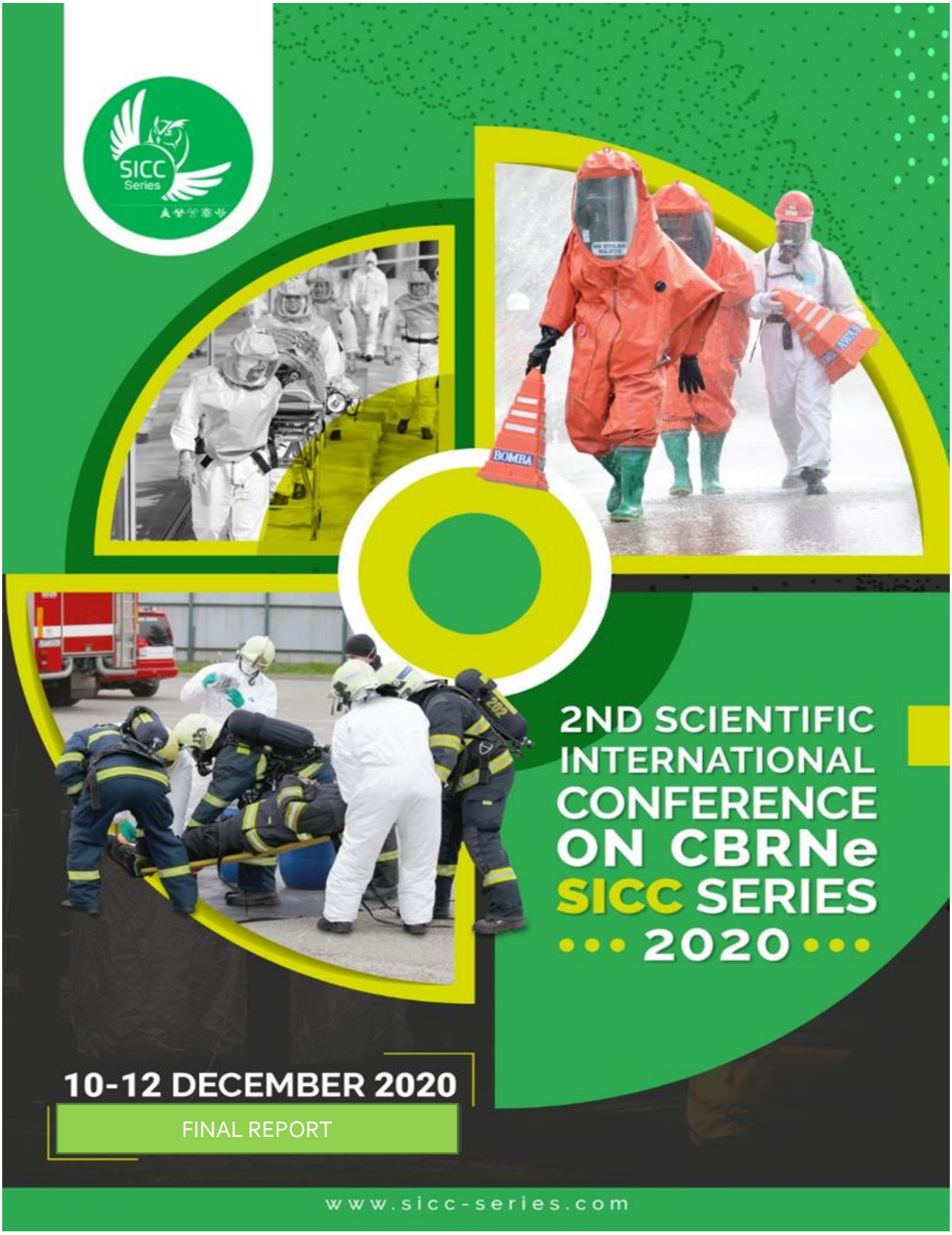

SICC Series
2ND SCIENTIFIC INTERNATIONAL CONFERENCE ON CBRNe SICC SERIES
2020
10-12 DECEMBER 2020
FINAL REPORT
www.sicc-series.com

To whom it may concern

Object: Final Report of the International Scientific Committee to the "2nd International Conference on CBRNe, SICC Series"

Dear colleagues, dear CBRNe experts, dear speakers and participants of the SICC Series CBRNe Conference 2020

On behalf of the Directive Board of the International Master Courses in Protection against CBRNe Events of the University of Rome "Tor Vergata" it is with great pleasure that I do report all the activities **related to the International Scientific Committee** to the **2nd International Conference on CBRNe, SICC Series,** held in Virtual Reality last 10-12 December 2020.

The event has been organized by the CBRNe GATE and the International Master Courses in Protection against CBRNe events, (OPCW-The Hague Award Winners 2017) with the German Space Agency (Institute of Technical Physics), the Yale University (Department of Environmental Health Sciences), the Italian National Order of Biologist and the Firefighters of Lisbon, in collaboration with HESAR - *Health Safety Environmental Research Association Rome* and INAC - *International Alliance CBRN*. The purpose of the conference was to provide a detailed overview of current CBRNe risk scenarios and solutions giving to all the participants the possibility to have a one-one interactions thanks to the virtual reality space designed and realized for this special occasion due to the emergency of COVID-19.

I want to thank all the L.O.C of the conference, a special thanks to Colomba Russo, Ahmed Gamal, Alba Iannotti, Riccardo Quaranta, Riccardo Rossi, Andrea Chierici, Daniele Di Giovanni, Mariachiara Carestia, Stefania Moramarco, Valentina Gabbarini, Daniela Arduini, Gian Marco Ludovici, Enrica Bellisario, Michael Ian Thornton and all the amazing colleagues that make it possible. I want to thank the Scientific Boards of the conference for the high level quality of the contributions given to us. I want to thank the Directive and Didatic Board of the MasterCBRNe (Prof. Leonardo Palombi, Prof. Pasquale Gaudio, Prof. Francesco d'Errico and our Dean and Mentor Professor Carlo Bellecci).

I want to thank all the colleagues of the Department of Biomedicine and Prevention and the Director Prof. Antonino De Lorenzo) and all the colleagues of the Department of Industrial Engineering and the Director Prof. Loredana Santo for the continuous support in all our activities.

A special thanks to all the University of Rome Tor Vergata faculty members (a special thank to my friend and colleague Prof. Guglielmo Manenti), technicians, employees and students and to our Rector Prof. Orazio Schillaci that is supporting us since DAY 1 in 2008.

I take this chance also to wish you and your family a better 2021 and a relaxing season break.

STAY SAFE, STAY HEALTHY.

Kind regards,

Dr. Andrea Malizia
President of the Local Organizing Committee, SICC Series 2020

Assistant Professor of Nuclear Measurements and Instrumentation
Department of Biomedicine and Prevention
University of Rome Tor Vergata.

Didactic Coordinator of the "International Master Courses in Protection Against CBRNe events
Department of Industrial Engineering and Faculty of Medicine and Surgery
University of Rome Tor Vergata.

