



ARZ 2021
CBRN Field Exercise

**ORGANISATION AND IMPLEMENTATION OF A
CBRN COUNTER-TERRORISM FIELD EXERCISE:
A GUIDING DOCUMENT**

6-9 December 2021
Beirut, Lebanon



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Interregional Crime and Justice
Research Institute



ARZ 2023

CBRN Field Exercise

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of a CBRN Counter-Terrorism Field
Exercise:

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Foreword and acknowledgement

We are delighted to present this guiding document, a culmination of collective efforts and invaluable experiences derived from the successful Field Exercise- ARZ 2021- to counter CBRN terrorism in Lebanon. Organized within the framework of the European Union (EU) Chemical, Biological, Radiological, Nuclear (CBRN) Centres of Excellence (CoE) ¹, this Exercise exemplifies the principle that one learns best by doing. Participants immersed themselves in a dynamic and interactive learning process, enhancing practical skills while testing and validating Lebanon's capacities in CBRN risk mitigation.

The Exercise placed a particular emphasis on coordinating various national agencies with distinct mandates and skills, thereby showcasing the importance of effective collaboration and communication in responding to the multifaceted challenges of CBRN threats.

Beyond a mere assessment of Lebanon's capabilities, ARZ 2021 was a collaborative endeavour involving the international community of experts and organizations, exemplifying a comprehensive approach. This Exercise provided a platform for shared learning, deepening our understanding of Lebanon's capacities and engaging in a complex process spanning funding, planning, procurement, coordination, execution, and evaluation.

This guiding document serves as a testament to the power of hands-on learning, collaborative partnerships, and the collective commitment to building resilience against CBRN threats. We extend our heartfelt gratitude to all contributors, recognizing the tremendous commitment and work of the Lebanese authorities, particularly Dr. Bilal Nsouli, CBRN National Coordinator and his dedicated team, including the Internal Security Forces (ISF), the Civil Defence, the Lebanese Atomic Energy Commission (LAEC), the Lebanese Armed Forces, the Beirut Fire Brigade and the Lebanese Red Cross

Special acknowledgment goes to our close partners in the execution of this Exercise: the International Science and Technology Centre (ISCT) and Fondazione SAFE Europe. Our gratitude is extended to the Middle East On-Site Technical Assistance expert Col. Gunter Povoden for his tremendous effort and support to the Lebanese team. We also express gratitude to the experts and organizations that partnered with us, including the Italian Army, French Police, the International

¹ Launched in 2010, the EU CBRN CoE Initiative is a global Initiative funded and implemented by the European Union through the Neighbourhood, Development and International Cooperation Instrument – Global Europe, as part of its goal to promote peace, stability and conflict prevention. The Initiative is led by the European Commission's Service for Foreign Policy Instruments, in close coordination with the European External Action Service. The European Commission's Joint Research Centre provides technical support to Partner Countries, while UNICRI ensures coherent and effective national, regional and international cooperation. Other relevant international and/or regional organizations and experts also contribute to the Initiative. The Initiative, which represents the EU's largest civilian external security programme, involves 64 countries.

Criminal Police Organization (INTERPOL), the NATO School Oberammergau, the Organisation for the Prohibition of Chemical Weapons (OPCW), and the Belgian Nuclear Research Centre (SCK•CEN). Their high-level expertise significantly contributed to the evaluation process, which was coordinated by Col. Andrea Gloria (Italian Ministry of Foreign Affairs). It is essential to acknowledge that the Exercise took place amid the most important pandemic of the last decades. In view of that, we extend our gratitude for the precious support provided for the anti-COVID-19 procedures, skilfully implemented by Magali Jacquet. Additionally, Rares Gheorghiu and Luigi Schiavone captured the essence of ARZ 2021 through stunning photos and videos.

Our sincere thanks extend to UNICRI colleagues, particularly Mr. Adil Radoini and Ms. Alice Rena, who coordinated the Exercise, and to other colleagues Ms. Marian de Bruijn, Ms. Sara Cuniberti, Marina Mazzini and Ms. Silvia Trisciuzzi, for their unwavering support. We express our gratitude to the European Commission colleagues involved in the direct implementation of the Exercise: Ms. Natalie Pauwels, who demonstrated the commitment of the Foreign Policy Instrument to supporting Lebanon in this endeavour, Mr. Sorin Popa, who consistently advocated for testing new learning tools and Ms. Silvia Bottone and Mr. Kamel Abbas for their amazing support and involvement.

ARZ 2021 stands as a testament to the success achieved through national commitment and international cooperation, demonstrating the effectiveness of the EU CBRN Centres of Excellence in promoting institutional settings, building technical capacities, and reinforcing interagency coordination and cooperation.

Looking ahead, we are excited to announce our plans for a follow-up exercise scheduled to take place in 2024. This endeavour, recommended by the evaluation team of ARZ 2021, aims to involve an extended number of international partners and pursue new ambitious objectives. Despite the challenges currently witnessed in the region, including the ongoing conflict in the Middle East, the decision to move forward with such a project testifies to the appreciation and value attributed to exercises of this nature.



