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Report on CREATIF project's final results

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Welcome to the sixth and final issue of the FP7-CREATIF newsletter.

After 30 months of work and a lot of project activities we have finalised the CREATIF project by the end of July 2011. This last issue of our newsletter offers you a summary of the most important results.

The CREATIF consortium would like to thank you for the continuing interest, your active contributions to workshops and your friendly support for this project.



We hope you find something interesting and enjoy reading.

Sincerely yours,

Friederike Strebl & the Creatif Consortium

CREATIF Project News – Executive Summary

Introduction

Testing of CBRNE detection systems is a necessary procedure to provide information on properties and specifications of equipment and services for possible end-users, thus enabling knowledge-based decisions on the most suitable tools for covering their specific needs. Also, testing of equipment provides benchmark information for the industry for improved product development and adapting instruments to user-defined specifications. In many security-relevant fields, testing facilities do exist, but currently there is no joint agreement on unified test protocols or standards, which a given instrument must meet to satisfy user requirements.

Testing of CBRNE detection equipment should take into account a variety of technical issues like sensitivity, specificity but also ruggedness or user-friendliness, as only robust, easy to use, fast, sensitive, and accurate (low false alarm rate) devices are useful for security institutions to avoid CBRNE attacks without disturbing normal life of citizens. Accordingly, test protocols have to produce all necessary information to allow decision makers to select suitable devices for the intended detection scenarios.

The CREATIF network focussed on information exchange and collaboration between existing testing facilities in the EU targeted to CBRNE detection – to support best practise for providing quality test results which fulfil end-user demands of tested products and potentially supporting the interoperability of devices. Moreover, all stakeholders have been invited to contribute to the discussion and introduce their needs and views on the topic.

Objectives

The main objectives of CREATIF were:

- collect and provide information on test facilities & portfolio of expertise
- offer a forum to discuss security related testing for all stakeholders (decision makers, end-users, industry, EU-bodies)
- define a roadmap for the future development of testing CBRNE detection systems
- harmonize testing by initiating standardization
- encourage quality assurance of testing by suggesting intercomparison exercises
- define minimum requirements for testing facilities
- generate certification strategies for facilities, service providers and devices
- amend testing protocols to cover human factors and operational issues related to CBRNE detection

Results

Main results achieved by CREATIF are:

Glossary of terms to find common language for CBRNE detection testing (Report D.1.1)

Existing definitions from the EDA-CBRN-DIM (Detection, Identification and Measurement), NATO glossary, IMPACT glossary were used and amended by own definitions to have a joint reference for discussions.

Data base on test facilities for CBRNE detection equipment (Report D.2.1)

At the moment 68 facilities, belonging to 38 organisations have been identified in 15 European countries (counted separately for C / B / RN / E facilities) and information on the testing facilities and their capabilities have been compiled.

Report on available standards and protocols for testing CBRNE detection systems (D.2.3)

This deliverable gives an overview on existing national, international and European standards. For C, B, E detector testing there are no international/European standards, i.e. a lot of work has to be done before European standards will be available. This will certainly need several years from now. For RN all kinds of detection equipment are covered by national and / or IEC

standards, so an adoption of standards by CEN/CENELEC seems possible in the near future.

Outline for joint testing exercises for C / B / RN / E detection systems (Report D.2.4)

One major feedback of testing experts has been that intercomparison exercises on the quality of testing would be very interesting. Also, existing accreditation systems require intercomparison. Therefore, a first outline, how such an exercise could look like, and which points have to be considered for the organization of such round-robin exercises has been produced as a discussion basis. The fact that international/European testing standards are missing for C, B, and E detector testing makes the planning difficult, as all the testing parameters have to be pre-defined for the exercise.

Workshop & proceedings on end-user needs and stakeholder views to the topic of testing CBRNE detectors and standardization of testing (Report D.2.2 plus Annex)



One easy way to build strong links and an open trustful atmosphere between individuals is to bring them together and make them exchange opinions in personal communication. Therefore, the first CREATIF workshop was given high priority in order to attract relevant stakeholders of the CBRNE community and start the networking activities. The workshop took place at EU premises in Brussels to allow easy travelling. Finally, 69 participants from 14 European countries joined the two-day event. The proceedings contain all presentations and conclusions and are publicly available from the Creatif web-site.

Operational testing framework (Report D.3.1)

Today, the testing of CBRNE detection equipment is confined mostly to laboratory testing. This type of testing is conducted under highly controlled or ideal conditions. Therefore, the results of such testing should be considered as the upper bounds or best-case performance of a given CBRNE detector. End-users and other stakeholders have expressed the need for information on detector capabilities under realistic operational conditions. Therefore, Deliverable 3.1 proposes options how operational issues, based on realistic scenarios and the human factor can be covered in complementary testing procedures and represented in test reports.