Rome, *29 January 2020*

INDEX

1. Introduction to SICC Series – CBRNe Conference 2020

SICC Series Conference on CBRNe 2020 has been the second conference of the scientific international conference series on safety & security issues in the CBRNe field (Chemical, Biological, Radiological, Nuclear and explosive). It represents the natural development of the long-standing experience achieved in the field of CBRNe education and training thanks to the International Master Courses in Protection against CBRNe Events of the University of Rome Tor Vergata

- Spreading education beyond its boundaries to turn CBRNe into an academic discipline.
- Create a synergic global community of CBRNe experts and Enhancing CBRNe Safety & Security multi-disciplinary scientific research.

The experience gained have led us to organize these international scientific conferences. SICC Series Conference primary objective is to internationally promote the dissemination of the culture on the prevention and mitigation of CBRNe events. In the common struggle for safety & security, SICC Series Conferences are devoted to highlight the state-of-the-art and the future needs of the different methodologies, techniques, theories, instruments, strategies, procedures, technologies and best practices on the prevention and mitigation of CBRNe risks, particularly in the spirit of collaboration and integration among States

The world of CBRNe today mainly concerns only the military experts, the specialized operators, and the industry. However, institutional task of the University is also spreading the education on CBRNe beyond its traditional boundaries. The experience we have gained so far has led us to an ambitious vision: the CBRNe should become a scientific academic discipline. This new way of approaching the matter will have significant consequences: on the one hand the possibility to train young minds enabling them to deal with problems related to the safety & security identifying new solutions, and on the other hand to spread and increase the information and awareness of the risks and therefore to increase preparedness and resiliency. SICC 2017 represents a small but important step towards these ambitious goals.

2. Program of the conference

The second edition, held in Virtual Reality on 10-12 December 2020, came with a new structure:

Day 1 and Day 2 - 10-11 December 2020

Technical Tables

The technical tables have been an occasion to present, with an oral contribution of 20 minutes, works and achievements of the experts in different topics related to CBRNe emergencies. The attendees that have participated to the technical tables had the chance to interact with the speakers though the chat of GoToWebinar.

Day 3 - 12 December 2020

Conference – Plenary Sessions

The plenary sessions day has hosted:

- The presentation of the new cooperation agreements with the:

- **Institute of Technical Physics Atmospheric Propagation and Effect, German Aerospace Center (GERMANY). LINK**
- Lisbon Firefighters Regiment (PORTUGAL)
- Italian National Order of Biologists (ITALY)

as well as the chance to consolidate the already existing ones with the Abu Dhabi Police State Department (now becoming the Abu Dhabi Civil Defence Authority, UAE); the OPCW, the IAEA.

as well as the chance to discuss new cooperation with: Yale University, University of Fukoi, University of Adelaide, University of Pisa (Department of Civil and Industrial Engineering)

- The poster sessions

You can click **HERE** to download the program and visit the dedicated pages.

You can click **HERE** to buy the book of abtract.

All the videos of technical tables, plenary sessions and poster sessions have been recorded (75 hours of recorded files), and are available on the conference web site for free only for the participants of the conference.

All the interested colleagues can ask the access to: info@mastercbrn.it and siccseries@mastercbrn.it . You will receive all the information to access this area.

2.1 Technical Tables

2.1.1 T.1. Biological, Chemical and explosive (BCe) Events

This technical table has hosted talks on:

- Detection and identification methods and instruments for BCe agents;
- Protection (PPE and CPE) and decontamination technologies and methods in case of BCe contamination;
- DSS and software for modelling and simulation to predict BCe dispersion and diffusion consequences
- Drones, robots, unmanned vehicles and new technologies to reduce BCe risks;
- IED and IOD detection, prevention and protection;
- Case studies and lesson learned during operation related to BCe events.

LINK T.1

2.1.2 T.2. Epidemics, Medical Management and First Aid, Psychology

This technical table has hosted talks on:

- Management of epidemic events due to pandemic and epidemic diseases;
- Medical management and first Aid in case of CBRNe events;
- Emerging and re-emerging diseases and infections;
- Medical statistics methods and approaches for risk reduction;
- The mass psychology of disasters and emergency evacuations;
- Risk analysis;
- Food safety;
- Food security

LINK T.2

2.1.3 T.3. Cybersecurity, Critical Infrastructure, IoT and AI Investigation

This technical table has hosted talks on:

- Cyberthreats problems and protection;
- Critical infrastructure risks and control;
- Internet of Things and Artificial Intelligence to prevent emergency and reduce risks during disasters;
- Investigation during CBRNe events;
- CBRNe forensic and forensic science;
- Big data analysis and data mining;
- Big Data Analytics and Data Mining Applied to Safety & Security
- Software and ICT Tools for Safety & Security
- CBRNE Events — Prediction and Management
- Predictive Analytics in Risk Management
- Cybersecurity and modern cyber-warfare & cyber-terrorism
- Artificial Intelligence Towards Safety & Security
- ICT Vulnerabilities and Computational Aspects of Safety & Security
- Privacy Issues in IoT, AI and Smart Systems
- Intelligent Systems in Risk Management
- Decision Support Systems in Safety & Security

LINK T.3

2.1.4 T.4. Radioactive and Nuclear threats

This technical table has hosted talks on:

- Nuclear Measures and Instrumentations;
- Nuclear Power Plants: risks and new challenges to improve safety and security;
- Emergency Preparedness Response in case of Radioactive/Nuclear events;
- Radioprotection;
- Protection and Decontamination;
- RN technologies dual use: from research to medical applications back to emergency uses;
- Risk analysis and risk assessment;
- Modelling and simulation to reduce RN risks;
- Dirty Bombs

LINK T.4

2.1.5 T.5. CBRNe crisis and emergency management, Communication, Investigation and Forensic, Education and Training

This technical table has hosted talks on:

- Crisis Management: case studies and lesson learned;
- Emergency management: case studies and lesson learned;
- CBRNe CoE
- The role of National, International and SovraNational Institutions and Entities in case of CBRNe crisis and communication;
- Investigation and Forensic
- Emergency and crisis communication;
- CBRNe education;
- CBRNe training initiatives and centres;
- H2020, LIFE, OPCW, IAEA, ECDC, CDC and International and National projects related to the CBRNe.

LINK T.5

2.1.6 T.6. T.6. CBRNe-related geopolitical issues, Safety and security Legal and Economic aspects, New frontiers of science

This technical table has hosted talks on:

- Geopolitical issues;
- CBRNe and safety/security legal aspects related to emergency and crisis;
- Economic aspects related to emergency and crisis;
- Business continuity;
- New frontiers of risks;
- Space and dual use technologies.

