACTIVE)**

- IDENTIFY behavioural issues associated with responding to a CBRNe incident and potential shortcomings in existing practitioner procedures and tools with respect to vulnerable groups ;

- IMPROVE real-time communication and collaboration with the use of new tools such as mobile apps for better situational awareness and better response coordination ;

- TEST combinations of selected tools in joint field exercises which deliberately involve a diverse population that encompasses vulnerable citizens and non-trained staff ;

- PROVIDE human-centred recommendations for EU standards concerning the integration of CBRNe technologies and innovations that are better adapted to the needs of all citizens.

- **All other invited visitors-observers will be asked to provide feedback on the exercise and the 'Joint' aspect of the exercise, which is the main focus of eNOTICE. Vistitors-observers will be asked to share their impressions and reflections on the added value and opportunities for improvement of opening up an existing training exercise for observations and testing by a research project. Minimum aspects to be covered are:**

- Cost efficiency of using an existing exercise

- Joint Activity as an instrument for the exchange of knowledge and good practices

- Validation of the online observation module

- Comparison with own countries' SOPs

3 Main scenario: short description	Description of the invited activity
For safety and security reasons the scenario cannot be revealed in detail- The scenario is a work in progress and can still be changed. The following summary description is available for your information: The scenario will be CBRN, focused on Biological and chemical. The exercise will exist out of 2 scenario's because of the number of postgraduate students that need to take this exam. The events will take place in 2 municipalities, which means there will be 2 municipal coordination centres, and 2 operational coordination centres. *During the exercise multiple events will take place. The scenario:* *VESTA has been changed in a university, specifically a university focused on bio-medical science. The university is organising a fund raiser and has invited the UCL bio lab to give a short demonstration during the events. The fundraiser exists out of 2 parts: a formal reception and a party for students.* *The university has recently expelled 3 students for misbehaviour. They have send a message to the university promising to make them pay, by making them victims of their own faculty.* *Scenario 1* *The formal reception is underway. (Retired) staff and their families are enjoying some snacks and having a good time. After a few moments, people start getting ill and getting symptoms like vomiting, diarrhea etc. On top of that, one of the disgruntled students manages to gain access to the building and throws a white powder over some of the attendees.* *Scenario 2* *The party with a DJ and students + their family is well under way. The disgruntled students manage to get access to the party and they disperse a liquid over the attendees. People that have been hit by the fluid are getting symptoms. The*	**Joining research project:** **PROACTIVE (H2020-SU-FCT-2018)-** *PReparedness against CBRNE threats through cOmmon Approaches between security praCTItioners and the VulnerablE civil society.* https://proactive-h2020.eu The scenario will include civil society volunteers and vulnerable people.

students try to run away but they end up in a fight. During the fight, they draw their knives which results into multiple injuries. The students then run away and hide somewhere in town.

Giving the fact that this is an examination and training opportunity, students and first responders are not previously informed on any aspect of the scenario. Therefore, this information is strictly confidential.

4. Profile of the participants of the hosting exercise	Profile of the participants of the invited activity
This exercise will be practitioner-driven. Different first responders will train their deployment in response to a given scenario. Among the different roles and key-players are : - Fire Fighters; - Police officers (federal police and local police) ; - Police Academy ; - Students Postgraduate Disaster Management (policy – decision making) ; - Paramedics ; - Medical staff ; - Hospitals ; - Civil Protection ; - Communication Staff ; - Competent authorities (Mayor) - …	- H2020 DRS, FCT, GM projects partners and coordinators - Academic partners - End users/practitioners/first responders/trainers/decision makers - Members of the eNOTICE network of CBRN training centers - Mobile Laboratory experts UCL

Campus Vesta – Ranst (Antwerp) – Belgium

Campus Vesta
Oostmalsesteenweg   75
2520 Ranst
Belgium
www.campusvesta.be

A shuttle bus will be arranged to transfer you from the Aldhem hotel to the campus. Exact times: see below.

Part B1: Practical organisation – Agenda

Please note that the timing for the consortium meeting can still change- depending on the amount of subjects we need to discuss. If there are changes, we will keep you updated about them.