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1. INTRODUCTION TO THE GUIDING DOCUMENT



This Guiding Document focuses on the organization and implementation of the CBRN Counter-Terrorism Field Exercise 'ARZ 2021', which took place in Beirut, Lebanon from 6th to 9th December 2021. The document aims to serve as a reference for the organization and implementation of similar activities in the future.

The guidance includes information on the format and objectives of the Exercise, the types and roles of participants, materials and tools developed, necessary equipment, organization and logistics, the evaluation process, visibility materials, safety and security issues, COVID-19 measures, the final output of the Exercise, and general recommendations.

This document was produced by the United Nations Interregional Crime and Justice Research Institute (UNICRI) with the crucial support of the European Union (EU) Chemical, Biological, Radiological and Nuclear (CBRN) Risk Mitigation Centres of Excellence (CoE) Initiative. The EU CBRN CoE On-site technical assistance (OSA) expert for the Middle East, the European Commission's Joint Research Centre and the key experts of the CoE, other EU projects, and international partners that supported the Exercise contributed significantly to its planning, development and execution. This document aims to highlight the diverse contributions of all of these actors, showcasing the importance of involving a variety of stakeholders and their centrality in achieving results through effective coordination.

2. BACKGROUND OF THE CBRN COUNTER TERRORISM FIELD EXERCISE ARZ 2021

Lebanon has faced significant challenges over the last years. Notably, the COVID-19 pandemic and the tragic Port of Beirut explosions in August 2020, in which more than 200 people were killed and many more wounded. Despite adversity, the country has adopted a systematic approach and invested considerable resources to build capabilities to tackle chemical, biological, radiological and nuclear threats.

During the last decade, thanks to Lebanon's commitment and reliability, the country has managed to attract the interest of several external partners to support Lebanon in building national capabilities in the field of CBRN risk mitigation. Through national commitment and international partnerships, an impressive number of CBRN risk mitigation projects were implemented under the coordination of Dr. Bilal Nsouli, who was appointed ten years ago as the first official CBRN National Coordinator for Lebanon and National Focal Point for the EU CBRN CoE Initiative.

In such a short period of time, the country has achieved significant milestones. Under the leadership of Dr. Nsouli, Lebanon established a functioning inter-ministerial CBRN National Team comprising all relevant agencies responsible for building a comprehensive CBRN policy aimed at detecting, preventing and responding to CBRN risks. In 2016, the CBRN National Team of Lebanon approved a National Action Plan (NAP) that defines the priority needs and objectives in the field of CBRN risk mitigation. This strategic document was endorsed by the Presidency of Council of Ministers as the primary national policy instrument in the CBRN domain.

CBRN terrorism was identified as a national priority for Lebanon. Consequently, the country committed to organising and implementing a Field Exercise to test national capabilities in addressing CBRN threats, as outlined in the National Action Plan for the period 2017-2020. The Exercise also intended to evaluate and validate the skills acquired by the Lebanese National agencies involved in the capacity-building activities conducted in the country over the past years. These activities received support from EU CBRN CoE projects, as well as the project "Technical Assistance on CBRN Risk Mitigation in Lebanon," funded by the EU Delegation in Lebanon.

After a few postponements – originally, the Exercise was scheduled for December 2019 – a 4-day inter-agency CBRN Counter-Terrorism Field Exercise took place in Beirut, Lebanon, on 6-9 December 2021. Named "ARZ 2021" – "ARZ" means cedar in Arabic, symbolizing the tree of Lebanon – the Exercise was organised under the patronage of the President of the Council of Ministers of Lebanon.

The European Union funded ARZ 2021 within the framework of the EU CBRN CoE Initiative. Under the guidance of the EU CBRN CoE National Focal Point of Lebanon, the Exercise was co-organized by UNICRI in close collaboration with the On-site technical assistance (OSA) expert of the EU CBRN CoE Regional Secretariat for the Middle East, the International Science and Technology Center (ISTC), and Fondazione SAFE. It also benefitted from the support of the Joint Research Centre of the European Commission (EC JRC) and the Belgium Nuclear Research Centre (SCK•CEN), an implementer of the EU CBRN CoE project "Protection of Critical Infrastructure in the Middle East Region, P73."

3. FIELD EXERCISE OBJECTIVES

1. Raising awareness of chemical, radiological and nuclear threats.
2. Enhancing capacities to counter chemical, radiological and nuclear risks at the national level.
3. Fostering and promoting interagency coordination and cooperation among participating sectors, institutions and agencies.
4. Reinforcing coordination capabilities to investigate an incident involving chemical, radiological and nuclear materials.
5. Identifying best practices that specifically support detection capabilities and initial response to radiological, nuclear and chemical events.
6. Appropriately managing communication to the public.
7. Testing the activation of the emergency response plan.
8. Raising visibility of the EU CBRN CoE Initiative in Lebanon.