LINK T.6

2.2 Plenary Sessions and Poster Session

The virtual conference has been the main event that has hosted:

- Plenary Session 1
- Plenary Session 2
- Poster Sessions 1 and 2

With contributions on:

1. CBRNe THREATS, DETECTION, IDENTIFICATION, PROTECTION, DECONTAMINATION, MODELLING and SIMULATION

2. EPIDEMICS, MEDICAL MANAGEMENT and FIRST AID, COMMUNICATION

3. EMERGENCY MANAGEMENT AND GEOPOLITICAL ISSUE, CoE, TRAINING AND EDUCATION, COMMUNICATION

4. CYBERSECURITY, AI, CRITICAL INFRASTRUCTURE and INVESTIGATION

5. NUCLEAR and RADIOACTIVE EMERGENCIES and THREATS

6. BIOLOGICAL, CHEMICAL and EXPLOSIVE EMERGENCIES and THREATS

In particular:

New solutions and technologies for safety and security

Detection and Identification Techniques and Methods
Stand-on and Stand-off Detection and Identification Technologies
Engineering Applications
Technical Challenges
Explosive Detectors
Field Sampling & Analysis

Emergency Management
Crisis Management
Disaster Management
Industrial Accidents
Civil Protection and Safety

Emergency Communication and Information
Emergency Psychology
Raising Awareness

First Response in Case of CBRNe Events
Medical Management
First Aid
Food safety
Food security
Hygiene

Big Data Analysis and Data Mining Applied to Safety & Security
Software and Tools for Safety & Security
CBRNE Events Prediction and Management

International Laws
CBRNE Security Culture
Prevention and Planning
Terrorism
Economical issues related to CBRNE

Modelling and Simulation
Analysis and Evaluation of CBRNE Threats
Hazard Simulation
Diffusion and Dispersion Models
Software and Tools for Safety and Security
Environmental Contamination
Risk Mitigation
Risk Scenarios

Contamination and Decontamination
Experimental and Applied Physics for CBRNE Agents Decontamination, Protection, Risks Reduction
---
Cybersecurity
CBRNE Intelligence
Emerging Cyberterrorism Threats

Active Learning
Education Methodologies
CBRNE Awareness and Preparedness

Click HERE to learn more.

3. Paper publications

The oral and poster contributors of the SICC Series – CBRNe Conference have the chance to submit a paper related to their contributions to one of the SCOPUS indexed journals with impact factors hosting the special issues of the conferences:

- THE EUROPEAN PHYSICAL JOURNAL PLUS (EPJ Plus)
- INTERNATIONAL JOURNAL OF SAFETY AND SECURITY ENGINEERING (IJSSE)
- INTERNATIONAL JOURNAL OF CYBER WARFARE AND TERRORISM (IJCWT)

The instructions for the submission is on the reserved area of the conference website.

3.1 The European Physical Journal Plus (EPJ Plus)

The scope of EPJ Plus encompasses a broad landscape of fields and disciplines in the physical and related sciences - such as covered by the topical EPJ journals and with the explicit addition of geophysics, astrophysics, general relativity and cosmology, mathematical and quantum physics, classical and fluid mechanics, accelerator and medical physics, as well as physics techniques applied to any other topics, including energy, environment and cultural heritage.

The European Physical Journal Plus will publish a TOPICAL ISSUE of SICC Series CBRNe Conference 2020 entitled:

"New technologies for detection, protection, decontamination and developments of the decision support systems in case of CBRNe event"

The papers related to the oral/poster presented at the SICC Series CBRNe Conference 2020 that will cover the aim of this journal and of the topical issue and that will be accepted after the double blind revision process will be published on EPJ Plus.

EPJ plus is indexed on SCOPUS and WEB OF SCIENCE.

EPJ plus has an IMPACT FACTOR OF 2.612

3.2 International Journal Of Safety And Security Engineering (IJSSE)

International Journal of Safety and Security Engineering (IJSSE) aims to provide a forum for the publication of papers on the most recent developments in the theoretical and practical aspects of these important fields. Safety and Security Engineering, due to its special nature, is an interdisciplinary area of research and applications that brings together in a systematic way many disciplines of engineering, from the traditional to the most technologically advanced. The Journal covers areas such as crisis management; security engineering; natural disasters and emergencies; terrorism; IT security; man-made hazards; risk management; control; protection and mitigation issues.

The Journal aims to attract papers in all related fields, in addition to those listed under the List of Topics, as well as case studies describing practical experiences. The study of multifactor risk impact will be given special emphasis. Due to the multitude and variety of topics included, the List is only indicative of the themes of the expected papers. Authors are encouraged to submit papers in all areas of Safety and Security, with particular attention to integrated and interdisciplinary aspects.

Focus and Scope

Papers on the following topics that are in accordance with the aims and objectives of the Journal are welcome:

- Modelling and theoretical studies
- Risk analysis, assessment and management
- Multifactor risk impact
- Integrated technological systems
- Planning and strategy
- Fire prevention and protection
- Infrastructure protection
- Industrial Issues
- Transportation problems
- Public safety and security
- Environmental and ecological protection
- Emergency and disaster management
- Terrorism prevention and protection
- Forensic studies
- Surveillance systems
- System safety engineering
- Threat assessment technologies
- Human factors
- Crime risk assessment
- Homeland security

- Creation of a culture of safety and security
- Earthquakes
- Early warning and response systems
- Dangerous goods
- Economic and political aspects
- Safety and security in building
- Food Safety and security
- Loss prevention
- Critical infrastructure protection
- BIM in safety and security
- Case studies
- Publication Frequency

The IJSSE is published regularly by the IIETA, with six regular issues (excluding special issues) and one volume per year.

The papers related to the oral/poster presented at the SICC Series CBRNe Conference 2020 that will cover the aim of this journal and that will be accepted after the double blind revision process will be published on IJSSE

IJSSE is indexed on SCOPUS.

JOURNAL METRICS
CiteScore 2018: 0.36
SCImago Journal Rank (SJR) 2018: 0.163
Source Normalized Impact per Paper (SNIP): 0.210

3.3 International Journal Of Cyber Warfare And Terrorism (IJCWT)

Description
The International Journal of Cyber Warfare and Terrorism (IJCWT) publishes original innovative findings on ethical, political, legal, and social issues relating to security and cybernetic wars. This journal focuses on cyber warfare and terrorism using examples from around the world. IJCWT covers technical aspects, management issues, social issues, and government issues that relate to cyber warfare and terrorism.

The mission of the International Journal of Cyber Warfare and Terrorism (IJCWT) is to explore a range of security related topics and generate research debates in relation to cyber warfare and terrorism. Targeting researchers, practitioners, academicians, government officials, military

professionals and other industry professionals, IJCWT provides a forum to discuss human, technical, and policy issues in relation to cyber warfare and terrorism.