Thursday, 11th of May 2023- Consortium meeting	
08:15	Bus to Campus Vesta from Aldhem
08:45	Coffee and tea at Campus Vesta
09:15	Consortium meeting
12:30	Lunch
13:30	Consortium meeting
14:30	Presentation of the VESTA JA + evaluation
16:00	Bus back from Campus Vesta to Aldhem

Friday, 12th of May 2023- eFAIR	
09:45	Bus to Campus Vesta from Aldhem
10:00	Coffee and tea at Campus Vesta
10:30	Welcome to the Campus
10:35	Goals of the eFAIR and safety information
10.45	eNOTICE: lessons learned and the future
11:15	Walk around the fair + coffee and tea
11:45	Civil and Military collaboration
12:15	Panel: vulnerable people in disaster scenario's
12:45	Lunch + walk around the fair
14:00	VR and CBRN demo/talk
14:30	Elevator pitch Industry
15:00	Walk around fair + Coffee and Tea
16:00	Innovation and research implementation in training centres: brainstorm
16:30	Closing of conference
17:00	Walk around Fair with a drink
18:00	Social dinner- the famous VESTA BBQ
21.00	Bus back to Aldhem

Saturday, 13th of May 2023- the exercise	
08:15	Bus to Campus Vesta from Aldhem
08:45	Coffee and tea at Campus Vesta
9:00	Final briefing/ instructions + splitting up in groups
09:30	Observing the exercise
12:00	Lunch
13:00	Evaluation
15:00	Coffee and closing
15:30	Bus from Campus Vesta to Aldhem

Part C: Practical organisation – To be communicated to all organisations/persons who registered for participation

Practical information	
Dates:	11/05/22- 13/05/22
Location:	Campus Vesta Oostmalsesteenweg 75 2520 Ranst Belgium
Meetings and exercise:	3rd floor, room 3A.08, 3A.09, 3A.10, auditorium, agora and multiple observation spaces on the campus
Hotel/ accommodation:	Hotel Name: Best Western Aldhem hotel Website: https://www.aldhem.be/ Adress: Jagersdreef 1 2280 Grobbendonk Belgium How to book a room: Mail to info@aldhem.be We will arrange a shuttle bus from and to this hotel
Contact person:	Name: Maaike van de Vorst Mobile: +32 473 56 45 63 E-mail: Maaike.vandevorst@campusvesta.be
Contact person:	Name: Luc Calluy Mobile: +32 477 43 82 78 E-Mail: luccalluy@telenet.be
Contact person:	Name: Nathalie Jacobs Mobile: +32 498 50 54 97 E-Mail: Nathalie.jacobs@campusvesta.be
Dress code for exercise	Please note that you will spend time outside during the exercise. There will be no shelter available. Please dress appropriately for the weather and take good shoes.

Transfer information	
Plane:	You can fly to Brussel airport Zaventem. At the airport you can take a train to Mechelen, and from Mechelen a train to Herentals. At Herentals you can get Bus 150 towards Lier for 11 stops to Grobbendonk Jagersdreef. Then it is a 1 min walk to the hotel. This will take approximately 1 hour and 16 minutes.
Highway:	The hotel is very close to the E34 (or E313) highway between Antwerpen and Hasselt at exit 20 Herentals West.
Way to the Hotel	(see plane and highway)

15.3   Pictures of the Ranst JA 2023

Figure 33 *Welcome to the eFAIR*

Figure 34 *The eFAIR overview*

Figure 35 *Multidisciplinary field exercise at VESTA, medical services*

Figure 36 *Scenario 1, multidisciplinary field exercise*

Figure 37 *Multidisciplinary field exercise, law enforcement*

Figure 38 *Multidisciplinary field exercise fire services*

15.4   eNOTICE invitation for companies

13/03/23

Dear Sir/Madam,

Are you looking to get in contact with end users in the field of first responders?

If so, it is with great pleasure that we would like to invite you to the eFAIR of the eNOTICE project on the 12th of May. This eFAIR will be a way to get in contact with end users with multiple different backgrounds. The goal of this fair is to give practitioners the opportunity to meet with 5-10 companies, to be informed about the latest innovation and research in the area of CBRN. On top of that, companies will get the opportunity to give an elevator pitch during one of the plenary sessions.

Since the eFAIR is organised as part of a Joint Activity of European Projects, no fee will be charged for your participation.

Campus Vesta

The eFAIR will take place at Campus Vesta on Oostmalsesteenweg 75, 2520 Ranst, Belgium. Campus Vesta is a training centre with more than 37 hectares (92 acres) that is used for training. We are also involved in multiple European projects because we believe strongly in international knowledge sharing. Find more information about the campus here: https://www.campusvesta.be/en.html

Oostmalsesteenweg 75

2520 Ranst

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http://www.campusvesta.be/

51.173740, 4.619190

The preliminary program

The eFair will consist out of 5-10 companies that will visit VESTA and show the newest research and innovation in the area of CBRN. On top of that, there will be talks, brainstorms and panel discussion about subjects such as:

- The eNOTICE network: lessons learned and the future

- Civil and military cooperation

- Virtual Reality and CBRN training

- Elevator pitch of the industry

- Brainstorm: Innovation and research implementation in training centres

- Panel: dealing with vulnerable people during disasters

Start	End	What?	Where?
09.00	10.00	Arrival companies + build up stands	Agora
10.00	10.30	Arrival participants, tea and coffee	Agora
10.30	10.35	Welcome	Aula
10.35	10.45	Objectives of the eFAIR + rules and regulations VESTA	Aula
10.45	11.15	eNOTICE: lessons learned and the future	Aula
11.15	11.45	Walking around eFAIR+ tea and coffee	Agora
11.45	12.15	Civil and military collaboration	Aula

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12.15	12.45	Panel discussion: vulnerable people in a crisis	Aula
12.45	14.00	Lunch + Walking around eFAIR	Cafetaria
14.00	14.30	VR and CBRN	Polyvalente zaal
14.30	15.00	Elevator pitch companies + other projects	Aula
15.00	16.00	Walking around eFAIR + tea and coffee	Agora
16.00	16.30	Innovation and research in training centres: brainstorm session	Aula/ lokaal
16.30	17.00	Afsluiting conferentie: samenvatting + uitnodiging eten	Aula
17.00	18.00	Walking around eFAIR + drinks	Cafetaria
18.00	21.00	Social dinner (BBQ)	Cafetaria
21.00	22.00	Break down eFAIR	

Registration

Cannot wait to register? You can do so now at this link: https://forms.office.com/e/aczPAB4KWW

Please make sure to do so before April 2nd. Please also note that we cannot guarantee placement. We will send you a confirmation if we are able to accommodate you.

Navigation

We would recommend coming by car.

Figure 39 *Main building*

Campus Vesta has a public parking space, shown as the orange square in Figure 2. The parking space is next to the main building (see Figure 1). You can reach the Campus via the entry at the Oostmalsesteenweg (see the arrow at Figure 2). There is also another entryway, but this one is only available to employees.
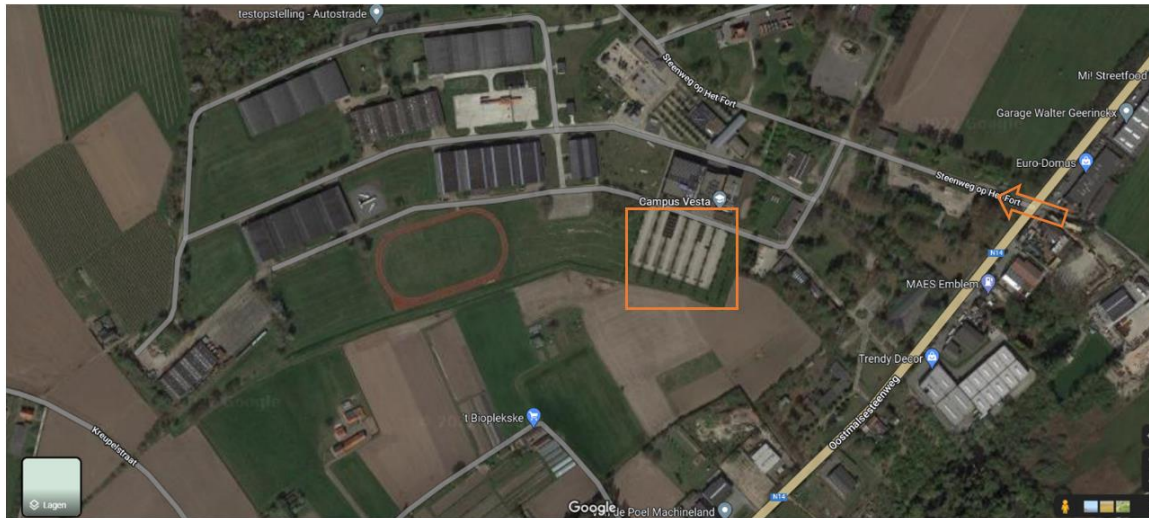
Figure 40 *Map of Campus Vesta*

15.5 eNOTICE invitation the network members

5/04/23

Dear Members of the eNOTICE network,

It is with great pleasure that we would like to invite you to the last Joint Activity of the eNOTICE project at Campus Vesta. The JA will take place on the 12th and 13th of May. This JA consists out of an eFAIR where you will get to know all the lessons learned during the entire project, and get to meet the newest innovation of industry in the area of CBRN. On top of that, you are invited to visit and observe our multidisciplinary field exercise with a B and a C-component. We cannot wait to meet you (again) at Campus Vesta!