4. FIELD EXERCISE PARTICIPANTS AND ROLES

The Field Exercise involved both internal (national) and external (regional and international) participants, each playing distinct roles in terms of organization and implementation. Representatives of all participating units were involved in the planning cell, contributing to scenarios development and exercise organisation. The OSA expert and the key expert for P73 received support in preparing different scenarios from the Lebanon's Internal Security Forces (ISF) and the Lebanese Atomic Energy Commission (LAEC), which included providing smoke grenades and liquefied nitrogen to simulate the release of toxic agents, as well as sealed radioactive sources and laboratory equipment. The Beirut Fire Brigade prepared the wound for a victim of a shooting in very professional way.

To enhance realism, role players were instructed on simulating exposure to the toxic agents, acting as scientists in the laboratory and portraying terrorists. The Head of Exercise Control provided additional instructions, supplementing the Role Players Handbook (see ANNEX D for further information), which was translated into Arabic. National participants were also tasked with coordinating units on the ground at the Incident Command Post, while on-the-ground management of practical CBRN tasks was carried out by teams at the site.



Due to the complexity of CBRN incidents and the specific capabilities and expertise required to effectively respond to such threats, internal participants included national stakeholders representing different sectors, institutions and agencies responsible for the first response phase in CBRN and terrorism incidents. Notably, participants included the Beirut Fire Fighters, the Civil Defence, the Internal Security Forces, the Lebanese Atomic Energy Commission, the Lebanese Armed Forces and the Red Cross. It is noteworthy that these agencies were actively involved in the capability-building projects funded by the EU in previous years.

Internal participants were not only involved as responders during the Field Exercise, selected representatives from the participating units were also engaged in the development of the scenarios and the organisation of the Exercise. For maximum realism, role players received instructions from the Head of the Exercise Control, complementing the Role Players Handbook (see ANNEX D for further information). These instructions guided role players in simulating real-life incidents, such as exposure to a toxic agent, or portraying various roles, including that of a terrorist or a scientist in the laboratory. In addition, team leaders (one for each participating unit) were tasked with coordinating their teams on the ground at the Incident Command Post. The teams on-site managed the practical CBRN tasks during the Exercise.

The role of international participants during the Exercise was primarily that of evaluators or observers. Those invited to take on the role of evaluators included representatives of international organizations and EU partner countries working in the security and governance field, with a specific focus on CBRN risk mitigation and counter-terrorism. The international organizations and partners invited to attend the event included: Italy, France, the Belgium Nuclear Research Centre (SCK CEN), the International Criminal Police Organisation (INTERPOL), the European Union Agency for Law Enforcement Cooperation (EUROPOL), the Organisation for the Prohibition of Chemical Weapons (OPCW), the International Atomic Energy Agency (IAEA), the World Customs



Organization (WCO), the Arab Atomic Energy Agency, the United Nations Office on Drugs and Crime (UNODC), the United Nations Office for Disarmament Affairs (UNODA), and the NATO School Oberammergau².

The team of evaluators was coordinated by a Lieutenant Colonel from the Italian Ministry of Foreign Affairs, bringing extensive CBRN knowledge and previous working experience in Lebanon and evaluation processes. The team comprised 12 members, including representatives from Italy, France, Belgium, the OPCW, the NATO School and INTERPOL. In coordination with the On-site Technical Assistance expert of the EU CBRN CoE, the team conducted a comprehensive evaluation. This encompassed the assessment of CBRN procedures, the capacities of Lebanese first responders involved in the Exercise and interagency coordination (refer to Section 10 on Evaluation).

Representatives from international partner organizations and countries attended the event as observers. Notably, observers included the European Union, the EU CBRN CoE network, Canada, the United States of America, the League of Arab States and the United Nations Department of Safety and Security (UNDSS). UNICRI and the EU CBRN CoE National Focal Point for Lebanon invited the international observers.

During the Exercise, the Middle East On-Site Assistance (OSA) expert and the Protection of Critical Infrastructure in the Middle East Region, the 73- Key CBRN experts, guided the observers through the scenarios, explaining the background and providing details.

² For various reasons, including travel restrictions imposed by the Covid-19 pandemic, some international partners, such as Europol, IAEA, WCO, UNODC and UNODA, were unable to attend the meeting

5. FIELD EXERCISE FORMAT



The Exercise consisted of two full-day scenarios, held on December 7 and 8, 2021. Additionally, it included a preparatory meeting that incorporated a safety and security briefing for all participants and a closing ceremony held on December 6 and December 9, respectively.

Two scenarios were developed and implemented to simulate real-case situations, aiming to test the decision-making process, coordination and capabilities of all the actors involved in the first response during the different phases of a CBRN terrorism emergency. As mentioned earlier, the design of the Exercise and related incidents considered the need to assess specific knowledge and skills strengthened through capacity-building initiatives previously implemented in Lebanon.

