ENCIRCLE NEWSLETTER

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ISSUE 3

WELCOME

Welcome to the the third edition of the Encircle newsletter.

Encircle is a four year H2020 project with the aim of improving competitiveness and procurement of CBRNe technologies for the advantage of both European CBRNe industry and practitioners and, most importantly, the improvement of EU resilience to new CBRNe Threats and attacks.

To improve its resilience to new CBRNe attacks and threats, the EU needs a specialized, competitive, efficient and sustainable industry. Capitalizing on its experience in the EDEN Demonstration Project, other CBRN relevant projects, and in the CBRN market and supply chain, the ENCIRCLE consortium proposes an innovative approach to reach this goal in a short to long term perspective.

Once achieved it will allow SMEs and large industries to deliver and invest in the best innovations on the market.

The project results are enabled and promoted in two main channels:

i) via a web portal, https://www.encircle.eu/ the Dynamic Catalogue, of available tools and technologies facilitating technologies integration and standardization for SMEs and industries, various market segments and different categories of users

ii) by providing support to the European Commission in identifying research gaps and proposing means to fill them.

This newsletter brings you updates on the project, interviews with practitioner led EC projects, and a success story from PIAP.

Meet The Partners

The ENCIRCLE project involves a consortium of fifteen members across seven countries, with Universite Catholique de Louvain as consortium leader.

The consortium is balanced between Industrial partners with expertise in CBRN, universities, RTO's, practitioners and institutions to meet the project objectives.

The Consortium:

ADS/CBRN UK

BAE Systems (BAES)

Environics Oy (EOY)

European Virtual Institute for Integrated Risk Management (EU-VRi)

Falcon Communications Ltd. (FALCON)

Instituto Affari Internazionali (I.A.I)

Mikkeli Development Miksei Ltd (MIKSEI)

OUVRY SAS

Przemysiowy Instytut Automatyki i Pomiaro w (PIAP)

Smiths Detection Watford Ltd. (SMITHS)

Tecnoalimenti (TCA)

Universita Cattolica del Sacro Cuore (Policlinico Gemelli Hospital) (UCSC)

Universite Catholique de Louvain (UCL)

Universite de Nice-Sophia Antipolis (UNS)

Wojskowa Akademia Techniczna (WAT)

ENCIRCLE in Pictures

Since the ENCIRCLE project began the consortium has been busy building a community, collaborating with other projects, and fostering communication between practitioners and industry. Below are a couple of infographics to show some of the progress we have made. More will follow in the next issue.

Encircle Website

On average the public facing Encircle website receives per month...