The International Journal of Cyber Warfare and Terrorism (IJCWT) will publish a SPECIAL ISSUE of SICC Series CBRNe Conference 2020 entitled:

Cybersecurity and Artificial Intelligence Towards Critical Infrastructure

Topics Covered

- Censorship
- Crisis Response and Management
- Critical infrastructure protection
- Cyber Terrorism
- Cyber Warfare
- Electronic civil disobedience
- Ethical, political, legal, and social issues relating to security
- Governance and security
- Hacking
- Hacktivism
- Homeland security
- Impact of new security technologies
- Information Management
- Information Security
- Internet and controls
- Law Enforcement
- Manipulation
- National identification schemes
- National Security
- Privacy
- Protecting society
- Rights of the individual
- Social Engineering
- Terrorism

The papers related to the oral/poster presented at the SICC Series CBRNe Conference 2020 that will cover the aim of this journal and of the topical issue and that will be accepted after the double blind revision process will be published on IJCWT.

IJCWT is indexed on SCOPUS and WEB OF SCIENCE.

4. Virtual Venue of the Conference

SICC Series CBRNe Conference 2020 has taken place online due to the Pandemic Emergency.

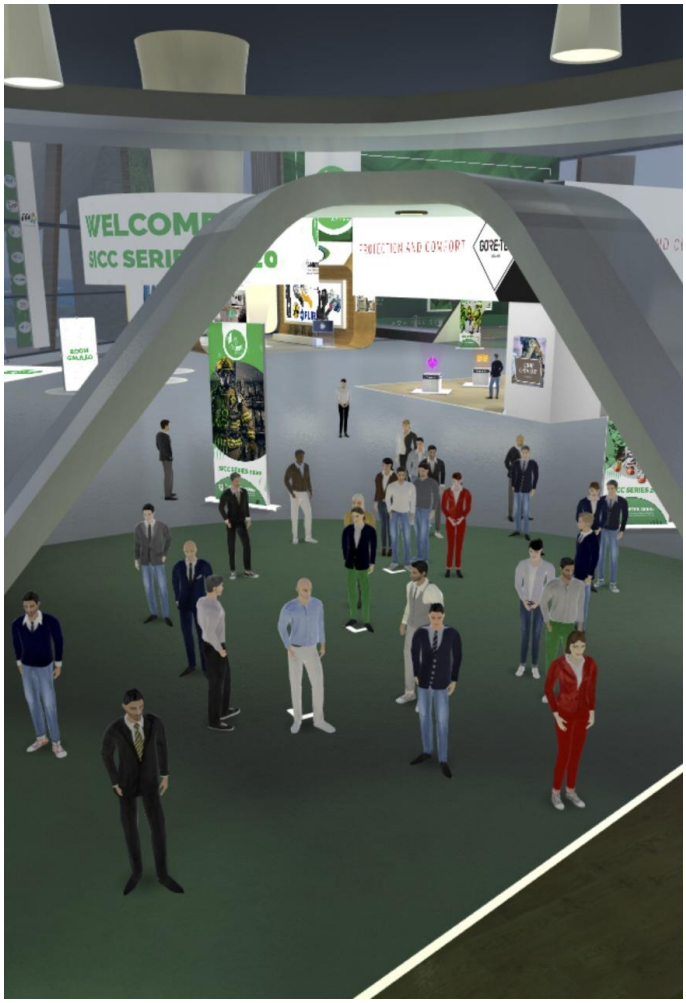
We have used a virtual reality platform that has allowed all the participants a full interaction like the real event but in a total safe environment.

Everybody had the chance to chat, activate a private call or video call and exchange the business card with all the participants. The participants moved in the virtual building through an AVATAR.

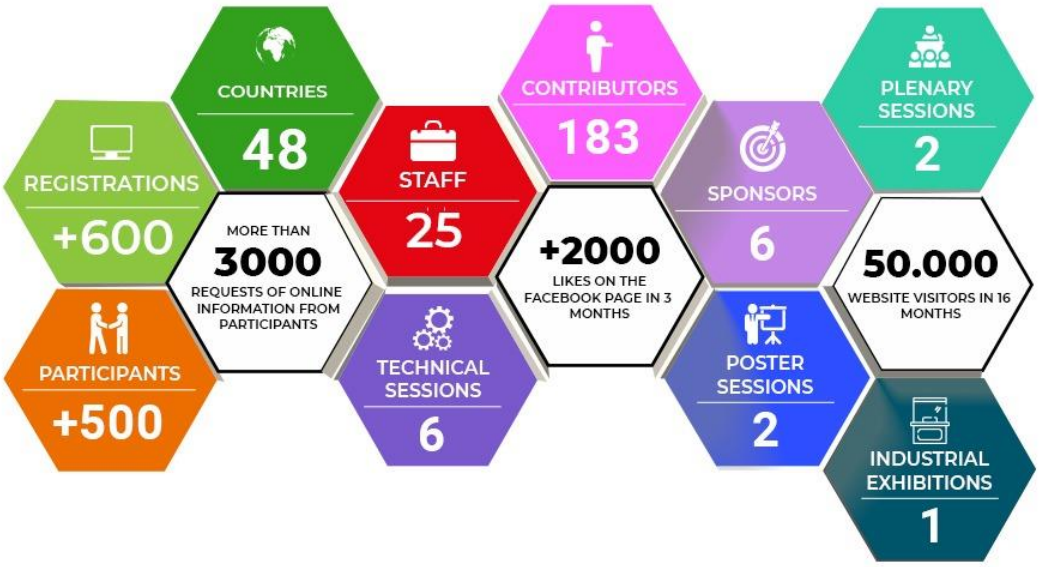
A 360° interaction experience.

Thanks to the company SMART EVENTI.