Plenary debriefing sessions, conducted at the end of each Exercise day, served to summarise the activities implemented, highlighting critical aspects relevant to the purpose of the Exercise.

5.1 Preparatory Meeting

The preparatory meeting, held at the venue of the Exercise, involved representatives of the **participating local institutions and agencies**, the **planning group**, the **local support team**, interna-



tional evaluators, and other **EU CBRN CoE stakeholders**. The meeting included a plenary presentation of the entire project, welcoming both local and international participants. In addition, the preparatory session served to:

- Distribute hard copies of relevant materials for the Exercise to all international participants, who were briefed about the structure and the implementation of the two scenarios.
- Conduct a safety and security briefing for all participants.
- Visit the training facility, including the different sites where the two scenarios would unfold.
- Provide detailed explanations of technical aspects to international participants, including the function of the coordination room and the Exercise control room. The latter allowed role player team leaders (one for each institution/agency involved in the Exercise) direct communication with their teams for the Exercise control.
- Offer additional instructions to all evaluators regarding the evaluation process and the tools to be used.



5.2 First Scenario

The **first scenario** simulated an **incident in an illicit hazardous material storage and a terrorist laboratory**, where chemical and biological warfare agents, as well as dirty bombs, were produced. Effectively preventing CBRN terror attacks requires CBRN awareness and the disruption of terrorists' activities in their early stages. This was replicated by providing CBRN intelligence to law enforcement agencies. A significant part of the Exercise focused on the arrest of the members of the terrorist organisation before the planned attack. Subsequently, the focus shifted to the detection, identification and securing of CBRN materials and precursors, specifically those related to the production of chemical warfare agents and toxins, within illicit laboratories and storage sites.

5.3 Second Scenario

The **second scenario** focused on the response to a CBRN incident, simulated by a **terrorist attack on a VIP convoy using chemical materials and a secondary chemical device as a vehicle-borne improvised explosive device (IED)**. This scenario required the extraction of the VIP under CBRN conditions, followed by the full spectrum of CBRN activities. These activities envisaged detection, leak sealing, rescue and treatment of victims, decontamination, explosive ordnance disposal and site exploitation, including forensics. The scenario also included a home-made explosives laboratory, which was discovered after the arrest of a terrorist attempting to interfere with the first response measures by shooting the explosive ordnance disposal (EOD) team. Securing this laboratory proved challenging due to a booby trap, requiring the involvement of additional explosive ordnance disposal experts.



5.4 Closing ceremony

The closing ceremony was attended by the Lebanese authorities, invited by the EU CBRN CoE National Focal Point for Lebanon. Notable attendees included the Ministries of Interior, Agriculture, and Industry. Closing remarks were delivered by each local institution and agency that participated in the Exercise. Additionally, representatives from the European Union, UNICRI, and other partners involved in the organization and implementation of the Exercise, such as ISTC, provided concluding remarks.

The ceremony was followed by the display of the CBRN detection and response equipment provided by the EU CBRN CoE Initiative to Lebanon as Partner Country.



6. BASIC REQUIREMENTS AND INITIAL STEPS FOR THE ORGANIZATION OF THE CBRN FIELD EXERCISE

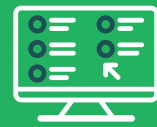


- Interest of the target country and institutions.
- Interest of the donor (i.e. European Union).
- Availability of financial and human resources.
- Identification of the overall **coordinators of the entire Exercise**.
 - At the national level: the EU CBRN CoE National Focal Point.
 - At the international level: the EU CBRN CoE Regional Coordinator.
 - At the technical level: the EU CBRN CoE On-site Technical Assistance Expert.
- Drafting of a preliminary concept note defining stakeholders, timeline, resources, etc.
- Creation of a **planning team**, including all the partner institutions/organizations involved in the organization and implementation of the Exercise. Having a local support team can be extremely useful.



- Definition and agreement on specific tasks and responsibilities of each partner institutions/organizations (see example – annex A).
- Creation of a **group of CBRN Experts, led by the On-site Technical Assistance Expert**, involved in the preparation of the materials and coordination of the Exercise implementation.
- Creation of a **Local support team** with personnel based in the country, who can provide daily base support for administration and logistical matters.
- Identification of a **CBRN Expert as Team Leader of the International Evaluation Team**, who will support the development of the evaluation process and coordinate the international evaluators, defining a common methodology and detailed assessment modalities.
- Identification of a **person in charge of medical protocol** (e.g. COVID-related procedures for participants).
- **Missions of the EU CBRN CoE Regional Coordinator and the On-site Technical Assistance Expert** to the country to meet the national agencies participating in the Exercise.

7. ORGANIZATIONAL AND LOGISTICAL ASPECTS



7.1 Invitations to Participants

- Preparation of concept note, draft agenda and invitation letter.
- Selection of external participants to be invited as observers.
- Selection of external participants to be invited as evaluators.
- Identification of the Embassies to be invited as observers.
- Identification by the National Focal Point of the internal participants to be involved (representatives from first emergency responders' agencies/institutions).