> 800 sessions

> 600 users

> 1,800 unique Page Views
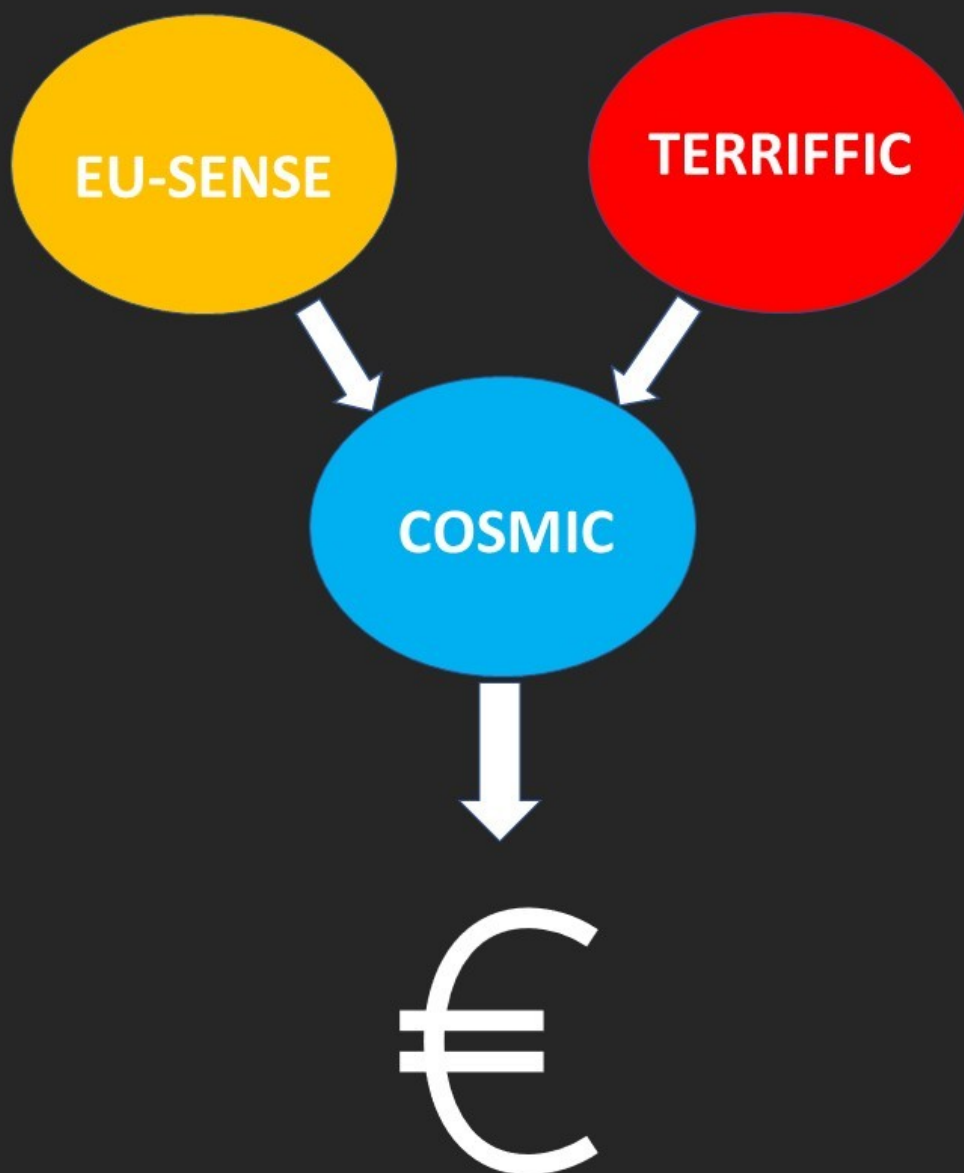
> 2 min session duration

> 1 min time on page

> 10 countries

Part b Projects

Part of the mandate of the Encircle project is to promote the creation, and assist in the development and success of, Part b projects

3 projects selected from 2017 calls

EU-SENSE

TERRIFFIC

COSMIC

€

> 10 million Euros in EC funding

Counter-CBRN Accessories for Mobile Robots: *From Idea to Delivery.*

Grzegorz Kowalski, R&D Project Manager and Technical Team Leader at Przemysłowy Instytut Automatyki i Pomiarów (PIAP), talks about the type of success companies can achieve when part of an EC project.

ENCIRCLE consortium member PIAP[1] is one of the main European producers of mobile robots dedicated to performing IEDD[2]/EOD[3] and inspection tasks.

Since 2000 PIAP has successfully been delivering robots to military and civil formations such as police, border guards and fire services. In response to the new emerging threats, and growing interest of PIAP's robots' users, our research teams started conceptual work related to the potential use of robots in CBRN contaminated areas.

These concepts assumed equipping a robot with devices capable of performing counter-CBRN[4] tasks like collection of environmental samples and carrying out measurements to gain knowledge about the contamination of the area with dangerous substances. This approach would allow users to minimize the threat of exposure to those people working in the hostile environment.

We have pursued first stages of the concept, creation of models, during national projects in Poland, lasting from 2011 to 2014. Our biggest technological advance was made during the international project End-user driven DEmo for cbrNe - EDEN[5] which ended in 2016 and was, funded under the 7thFramework Programme.

The project's main goal was to enhance European resilience to CBRN threats by providing a system-of-systems approach and developing a range of counter-CBRN tools for practitioners. During the project PIAP's researchers advanced prototypes of the devices for sampling contaminated soil and liquids as well as integrated threat detectors with the robot's communication subsystem.

These devices have been validated and positively assessed by the end-users during several demonstrations of the project.

Devices developed during the EDEN project were characterized by a very high TRL[6], so we submitted several patent applications. With the process of protecting our IP underway the devices have been inserted into PIAP's commercial offerings.