Technology User Needs and User Feedback Compilation Document (Report D.3.2)

This deliverable was intended to collect practical experiences of first responders and user-needs connected to the use of CBRNE detection devices under real operational conditions. To reach this aim, a questionnaire was designed and sent out together with technical instructions to app. 100 people. Unfortunately, the feedback was very poor. So the report focusses to the description on methodology, but due to the poor statistics, it lacks a „conclusion“ chapter.

Road map for a European certification system for CBRNE sensor systems and devices (Report D.4.1-D.4.3)

A certification system for CBRNE detectors has been suggested. The Creatif approach is derived from working certification systems (with accredited laboratories, certification bodies and certification advisory committee) to make use of existing structures (e.g ISO 17025) and enhance the trust in the suggested certification system.

Proceedings of the Certification Workshop (Berlin, 4-5.10.2010) (Report D.4.4)

The CREATIF certification concept and other issues related to certification, standardization and testing of CBRNE detection equipment have been discussed in the second Creatif workshop in Berlin with app. 70 participants.

“The future of testing security related products” (Report D.5.1)

In the final deliverable of the CREATIF project we tried to put all previous results into a wider

perspective – to build a roadmap from the well-described status quo of testing CBRNE detection systems to an improved situation with regard to the developments of standards, improved testing by consideration of operational performance and human factors; and finally discussing ways to achieve mutual recognition of testing and certification within EU and worldwide. The idea of a joint testing facility has been briefly discussed and - as this concept has not been accepted by the stakeholder community - the way forward without this concept described.

Conclusions

As the Creatif project has been a coordination action by nature, the main result consists of a functioning network, i.e. a platform of all stakeholders to discuss issues related to the testing of CBRNE detection systems and bring forward the topic accordingly. This has been achieved in the framework of two very successful workshops with about 70 participants each.

There is common agreement on the fact that the standardization of testing is needed, so initiatives for the definition of agreed standards have to be implemented by the existing standardization bodies like CEN/CENELEC. Also, EDA plays a role in this context and is already actively supported by Creatif consortium members in a topically related BIO-DIM project.



In the case of RN detection, adoption of existing IEC standards by CEN is straightforward; for C-detection, civilian standards need to be developed; for E-detection, experts suggest to develop European standards by seeking cooperation with ECAC and military to make use of available knowledge; B-detection is not yet a mature technology, so work should start with harmonization



of protocols for testing (aerosol generation, simulant agents), standards will follow later on.

The certification system for CBRNE detectors, as suggested by CREATIF, can be carried by the testing facilities already in the network, all other necessary structures like an overarching certification body assuring quality of testing and managing a kind of labelling system could be developed out of the network as well. The implementation will depend on the political willingness and financial support by national/European authorities.

The CREATIF stakeholder groups agree that

- testing of detection systems is needed
- testing should be based on (EU) agreed standards
- comparability of testing results is desired, and can be achieved by accreditation of testing centers or organisation of round-robin exercises
- certification of products based on independent third party evaluation is desired
- No preference has been expressed for a specific (Security) label as criteria are not always transparent. Test reports with information on instrument performance seem more useful for end-users.

In a wider societal perspective it is very much desirable to provide all stakeholders related to CBRNE detection systems with independent and trustful information on the capabilities of detection equipment. Especially the coverage of human factors and operational issues in the testing process will help to get a reliable estimation of detector capabilities under field conditions. Complementary testing should focus on the use of real agents (or simulants); be carried out based on realistic operational scenarios. Training exercises for end-users should be organized to get hands-on realistic experience with detection systems. Moreover, development of complementary testing protocols to cover human factors and usability is needed.

This will help to:

- enhance security by improving the coverage of detection needs through well suited equipment,
- save public money by supporting public procurement processes - selecting the best

suitable equipment for a given detection application

- support industry in the development of improved detection systems through testing results
- via certification of products support the development of a European market for CBRNE detection systems and reduce costs of testing (as testing reports are recognized by other parties and testing of a given instrument has to be done only once).

The address of the CREATIF web-site is:

<http://www.creatif-network.eu>

Many of the deliverable reports are available for download from the CREATIF web-site. Consortium-restricted reports can be made available on request. If you are interested, please send an email to the coordinator.



For comments and more information please feel free to contact us.

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The CREATIF project has ended by July 2011, so no further postings will be distributed.