7.2 Administrative Procedures

- Definition of requirements for facilities and services, including:
 - Venue for the Field Exercise.
 - Relevant equipment.
 - Hotel accommodation for external participants (all accommodated in the same hotel as the best option).
 - Catering service for coffee breaks and meals during the Exercise.
 - Restaurant for the social dinner.



- Translation service for background material.
- Interpretation service.
- Printing service.
- Transportation back and forth, including airport (for security reasons), hotel and Exercise venue.
- Procurement process for the selection of the above-mentioned facilities and services.
- Preparation of information sheet for external participants (see information sheets for non-sponsored participants in ANNEX F) containing relevant information such as:
 - Venue, date, and time of the Field Exercise.
 - Travel arrangements (visa and passport, and air ticket).
 - Accommodation, pick-up from/to the airport and meals.
 - Local transportation.
 - Social dinner.
 - COVID-19 procedures.
 - Exchange rate.

8. BACKGROUND MATERIAL, TECHNICAL TOOLS AND NECESSARY EQUIPMENT

An overview of all the preparatory documents is included in ANNEX B.

8.1 Background Material

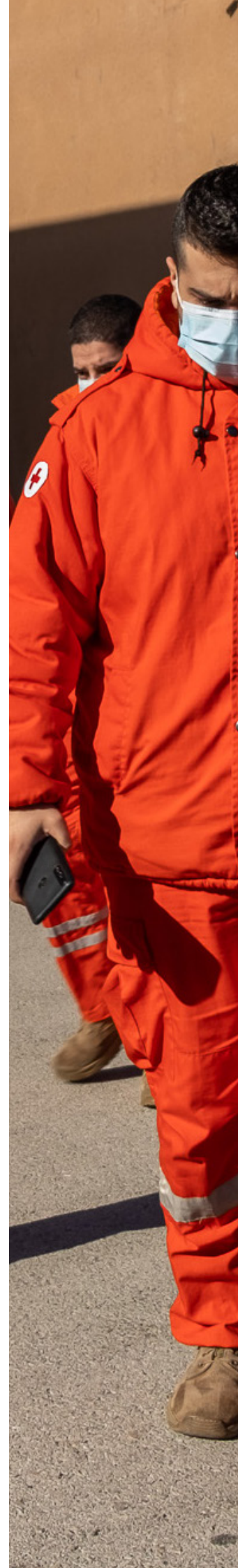
The background material of the Exercise includes:

- **Concept paper** of the Exercise: outlining objectives, proposed scenarios, participants, roles and responsibilities, observers and evaluators, timeframe for planning and exercise rollout, and preliminary considerations regarding the logistics. The original document can be found in ANNEX C.
- **Fact sheet:** including a brief description of the Field Exercise, including background, main objectives, Exercise format and participants. For ARZ2021, this document was prepared in English and translated into Arabic. The English version is available in ANNEX C.
- **Agenda of the Field Exercise:** available in ANNEX C.

8.2 Technical Documents for the Exercise

The technical documents for the Exercise includes:

- **Role players handbook:** providing detailed descriptions of the scenarios, specific indications on timing and injects, background information for a better understanding of the simulated situation, details on responsible units playing roles in the various actions, specific roles to be portrayed, role player requirements, and key actions to solve the scenario.
- **Guide for participants:** intended for external participants, including general information and background of the Field Exercise, objectives, location, storyboards of the scenarios, scenarios and objectives, Exercise scope and Standard Operating Procedures to be tested, participat-





ing organisations, communication, Exercise management, simulation, health and safety, security, debriefing and evaluation, contact list.

- **Incident/main events list:** to be shared with the planning team, this list includes a summary of timing and injects, rationale, expected activities, responsible units, personnel and vehicles involved.
- **Synchro matrix:** to be shared with the planning team, this matrix visually lists specific information for each scenario, including timing and injects, number of players and vehicles for each agency/institution involved in the different actions, and capacities tested.
- **Evaluation tools:** refer to section 10.2 for details.

8.3 Equipment Needed for the Scenarios

Existing infrastructure at the Aramoun Training Centre was used for the scenario. The storage site for chemicals was enhanced and adapted to the scenario with appropriate labels and placards. Barrels were prepared to simulate a leakage, with water on the ground and liquefied nitrogen provided by LAEC to simulate an evaporating agent. The existing chemical truck in the training area was modified with a hose connected to another liquefied nitrogen cylinder to simulate a chlorine release. To enhance realism, additional smoke grenades in yellow and green, provided by ISF, were used.

The existing terrorist laboratory underwent enhancements with additional equipment and chemicals to simulate the production of chemical warfare agents and a toxins. In another room, the production of homemade explosives was simulated with appropriate equipment and the required chemicals. Real (minor toxic) agents and radioactive sources were solely used to feed the detectors, under the continuous control of the chemical safety officer from LAEC. All participants working with the radioactive sources were equipped with dosimeters (TLD – thermo luminescent dosimeter), provided and finally recollected by LAEC. It was important to provide all the appropriate labels on the bottles simulating the chemicals. Laboratory coats and protective equipment were given to the role players working in the laboratory.