The current offer of counter-CBRN devices are included on the Institute's website[7]. PIAP's marketing division presented the devices publicly for the first time during the biggest Polish fair on security and defence, MSPO – in Kielce, Poland, in 2016[8]. Since then the devices have been shown at several fairs in Poland and abroad (e.g. IDEX2017 in Abu Dhabi, UAE).

In 2017 we received the first commercial order for counter-CBRN equipped mobile robots from Polish state fire service, as some of their brigades are

designated to deal with chemical and radiological threats. The order covered 3 sets of IBIS® robots equipped with environmental samplers and radiological detector.

The order was successfully delivered in April 2018[9]. Since then PIAP has started to work on prototypes of other counter-CBRN accessories for mobile robots. PIAP's CBRN versions of robots have been also introduced into ENCIRCLE's online catalogue of products for security

[1]Full name: Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP

[2]Improvised Explosive Device Disposal

[3]Explosive Ordnance Disposal
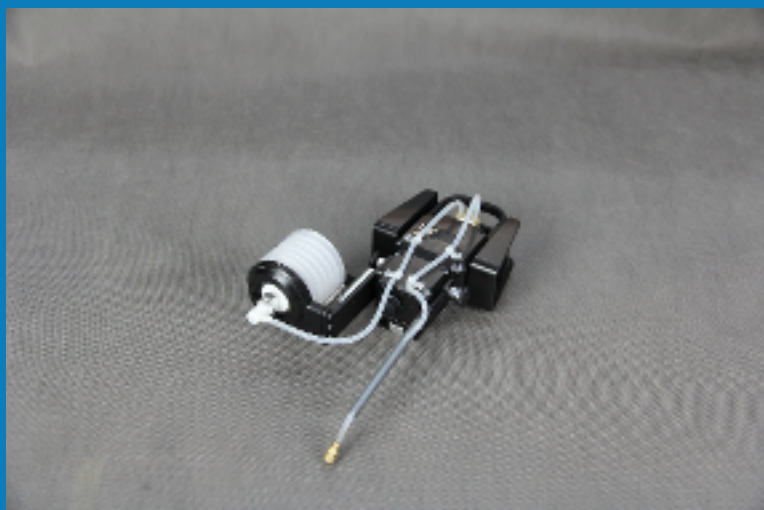
[4]Chemical, Biological, Radiological, Nuclear

[5]https://eden-security-fp7.eu/

[6]Technology Readiness Level

[7]https://www.antiterrorism.eu/our-offer/cbrn-accessories/

[8]https://www.defence24.com/mspo-2016-mobile-robots-for-the-army-and-uniformed-services-piap-at-the-mspo-exhbition

[9]https://www.defence24.com/polish-state-fire-service-receives-first-heavy-mobile-robots

Practitioner led projects

In this issue we spoke to some practitioner led EC projects and asked them about the work they are doing.

FIRE IN

Sebastien Lahaye, FIRE-In project coordinator

Encircle: What the main objectives of Fire-In ?

Fire-In: The Fire-In project objective is to build a network of fire fighters and fire and rescue services around Europe, and to connect this network with fire and innovation networks so that the next research and innovation agenda in Europe can be led by the practitioners. That's the finer aim of Fire-In Project.

Encircle: What are your hopes for project outcomes?

Fire-In: That we have more efficient research. That some start projects and researchers and innovators have ideas, and develop solutions, but they are not always useful for the practitioners. We want to get out of this cycle.

Encircle: What aspects of the projects will be the most challenging?

Fire-In: The most challenging aspect is to close the loop and have feedback on existing research and innovation fed-back to practitioners. It's a network of practitioners with teams that we've had good success with. Giving them the outputs of the research and innovation organized is much more difficult.

Encircle: How have you found interaction with the thematic working groups that you've created? Have you found that people are willing to engage, or is it difficult to get people interested when there other projects that are creating clusters?

Fire-In: We have had very good engagement with people attending the workshops. There are many different initiatives in Europe building these types of networks, but we have established good connections and that's something we are doing well. The most challenging thing is that if you ask a practitioner, somebody who's every day job is to fight fires, for example, to participate in your project, he can do that, but he will do that perhaps once, he won't be able do it for tons of projects, and he won't interact on so many websites and so on. It's a war between all the different projects to establish connections and have unique responders.