CLICK HERE to SEE PICTURES AND VIDEO OF THE VIRTUAL REALITY

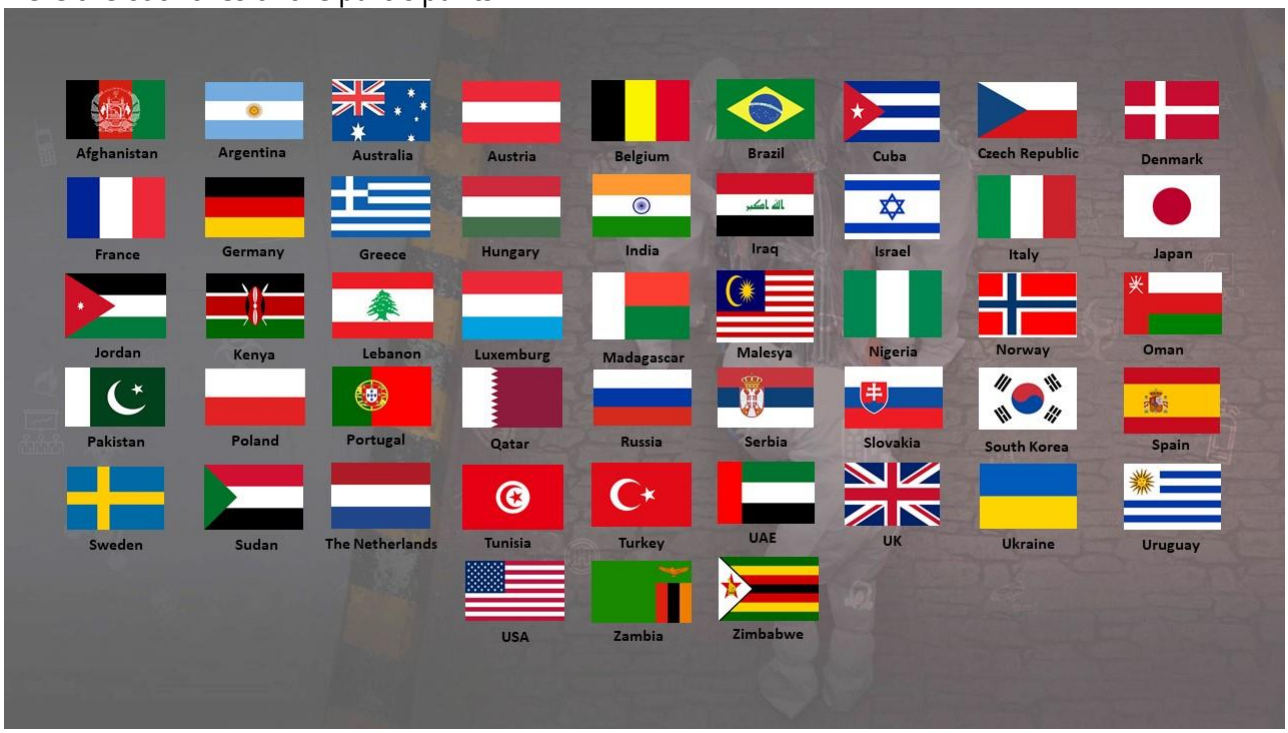


5. Conference Statistics



The virtual reality environment has allowed the exchange of more than 1600 business cards and a real interaction with the virtual industrial exhibitors.

Here the countries of the participants:



6. Scientific Boards

International Scientific Board	National Scientific Board
PRESIDENT Prof. Dr. rer. nat. Thomas DEKORSY Director of the Institute of Technical Physics German Aerospace Center (DLR) - (GERMANY)	PRESIDENT Sen. Vincenzo D'Anna President of National Order of Biologist (ITALY)
ALALI, Col. Mohamed (UNITED ARAB EMIRATES) ALLERT, Col. Bernd (GERMANY) ARMENTANO FEIJOO, Prof. Ricardo Luis (ARGENTINA) ASGHAR, Prof. Khalid (PAKISTAN) ATHAVALE, Col. Dr. Ram (INDIA) BARTELS, Dr. Cornelius (GERMANY) BATISTA LOPES, Col. Tiago Manuel (PORTUGAL) BUBENIK, Gen. B. Zoltan (CZECH REPUBLIC) CHATTERJEE, Prof. Parag (URUGUAY, ARGENTINA) CSASZAR, Col. Robert (SLOVAKIA) DAVIS, Col. Michael A. (USA) DE LA VEGA, Dr. Ramon (AUSTRIA) DMYTROVICH, Dr. Bondarkov Mykhailo (UKRAINE) DUSCHEK, Dr. Frank (GERMANY) FONTANA, Prof. Rick (USA) GALA, Prof. Jean-Luc (FRANCE) GALLEGO, Prof. Eduardo (SPAIN) GÖKERI, Prof. Gürdal (TURKEY HOOKER, Prof. Tony (AUSTRALIA) HOSIN, Prof. Amer (UNITED ARAB EMIRATES) ILLIASHENKO, Prof. Oleg (UKRAINE) KARCHENKO, Prof. Vyacheslav (UKRAINE) KARKALIC, Prof. Radovan (REPUBLIC OF SERBIA) KWON, Cap. Hojun (SOUTH KOREA) LEVY, Dr. Ori Nissim (ISRAEL) MUHAMMAD ATHAR, MD. Javed (DENMARK) OSVALD, Col. Vratislav (CZECH REPUBLIC) PAJOVIĆ, Dr. Snežana (REPUBLIC OF SERBIA) PATUREJ, Amb. Krzysztof (POLAND) PÉREZ DÍAZ, Prof. Josè Luis (SPAIN) QUINONES DAZ, Prof. Javier (SPAIN) REINER, Dr. Frank (USA) ROJAS PALMA, Dr. Carlos (BELGIUM) ROTHBACHER, Dr. Dieter (AUSTRIA) SCHWAIGER, Dr. Martina (AUSTRIA) STIENSTRA, Com. Stef (NETHERLANDS) THORNTON, Dr. Michael (UNITED KINGDOM) TRAPP, Dr. Ralf (FRANCE) VASILIOU, Prof. Vasilis (USA, GREECE) WHELDON, Prof. Tzany Kokalova (UNITED KINGDOM) YASUDA, Prof. Nakahiro (JAPAN)	BELLECCI, Prof. Carlo CADONI, Dr. Eng. Luciano CAMPOPIANO, Dr. Eng. Francesco CARMINATI, Cmd. Gaetano CECCAROLI, Col. Federico CHIAPPINI, Dr. Massimo CORBUCCI, Gen. B. Emilio CORONA, Adm. Stefano D'ANNA, Sen. Vincenzo D'ARIENZO, Dr. Marco d'ERRICO, Prof. Francesco DE LORENZO, Prof. Antonino DI MARTINO, Gen. Isp. Ing. Basilio FIORITO, Prof. Roberto GAUDIO, Prof. Pasquale GIOIA PASSIONE, Adm. Rosario GIOVANNINI, Ten. Gen. Paolo GLORIA, Col. Andrea GUCCIARDINO,G en. Antonio LABRIOLA, Dr. Tiziano LUPINI, Gen.M. Gabriele MANCINELLI, Prof. Sandro MANENTI, Prof. Guglielmo MASI, Gen. B. Salvatore MOREA, Prof. Donato NEGRO, Cons. Valerio OTTAVIANI, Adm. Giacinto PADUANO, Dr. Eng. Giuseppe PALOMBI, Prof. Leonardo PALUCCI, Dr. Antonio PAPA, Prof. Massimo PAPPACENA,CPT (It CG) Gennaro PARISI, Dr.Eng. Guido PIANESE, Dr. Eng. Emanuele POLIDORO, Cmd. Fabio REZZA, Dr. Giovanni SANDRI, Dr. Sandro SANTO, Prof. Loredana SCHILLACI, Prof. Orazio SCIRICA, Col. Calogero STELLA, Col. Paolo

7. The new cooperation agreements presented (A.Y. 2019/2020)

The conference has been an important occasion to present the 3 new cooperation agreements signed by the University of Rome Tor Vergata in the aim of the CBRN GATE/ Master CBRNe activities.

Despite the COVID-19 emergency our research group and our University of Rome Tor Vergata has not stopped the activities and is continuing perpetrating the intent to do research, education and international cooperation.

7.1 Institute of Technical Physics - German Aerospace Center (DLR)

The first cooperation agreement that we want to present is the one between the Institute of Technical Physics, German Aerospace Center (DLR) and the CBRN GATE/ Master CBRNe of the University of Rome Tor Vergata.