Additional equipment was needed to simulate improvised explosive devices: a booby trap to secure the homemade explosive lab was provided by ISF. Their specialists also supplied blank cartridges to simulate the attack on the EOD team and for shooting the chlorine truck to release the chemical agent. The EOD team of the Lebanese Armed Forces constructed a specific chemical device designed as a vehicle-borne improvised explosive device (IED) against the first responders (secondary IED).

Type of Equipment	Provided by
Terrorist labs, chemical tanks, control and coordination rooms, location of the outdoor opening ceremony, theatre for the final indoor ceremony	Present in the training facility of the ISF Academy
Chemical and radiological field detector	Previous EU or US projects
CBRN Personal Protective Equipment (PPE) with filter gas mask or air compressed bottle	
Individual and collective decontamination equipment	
Chemical simulants and radiological sources	Lebanese Atomic Energy Commission
Tactical individual equipment (vehicle, weapons, specific equipment etc)	Each unit involved
IED simulant devices	Bomb squad units (ISF and Army)
Medical support in case of real injured during the Exercise	Lebanese Red Cross and ISF academy medical post
Radio communication system with specific radio channel for Exercise coordination net, control room coordination net, and an additional channel in case of real medical assistance needs	Army and ISF (personal mobile phones were used too)
Equipment to simulate a gunshot wound	Beirut Fire Fighters





9. VISIBILITY

It was crucial to determine in advance the materials needed for visibility purposes, ensuring adequate time for production to meet the desired objectives.

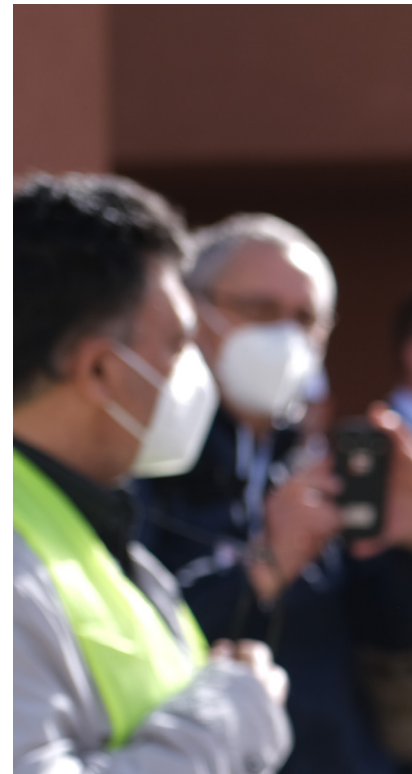
The graphic layout for all visibility material was shared and agreed upon by all partners. Official logos from all partners, both national and international, involved in the organization and implementation of the Exercise, were requested by UNICRI and used for various visibility materials, including:

- Roll-ups.
- Posters.
- Videos. Two videos were created for ARZ 2021. The first video was tailored for the closing ceremony, showcasing the preparatory work and the execution of scenarios for authorities and participants. The second video provided a comprehensive overview, not only of the Field Exercise but also of its background. It included information on the EU CBRN CoE Initiative through infographics and interviews with relevant stakeholders.

Badges and gadgets, including tissue bags, umbrellas, pens, USBs, and vests were prepared and distributed to international participants. All materials featured the ARZ2021 logo, the EU emblem, and logos of the main partners involved in the organisation of the Exercise.

Photos and the videos produced for ARZ 2021 are available at the following [link](#). Photo credits © Rareș Gheorghiu, for the European Union.

10. EVALUATION OF THE FIELD EXERCISE



The overall development and implementation of the Field Exercise were assessed by a team of selected evaluators representing relevant organisations and institutions operating in the field of CBRN risk mitigation, such as (in alphabetical order): French Police, INTERPOL, Italian Army, NATO School Oberammergau, OPCW, and the Belgium Nuclear Research Centre (SCK•CEN).

The purpose of the evaluation was to assess the tactical CBRN response capabilities of the Lebanese first responders, including the Lebanese Armed Forces (LAF), Internal Security Forces (ISF) comprising the Governmental Guard, Civil Defence (CD), Beirut Fire Fighters (BFF), and the Lebanese Red Cross (LRC). The evaluation was structured to examine activ-

ities and performance against defined standards and criteria, based on the fulfilment of prescribed requirements.

The size and composition of the International Evaluation Team for the ARZ 2021 Exercise ensured both competence and capability to conduct a regular and timely evaluation. All selected evaluators possessed thorough CBRN knowledge of the area(s) they evaluated, as well as the procedures, directives, and requirements. Each evaluator was assigned to assess specific areas of CBRN defence capabilities and related procedures according to their individual expertise. An evaluator can be responsible for more than one functional area if they possess the required expertise.