Campus Vesta

The Joint Activity will take place at Campus Vesta on Oostmalsesteenweg 75, 2520 Ranst, Belgium. Campus Vesta is a training centre with more than 37 hectares (92 acres) that is used for training. We are also involved in multiple European projects because we believe strongly in international knowledge sharing. Find more information about the campus here: https://www.campusvesta.be/en.html

eFAIR

The eFair will take place on the 12th of May. This fair will consist out of 5-10 industry partners that will visit VESTA and show the newest research and innovation in the area of CBRN. On top of that, there will be talks, brainstorms and panel discussion about subjects such as:

- The eNOTICE network: lessons learned and the future
- Civil and military cooperation
- Virtual Reality and CBRN training
- Elevator pitch of the industry
- Brainstorm: Innovation and research implementation in training centres
- Panel: dealing with vulnerable people during disasters

We also welcome your involvement. If you are a good fit for one of the subjects above and would like to speak during the fair, please let us know. Additionally if you would like to suggest another topic to which you can contribute, please also do so. We want to make this fair the most useful for you.

Multidisciplinary field exercise

On the 13th of May, the multidisciplinary field exercise will take place. This exercise will have both a B and a C component and will have 2 major tasks:

1. Training the first responders of the province of Antwerp (and outside)

2.   Examination of the postgraduate students disaster management. These students are professionals within the different first responder organisations in their own right, but are now also working towards a degree in disaster management.

On top of that, the project PROACTIVE is also involved in the exercise, which means that in the exercise we will be working with real civil society volunteers, including people with a vulnerability such as a handicap, or people that are elderly or children.

This exercise will prove to be very interesting, and we would welcome your input during the exercise. Below you can also find the scenario, please be advised that this scenario is confidential and cannot be spread further because it is an examination.

The scenario

Strictly confidential- do not share this information outside of your institution!

VESTA has been changed in a university, specificially a university focused on bio-medical science. The university is organising a fund raiser and has invited the UCL bio lab to give a short demonstration during the events. The fundraiser exists out of 2 parts: a formal reception and a party for students.

The university has recently expelled 3 students for misbehaviour. They have sent a message to the university promising to make them pay, by making them victims of their own faculty.

Scenario 1

The formal reception is underway. (Retired) staff and their families are enjoying some snacks and having a good time. After a few moments, people start getting ill and getting symtpoms like vomiting, diarrhea etc. On top of that, one of the disgruntled students manages to gain access to the building and throws a white powder over some of the attendees.

Scenario 2

The party with a DJ and students + their family is well under way. The distruntled students manage to get acess to the party and they disperse a liquid over the attendees. People that have been hit by the fluid are getting symtoms. The students try to run away but they end up in a fight. During the

fight, they draw their knives which results into multiple injuries. The students then run away and hide somewhere in town.

Registration

Cannot wait to register? You can do so now at this link: https://forms.office.com/e/tyZsQMRb4Z please make sure to do so before April 21th.

Accommodation

We would ask you to stay in the Aldhem hotel in Grobbedonk. You can book your rooms at the Aldhem hotel in Lier by mailing to info@aldhem.be **Please mention "Campus Vesta" in your email** to the hotel. Please make sure to reserve your hotel room before the 15th of April.

Hotel Name:	Best Western Aldhem hotel
Website:	https://www.aldhem.be/
Address:	Jagersdreef 1
	2280 Grobbendonk
	Belgium
How to book a room:	Mail to: info@aldhem.be

Reinbursement of costs

We understand that not all training centres might have the means to travel to Belgium. Therefore, we would like to offer you a reimbursement of costs to allow you to attend this event. We offer the following:

- 2 nights at the hotel Aldhem, including breakfast
- Lunch on the 12th and 13th of May
- Dinner on the 12th of May

On top of that, we offer reimbursement of travel costs (e.g. airplane or train) up to 300 euros per person. The reimbursement of these costs can be claimed afterwards (more info will be send later), but please make sure to keep **all** boarding passes, train and bus tickets, receipt and bills. Without these documents your costs cannot be reimbursed.

What will not be reimbursed are:

- Travel costs above 300 euros per person
- Alcoholic beverages
- Lunch and dinner not provided by VESTA
- Items taken from the mini bar at the hotel (or from other hotel facilities)
- Costs claimed without receipts or tickets

Transport

Campus Vesta is arranging a bus to take you from the hotel to the campus and back.

Navigation

By Plane
From Brussels Airport - Zaventem it's easy to get to Grobbendonk(where the hotel is located) by train.

There is a railway underground in the airport building. When performing searches, always use the official name of the airport station, "Brussels Airport – Zaventem". At the airport you can take a train to Mechelen, and from Mechelen a train to Herentals. At Herentals you can get Bus 150 towards Lier for 11 stops to Grobbendonk Jagersdreef. Then it is a 1 min walk to the hotel. Or you can take a taxi from Herentals to the hotel. This will take approximately 1 hour and 20 minutes.

If wanted, you can make ticket reservations online via: https://www.belgiantrain.be/en/tickets-and-railcards/airports/brussels-airport/

By Car
The hotel is very close to the E34 (or E313) highway between Antwerpen and Hasselt at exit 20 Herentals West.