This cooperation agreement is the continuation of a cooperation started in 2017 with Dr. Frank Duschek and our research group that has already produced exchange of researchers and lecturers between the two institution as well as students that had the change to learn more taking from 2 high level education/training programs.

Prof. Thomas Dekorsy has presented the activities of the Institute of Technical Physics during his LECTIO MAGISTRALIS held last 12 December 2020 during the Plenary Session.

There are many research/education/training programs that thanks to this agreement will be officially developed enforcing the relation between Germany and Italy and producing opportunities for our young and talented students and researchers.

The German Aerospace Center (DLR) Institute of Technical Physics develops laser systems for applications in aerospace as well as in the areas of security and defence. At the Institute sites in Stuttgart and Lampoldshausen, scientists, engineers and technicians work on interdisciplinary issues in the key areas

- Detection and Removal of Space Debris
- Laser-based remote detection of harmful and hazardous substances
- Long Range Laser Effectors
- Laser-based flight instruments (air data)

With many years of experience in the development and evaluation of high-power laser systems and active optical system technologies, research into beam propagation over long distances and laser-matter interaction, the Institute of Technical Physics is a centre of excellence for civilian and defence security research.

web-site: DLR - Institute of Technical Physics - Home
contact: Thomas.Dekorsy@dlr.de; Frank.Duschek@dlr.de

7.2 Firefighters Regiment of Lisbon, Regimento De Sapadores Bombeiros

The MasterCBRN have a particular characteristic, the candidates are involved not only in research and education but also in training activities. It is impossible educate/train a candidate to face a CBRNe emergency (does not matter if her/he is involved as decision maker or first responder) without the expertise and experience of who is working daily with an operative approach.

The cooperation with the Firefighters Regiment of Lisbon is an important integration in the asset of our project (that already involved many National and International Entities working on field) in term of capability to transfer the experience and the operative procedures and problems to our candidates and enforce also the relation in the EU improving the capability to standardize certain procedures during CBRNe emergency. For the achievement of this cooperation agreement a special thank goes to Col. Tiago Manuel Batista Lopes, with him we started our collaboration in 2017 and he presented during the plenary session a contribution about "The First Responders Roles During National And International CBRNe Emergencies".

The Firefighters Regiment of Lisbon was founded in 1982 to meet the specific fire and rescue needs of the people of Lisbon. The Lisbon Fire Department is committed to maintaining a state of readiness to meet the needs of the community. The Lisbon Fire Department is proud to be a leader among peer departments, meeting challenges with determination.

A special thanks to Lt.Col. Tiago Manuel Batista Lopes, Commander of the Firefighters Regiment of Lisbon Regimento De Sapadores Bombeiros, for making this cooperation possible.

web-site: Regimento de Sapadores Bombeiros - MUNICÍPIO de LISBOA
contact: rsb.comandante@cm-lisboa.pt

7.3 Italian Order of Biologist – Ordine Nazionale dei Biologi

The Institutional relationship between the University of Rome Tor Vergata in the aim of CBRNe activities and the Italian main Public and Military Institutions is always in progress.

Nowadays the importance to cooperate at a structural level with the biologists is paramount important, this is way we have worked since the last year wit the President of the Italian Order of Biologist (Sen. Vincenzo D'Anna) to close this important agreement that will allow a connection with the people enrolled with the order that will have the chance to improve their preparation in the CBRNe emergency and will allow us to have high level experts that can lecture in our Master CBRNe increasing the quality of our didactic offer.

We want to thank Sen. D'Anna and our colleague Dr. Daniela Arduini for making possible this agreement and also for the sponsorship to realize this conference.

web-site: Ordine Nazionale dei Biologi (onb.it)
contact: Contatti - Ordine Nazionale dei Biologi (onb.it)

8. Sponsors

The involvement of the private sectors it is fundamental to give all the technologies necessary to face the CBRNe emergency. The sponsorship are fundamental to realize the conference and to allow experts coming from developing countries to participate at the event and to create a robust network worldwide.

We want to thank all our sponsors and now we will give a proper space to each one.

Link: SPONSOR - SICC Series CBRNe Conference

8.1 BMD spa – PLATINUM SPONSOR

B.M.D. S.p.A. is a leading innovation player in the Defense & Security industry. The company offers a full range of solutions for the detection and identification of chemical, biological, radiological and nuclear threats. The systems are especially designed to meet all requirements of civil security and armed forces for CBRNE scenario in all conditions.

BMD has participated at the conference with a beautiful virtual industrial exhibitor (here the photo gallery) and with 2 oral presentations:

- PLENARY Session (Presented by Dr. Riccardo Carcano and Dr. Luca Pinciarelli)
TITLE of the Presentation: **Introducing the Resource Effective BioidentificationSystem -REBS**

- Technical Table 1 (Presented by Dr. Luca Pinciarelli)
TITLE of the **Presentation: Nanotechnologies in air filtration system for CBRN applications**

You can see the video of the presentation here: https://youtu.be/UQokjHdLlMM
You can download the presentation here: BMD - Platinum Sponsor

website: www.bmdspa.it
Office: +39 0774 379230
contact: info@bmd.it ; r.carcano@bmd.it (Dr. Riccardo Carcno)

8.2 WL GORE & ASSOCIATI – Gold Sponsor

The WL GORE & Associati is worldwide leader in CBRNe PPE. The vision of the company is "From our founders' dream to endless possibilities: at Gore, our curiosity, creativity and customer collaboration ignite the development of advanced materials and new technologies. We innovate to enhance everyday experiences, mend hearts, explore space and so much more. Get a glimpse of Gore: Together, improving life.

WL GORE & Associati has participated at the conference with a beautiful virtual industrial exhibitor (here the photo gallery) and with 1 oral presentation:

- PLENARY Session (Presented by Dr. Giovanni Longo)
TITLE of the Presentation: **Options for Broad Chemical and Biological Protection and Mission Effectiveness**

You can see the video of the presentation here: https://youtu.be/2keK_TIpVnQ
You can download the presentation here: GORE- Gold Sponsor

website: Gore | Improving lives through advanced materials
contact:glongo@wlgore.com (Dr. Giovanni Longo)

8.3 Silver Sponsors

8.3.1 OPCW – Organization for the Prohibition of Chemical Weapons

The OPCW scope is working together for a world free of chemical weapons.
As the implementing body for the Chemical Weapons Convention, the OPCW, with its 193 Member States, oversees the global endeavour to permanently and verifiably eliminate chemical weapons.

We want to thank the OPCW because with the Financial Support received to organise a scientific Conference under the OPCW Conference-support programme, we had the chance to allow the participation to the conference to experts from: Afghanistan, Brazil, Cuba, India, Iran, Iraq, Lebanon, Madagascar, Nigeria, Pakistan, Tunisia, Ukraine, Uruguay, Zambia.

We want to thank also the Director, International Cooperation and Assistance, Kayoko Gotoh, for approving the participation of Sergei Zinoviev as speaker in the plenary session of our conference explaining the main activities of OPCW worldwide.