The high-level expertise and supportive attitude of the evaluation team were fundamental in translating the impressive work done by all stakeholders involved in the exercise into concrete indications for future improvements and interagency cooperation. The initial assessment covered aspects such as the situation, response and coordination measures among agencies, protection measures, detection and identification procedures, sampling, VIP extraction, CBRN-EOD/IEDD management, forensic and evidence collection, decontamination, preparation, and prompt use of equipment. The International Evaluation Team assessed the capabilities acquired before the Exercise through capacity building projects implemented during previous years, including the EU-funded projects.

At the end of the collective Field Exercise, evaluators discussed the main findings with the Commanders and Team Leaders of different Lebanese agencies. This effort comprised the development of a preliminary list of possible suggestions to improve CBRN capabilities; response measures were internally discussed as well. The recommendations identified by the CBRN Subject Matter Experts of the International Evaluation Team can be considered a contribution to supporting Lebanese first responders and the revision of the Lebanon's CBRN National Action Plan. In this sense, the recommendations can help delineate the required future actions and objectives to enhance Lebanon's CBRN prevention, protection, and response capabilities.

10.1 Relevant Steps for the Evaluation Process

The evaluation process involves several crucial steps including:

- Identification of a responsible coordinator for the evaluation process.
- Identification of the evaluators, specifically individuals involved in CBRN capacity-building activities and preferably with previous experience in the country.
- Participation of the responsible evaluator in the initial Exercise planning coordination meeting to plan proper evaluation activities and ensure that the Exercise meets the requirements for a complete evaluation. In general, members of the evaluation team should participate in the planning process and confirm that the Exercise is suitable for evaluating most performance measures. If necessary, proposed changes can be discussed with the Exercise planners.
- Coordination activities with On-site Technical Assistance expert were conducted to agree upon Exercise requirements, timelines, real-life support, and the applicability and feasibility of evaluation criteria.
- Definition of the evaluation objectives, ensuring they remain within the framework delineated by the Exercise's aim. Appropriate coordination with the training objectives is fundamental.
- Preparation of evaluation tools based on the objectives of the evaluation, covering theoretical knowledge and practical skills. These tools shall take into consideration previous capacity-building activities implemented in the country within the framework of CBRN projects.
- Organization of a virtual coordination briefing among the evaluators with the aim to explain the overall evaluation process, describe the methodology, tasks and responsibilities, clarify objectives, discuss evaluation modalities, present list of criteria and reference documents (including checklists and guidelines), analyse previous evaluation report(s) and verify the status of remedial actions (if available).
- Provision of further instructions to all evaluators during the preparatory meeting (e.g. each evaluator was assigned to evaluate specific





capabilities and procedures). The evaluators should also receive current versions of the main doctrinal references, documents, written instructions including SOPs, MOUs and agreements, as well as all final Exercise-related documents.

- Pre-exercise meeting between the evaluators and units involved in the Exercise. Members of the evaluation team are recommended to meet face-to-face representatives of the units evaluated before the Exercise is conducted. The evaluation team should brief the staff of the evaluated units on the purpose, structure, and conduct of the evaluation. Representatives from the evaluated units should then provide a brief in English about the mission of the unit, primary tasks, roles and responsibilities, personnel equipment, logistics and training status, limitations, and operational plan. This information must align with the information on the scenarios of the Exercise previously provided. This meeting also serves as an excellent opportunity to establish working relationships with counterparts and obtain access to the evaluated units' reference documentation.
- At the conclusion of practical activities, a hot wash-up session is organised, focusing on the preliminary evaluation findings. During this session, international evaluators provide their feedback on the actions taken and procedures followed by each team throughout the Exercise. This forum allows evaluators to explain identified gaps and suggest areas for improvement, while team leaders have the opportunity to explain the rationale behind their decisions and provide insights into the instructions given to their teams during the Exercise. The active discussions and exchange between national actors and international evaluators represent one of the most important and beneficial aspects of the entire Exercise.
- Preparation of the Final Evaluation Report involves the responsible of the International Evaluation Team analysing all data provided by the evaluators, collected during the Field Exercise. This encompasses findings, results of discussions with units during the hot wash-up session, and identified suggestions, recommendations and corrective measures to address any observed deficiencies. The report will be shared with both the evaluated units and the chain of command. See Section 13 for details on the Final Output.

10.2 Evaluation Tools

Two documents were used for the evaluation of the Exercise. See ANNEX E for original documents:

1. Detailed evaluation sheet to assess the following CBRN aspects for each scenario:
 - A. Standard Operational Procedures (SOPs).
 - B. Use of CBRN equipment:
 - ▶ Detection/Identification/Monitoring (DIM) devices.
 - ▶ Individual Protection.
 - ▶ Decontamination (DECON) apparatus.
 - C. CBRN defense capabilities to conduct:
 - ▶ Detection/Identification/Monitoring (DIM) tasks.
 - ▶ Protection measures.
 - ▶ Decontamination activities.
 - ▶ Warning and reporting procedures.