We are proud to remember that in 2013 the University of Rome Tor Vergata signed a cooperation agreement, unique in its kind, with the OPCW for a cooperation on CBRNe education and training.

In 2017 the Master CBRNe have won "OPCW-The Hague" award one of the most prestigious award in the world for the safety and security activities.

Since 2016 we are exchanging constantly students, research and lectures in the aim of CBRNe research, education and training activities of common interest.

web-site: Organisation for the Prohibition of Chemical Weapons (opcw.org)

8.3.2 Italian Order of Biologist – Ordine Nazionale dei Biologi

L'ordinamento della professione di biologo è disciplinato, anzitutto, dalla legge 24 maggio 1967, n. 396.

A spiegare cosa formi oggetto della professione di biologo è, anzitutto, il successivo art. 3, ai sensi del quale:

"Formano oggetto della professione di biologo:

a) classificazione e biologia degli animali e delle piante;
b) valutazione dei bisogni nutritivi ed energetici dell'uomo, degli animali e delle piante;
c) problemi di genetica dell'uomo, degli animali e delle piante;
d) identificazione di agenti patogeni (infettanti ed infestanti) dell'uomo, degli animali e delle piante; identificazione degli organismi dannosi alle derrate alimentari, alla carta, al legno, al patrimonio artistico; mezzi di lotta;
e) controllo e studi di attività, sterilità, innocuità di insetticidi, anticrittogamici, antibiotici, vitamine, ormoni, enzimi, sieri, vaccini, medicamenti in genere, radioisotopi;
f) identificazioni e controlli di merci di origine biologica;
g) analisi biologiche (urine, essudati, escrementi, sangue; sierologiche, immunologiche, istologiche, di gravidanza, metaboliche);
h) analisi e controlli dal punto di vista biologico delle acque potabili e minerali;
i) funzioni di perito e di arbitratore in ordine a tutte le attribuzioni sopramenzionate".

Thank you for your support!

web-site: Ordine Nazionale dei Biologi (onb.it)
contact: Contatti - Ordine Nazionale dei Biologi (onb.it)

8.3.3 PCA Technologies / Airsense

We are glad to have started, through this sponsorship, a cooperation between us and the PCA Technologies that is the Italian focal point of the Airsense.

AIRSENSE Analytics has committed itself to making the world a safer place as one of the leading manufacturers of detection devices for dangerous substances. The instruments, which are produced in Germany, are in use in many different areas to fight CBRNE threats.

web-site: https://airsense.com/en
contact: https://airsense.com/en/worldmap

8.3.4 CAEN sys

It is a pleasure for us continue the cooperation with CAEN sys that is started in 2018.

CAEN SyS is the new Systems & Spectroscopy Division of CAEN Spa. Such division relies upon an extremely strong foundational knowledge of nuclear measurement instrumentation in developing Radiation Measurements Systems and Spectroscopy Solutions. These systems and solutions are perfectly suited to operations involving Nuclear Fuel Facilities, Nuclear Power Plants, Measurements Laboratories, and Security Applications.
CAEN SyS Systems & Spectroscopy division is built upon CAEN traditions of teamwork and partnership. Decades of collaboration and co-development with very large international research projects (LHC@CERN, ALMA@ESO, DEAP@SNOLAB, ICARUS@LNGS, XMASS@Kamioka ...) have maximized our capability to translate a customer's needs and expectations into cost-effective and reliable solutions.
CAEN SyS Systems & Spectroscopy division is committed to delivering exceptional nuclear measurement instrumentation, expertise, and technical support.

CAEN SyS operates in three main areas:

Nuclear Safety Nuclear Security Laboratories.

web-site: https://www.caensys.com/
contact: Contact (caensys.com)

8.3.5 Sponsorship from H2020 projects

8.3.5.1 e-Notice project - European Network Of CBRN TraIning CEnters

The overall goal of the eNOTICE project is to establish a European network of CBRN training, testing and demonstration centres aiming at enhancing CBRN training capacity for improved preparedness and incident response through increased collaboration between CBRN training centres and practitioners' needs-driven CBRN innovation and research.

eNOTICE is coordinated by the Université catholique de Louvain.

- Establish a Framework
- Connect Training Centers
- Optimize Resources
- How to join the network?
- The Terms of Reference define the scope of the network activities and criteria for membership.
- If you are eligable to join the eNOTICE network, please attend one of our Joint Activities or contact us.
- Establish a Framework
- Elaborate a framework for European network of CBRN training centers, testing and demonstration sites:

- To identify and roster the EU CBRN TC, testing and demonstration sites and map their capabilities, facilities, specificities, and geographical location, as well as their professional, economic and legal links. This will be the framework for categorising the centres, and for elaboration of a capacity/quality label
- To survey participants interacting with and influencing the CBRN TC network: users (practitioners, first responders, technology operators, customers), technology suppliers (industry and research), training professionals and policy makers. A thorough analysis and identification of their respective needs and expectations for process and technology innovation will be carried out to draw up a roadmap of factors, criteria and motivations prompting their membership to this network
- To identify Key Performance Indicators of a successful network of TC (e.g. DMTRAINET [AETS/DG ECHO 2013]), including the analysis of barriers often hampering practitioners to fully and efficiently participate in a network, and identification of levers and drivers of commitment to a collaborative community during the project.
- To capitalize on prior mapping of CBRN and security stakeholders: CBRN component of the Community of Users (CoU) on secure safe and resilient societies (DG HOME), the EDEN project end-user and supplier platforms, the relevant SEC-05-DRS-2016 CBRN Cluster network of CBRN suppliers and practitioners, DG ECHO DM TRAINET, DG DEVCO CBRN Centre of Excellence, UNICRI and JRC and regional/international organisations (e.g. IAEA, WHO, OPCW). Other CBRNrelevant networks with similar scope, goals and member profile will be identified at international, national, regional and local levels, taking advantage of their experience and lessons they learnt, while fostering collaboration and synergies.
- To elaborate a global framework for a sustainable European network of CBRN TC and associated stakeholders wishing to cooperate with peers, to build on the current eNOTICE consortium and expand it further. The framework will be based upon clear missions, realistic expectations and an

adequate management structure ensuring its sustainability through better perception and understanding of the professional added value and return, and confidence-building between all parties.