CBRN defense capacities were evaluated considering SOPs, the utilization of CBRN equipment, and specific operational capabilities. The assessment was conducted using a pre-defined 4-level rating scale:

- Excellent (EX). The units fully meet the requirements (tasks were accomplished and 90% or more personnel performed correct actions). Resources were sufficient to support and sustain the mission fully. No deficiencies were identified.
- Satisfactory (ST). The units have minor shortcomings (tasks were accomplished with minor limitations – e.g. limited knowledge of procedures –, at least 80% of personnel performed correct actions). Resources generally met the applicable standard or requirement. Deficiencies did not significantly affect the accomplishment of the Unit's mission or tasks.
- Marginal (MA). The units have major shortcomings (tasks were accomplished with major limitations – e.g. limited knowledge of procedures –, at least 70% of personnel performed correct actions). Resources were below standard or requirement. Deficiencies adversely affected the accomplishment of the Unit's mission or tasks.

- Unsatisfactory (UN). Units' conduct of mission essential tasks is unsatisfactory (tasks were not accomplished, less than 70% of personnel performed correct actions). The number or magnitude of deficiencies prevented the accomplishment of the Unit's mission or tasks.
 - When a unit is declared not ready or is rated as UNSATISFACTORY, a re-evaluation should be scheduled after appropriate remedial actions have been taken. The re-evaluation, primarily focused on the criteria receiving the lowest grades, should occur within 12 months.
 - Specific observations related to the different areas will be annotated in "Remarks/Comments". In some circumstances, a performance measure, a criterion or even an item cannot be awarded a grade and may then be declared as Not Evaluated/Evaluable (NE) or Not Applicable (NA).
2. The overall performance evaluation sheet for each participating national agency/institution focused on the following main areas:
- Leadership on site.
 - Protective equipment.
 - Cross-contamination and ALARA (as low as reasonably achievable), especially related to keeping the distance, limiting exposure time, and shielding in case of radioactive sources.
 - Selection and use of detectors.
 - Sampling procedures and sampling equipment.
 - Mitigation procedures.
 - Decontamination procedures.
 - Extraction/Rescue of Personnel.
 - Explosive Ordnance Disposal (EOD) procedures.
 - Improvised Explosive Device (IED) awareness.

The evaluators provided comments on overall coordination and interoperability, including the sharing of warning and reporting results, as well as mutual consultancy at the staff level.

11. COVID-19 PROCEDURES

- Definition of a COVID-19 protocol, see ANNEX G.
- Nomination of a designated hygiene officer.

12. SECURITY MATTERS

- Coordination with UNDSS for hotel approval, and security clearance for UN personnel.
- Identification and implementation of risk mitigation measures to prevent and respond to events of danger, threat, or injury (see ANNEX H).

13. FINAL OUTPUT

A report titled “Evaluation and Final Recommendations on CBRN Procedures and Response Capacities of the Lebanese First Responders” was prepared for official use only. The report aimed to provide an overview of the main findings of the evaluation process and offer final recommendations.

The report includes:

1. Evaluation findings regarding the following aspects:
 - CBRN response and coordination.
 - Protective measures.
 - Detection and identification procedures.
 - Sampling procedures.
 - Assault, VIP extraction and EOD-EOD/IEDD management.
 - Forensic and evidence collection.
 - Decontamination.
2. Final recommendations to improve CBRN capabilities in responding to CBRN terrorism threats.





All sensitive data related to the units involved in the scenarios such as outcomes on capabilities, human and technical resources, preparedness levels, gaps in the response capacities and critical matters were not included in the report but they have been discussed directly with all stakeholders at the end of the Exercise.

14. GENERAL RECOMMENDATIONS

- Establish a defined timeline for tasks and activities, taking into account several aspects such as the time required for administrative procedures, relevant approvals and authorisations, and challenging local conditions, etc.
- Coordinate the scheduling and timing of administrative procedures with other activities to avoid overlaps and ensure a smooth progression.
- Identify a contact person for each invited organizations, especially for external participants, to facilitate internal follow-up.
- Organize weekly coordination meetings with the planning team to keep everyone aligned.
- Ensure regular updates and effective information sharing with all relevant stakeholders.
- Form a local team to provide daily support at the local level, particularly in the last month leading up to the Exercise date.
- Involve locally based organizations working in the country during the Exercise organization to expedite processes.
- Involve technical experts who have prior experience in CBRN CoE capacity-building activities in the country for the development and implementation of the scenarios.

LIST OF ANNEXES ³

Annex A – Tasks and responsibilities

Annex B – Overview of prep docs

Annex C – Background documents

Annex D – Technical tools

Annex E – Evaluation Tools

Annex F – Information sheet for the logistics

Annex G – COVID-19 Protocol

Annex H – Security Mitigation Measures

³ All annexes can be obtained upon a specific request to the EU CBRN CoE Middle East Regional Secretariat