Connect Training Centers

Establish a web-based information and communication platform to provide, share and disseminate information during and after the project: to make the eNOTICE network visible and attractive to CBRN-TC and external stakeholders, to provide access to CBRN-TC capacities according to a 'capacity label', and to encourage and facilitate communication and interactions between all parties:

- To make the eNOTICE network visible through a web based information and communication platform informing on CBRN TC specificities and profiles (i.e., training and testing facilities), enabling seamless interactions between practitioners and technology innovation providers. Secure access to the information and communication platform will be implemented. Maintenance and continuous improvement of the platform will be provided, and sustainability mechanism will be developed.
- To encourage all stakeholders to share and discuss information, needs and expectations through web based functions and to raise awareness of shared interests, synergies and opportunities for collaboration. Thorough knowledge and content management will be used to represent and share the information in the best optimal way between multidisciplinary stakeholders. A mix of web based activities (e.g., interactive forums, collaborative scenario building, databases and documents sharing) will be implemented and maintained to keep a widespread use of the platform during and beyond the project
- To make the capacity of the CBRN TC, testing and demonstration sites visible through a 'capacity label' informing on expertise, training and testing capabilities, specificities and profiles.
- Optimize Resources
- Set up an operational transactional network for optimising investments by pooling and sharing resources, expertise, and effective practices, by organising joint activities between the eNOTICE network members and external partners, and by liaising with other networks of CBRN stakeholders:
- To identify good practices in preparing and organising stand-alone exercises and exercises combined with tests, validations or demonstrations. A standardised effective practice will be implemented based on a threefold template that will be used as a checklist for recording and monitoring the organisation, evaluation and follow up of such activities.
- To organise joint activities between the eNOTICE beneficiaries or between an eNOTICE project beneficiary and external partners to demonstrate the benefits of sharing resources and optimising outcome. EU and national CBRN projects will be monitored to identify networking activities, promising innovations and to facilitate dissemination and exploitation through the eNOTICE network by organizing joint activities, such as using eNOTICE consortium facilities for the projects training, testing or demonstration events. eNOTICE will support testing, validation and training of new technologies in operational end-user facilities to ensure that all user's operational procedures are respected, being in realistic environment set up by users, by involving members of the eNOTICE practitioners community. To organise joint activities within the consortium, and for some of those, with external partners, in order to document the outcome benefits of sharing resources. EU and national CBRN projects taking potential advantage of the consortium training and testing facilities will be looked at, thereby expanding the scope and size of the network, fast-tracking innovations and expanding dissemination. Practitioners' involvement in tests, validation and training in new technologies inside well-adapted infrastructures and in real-life or simulated situations will prompt the respect of operational procedures, support CBRN innovation and make those better fit users'

needs. This objective will provide support to CBRN research projects with easier access to the users and training facilities.

- To support EU policies (DG HOME, DG ECHO, DG DEVCO and others) through improved national and cross-border capacities, hence better CBRN incidents preparedness and response, and increased resilience to CBRN attacks, new or emerging threats. It will be strengthened by creating a common single interface between the eNOTICE functional platform and EU mechanisms with similar goals.
- To provide recommendations to the EU R&D programme based on regular feedback from CBRN training professionals and practitioners, and the lessons learned from eNOTICE joint activities.

To elaborate a plan to pool and share resources for optimisation of investments – propose and describe the enhancement, functionality and sustainability mechanism for the network.

Web-site: European Network Of CBRN TraIning CEnters (h2020-enotice.eu)

8.3.5.2 Transtun project - TRANSnational TUNnel operational CBRN risks mitigation

The main goals of the project are:

- Develop and formalise a network of operators and emergency responders for EU cross-border tunnels through joint activities, sharing of information, development of synergies, replicability of tools and procedures common to road and rail tunnels.
- Develop a standardised toolkit for Member States and operators of EU cross-border road and rail tunnels to respond to a chemical attack/accident in a cooperative way, ensuring coordination of different national authorities, and thus creating procedures which are not in conflict with national doctrines and legislations.
- Improve joint operational response of operators and emergency responders to chemical attacks/ accidents occurring in cross-border tunnels (road and rail) with the aim of testing trans-border coordination protocols, reducing response time and enhancing use of proper equipment.

web-site: Transtun Project – TRANSnational TUNnel operational CBRN risks mitigation

8.3.5.3 EUProtect project

EUProtect project is devoted to the development of new solutions for the protection of citizens and infrastructures against terrorist threats.

The goal of EUProtect is to develop new concepts of urban landscape design aiming at reducing the vulnerability of public spaces against terrorist threats, taking into account the recent rapid changes in terrorism threats.

Special care will be paid to citizens, through modelling and simulation of their behaviour in the event of terrorist attacks.

This will include virtual assessment of different protection measures.

- PROTECTION OF PUBLIC SPACES : Improvement of public spaces and soft targets protection
- PROTECTION AGAINST CBRN ATTACKS: Improving protection against CBRN attacks
- ADDRESSING CBRN-E AND EMERGING THREATS: Addressing CBRN-E as well as emerging threats to critical infrastructure and public spaces

The worldwide rise of terrorism has been accompanied by a series of attacks against so-called "soft targets", vulnerable public places that may be selected by terrorists in their effort to maximize casualties.

Considerable attention has then been drawn to methods for enhancing the security of soft targets and providing protection to places that would otherwise remain fully unprotected. However the characteristics of soft targets can range from public spaces with no protection to structures with some basic protection.

As a result, solutions are urgently needed to protect public spaces in urban areas by structural, architectural and land shaping elements that are not recognized as protective elements by the public.

web-site: EUProtect – EUProtect Project

9. Local Organizing Committee

I want to thank all the AMAZING Local Organizing Committee. I had the pleasure and the honour to be President of this LOC composed by great friends and amazing professionals that have worded night and day to let the conference possible.

- RUSSO, Dr. Colomba
- IANNOTTI, Dr. Alba
- GAMAL, Mr. Ahmed Ibrahim
- QUARANTA, Dr. Riccardo
- CHIERICI, Dr. Andrea
- ROSSI, Dr. Riccardo
- ARDUINI, Dr. Daniela
- LUDOVICI, Dr. Gian Marco
- DI GIOVANNI, Dr. Daniele
- BELLISARIO, Dr. Enrica
- CARESTIA, Dr. Mariachiara
- MARTELLUCCI, Dr. Luca
- MORAMARCO, Dr. Stefania
- ORLANDO, Dr. Stefano
- DI GIACINTO, Dr. Marta
- GABBARINI, Dr. Valentina
- JOHNSON, Prof. Steve
- THORNTON, Dr. Michael
- POGGI, Dr. Luigi Antonio

THANK YOU ALL, YOU ARE SPECIAL TO ME!

Link: Local Organizing Commitee

10. Do you want to cooperate with us?

I kindly invite you to visit our main web-site to find more about our:

- Master CBRNe : Master CBRNe (Directive Board , DIDACTIC BOARD)

The MasterCBRN will be online till the end of the emergency COVID-19 on our e-Learning platform in ON-DEMAND modality. Next courses will start in March 2021, enrolment are open. Write to: info@mastercbrn.it to learn more

- HESAR association: Health Safety Environmental Research Association Rome
- INAC Division: INAC - Health Safety Environmental Research Association Rome
- Research projects involvement: Projects
- Scientific Publications: Publications
- Book series : CBRNe Book Series
- Research activities: Experiments
- Scientific Events: Scientific Events

And much more on HESAR – CBRNe GATE

Our social media channel:

- Facebook
- Linkedin
- YouTube CBRN GATE (2019-Today)
- YouTube Master CBRNe (2014-2019)