Encircle: One area where some projects, including Encircle, have found difficulties is in getting users to actively engage on their forums. How have you found that, do you find you're having to promote people to be actively participating?

Fire-In: We did some very in-depth work of contacting people face to face at the beginning of the project. In this project we have 15 partners that are representative of fire and rescue agencies in the different countries of Europe. We have very good direct connections and contacts within these agencies, which is how we have a network of more than 300 people in touch with us. They have not all come to us through our website, it is because we have contacted them individually and explained to them the aims of the project, the outputs, and what they could get from it.

Encircle: What's the interest been from users regarding the CBRN element of the project? Have you found that this is something fire personnel are interested in? Or, have you been facing some CBRN fatigue with so many products focusing on that?

Fire-In: We haven't had that critique because we have tried to connect the different projects. We organized thematic workshops and for the CBRN workshop, we invited Encircle, eNotice, and other CBRN projects to be representatives and interact. We do our best to establish and maintain these connections. The area where we have to coordinate is on the website, and that's more where we have a challenge to connect everybody.

Encircle: How do you manage the various elements of fire and rescue – height, urban search and rescue, flooding, hazmat etc,how do you get those together

and coordinate and manage them?

Fire-In: It is very much as you said, but on the other hand lots of agencies in Europe are dealing with all these risks. If I take, for example, the fire fighters in France, they are addressing all of the risks we are talking about in the project, so that's one side of the answer. The other side is that after each cycle of thematic workshops we are looking for common community challenges, and there are a lot. One of the challenges you will always find to come out of the workshops is coordination and command, with directing, engaging the population, tracking resources, and safety of the responders, but that's a totally transverse issue. It's actually not very difficult to connect the thematics.

Encircle: You just mentioned workshops. What you can tell us about any workshops and exercises you have planned during the project? Is there the opportunity for other projects to attend and participate or observe?

Fire-In: We've already had two cycles of workshops, five workshops in 2018 and five in 2019. Our next cycle of workshops will be at the end of this year, 2020, probably October or November in Greece and Poland, we will invite other European projects to participate and interact, and we'll also probably invite some projects to present their results. That's for workshops, but we also do this for every dissemination conference, this year will be a big one that will be held in common with four other **European projects.**

Encircle: Have you found you've had quite a bit of interest for collaboration between yourselves and other 2020 projects?

Fire-In: Yes, they are very complementary issues, so we are collaborating a lot.

Encircle: When it comes to fire and rescue, fire in particular more than ambulance and law enforcement, has quite a joined-up community through organizations such as IAFC, and INSARG for example. How would you persuade busy people to invest their time in a project that they know is short lived? What concrete deliverables can you deliver that will inspire them to join and spend their time?

Fire-In: We have been quite successful in getting people, for example we have THW which is a very large volunteer station in Germany dealing with

recovery, refilling and so on. They are one of the partners of the project. Engaging with the population and engaging with the community is one of the key challenges identified by our practitioners in the different workshops. When we are driving the user and research agendas to these topics, there is an interest in the normal population or the communities to share that with them.

Encircle: One of the things we read about with the Fire-In project is the Common Capability Challenges. How have you found the participation in that from people? Are they finding that the challenges that have been highlighted are ones that they really need to focus on, or have they been coming up with other capabilities they need? And, have they been forthcoming with solutions?

Fire-In: In the discussions we have had during our thematic workshops, there are lots of ideas, lots of challenges identified, small scale and big scale, but because we cannot address everything we are working with these common community challenges, and the question is always do we really reflect what the experts have mentioned? I'm not sure of the answer, but it appears again that we can find very common things in practitioner's expectations. Something I discovered with this project during the last two years is that it's not possible for us to be exhaustive and to address everything, so it is a good idea to focus on very key challenges, very common capability challenges, so that's what we are doing now.

Encircle: What would you like the legacy of this project to be?

Fire-In: Our objective is to have a final website where people will engage and stay engaged, after the end of the project, although I'm not sure if it will be this project's website or another project's website. Having built these communities, creating a lasting linkage between the fire and rescue community will be a very, very good legacy. On the other hand, if we could influence the European research agenda in a good way, I would be happy, our objective will be completed.

NO-FEAR

Francesco Della Corte, NO-FEAR project coordinator

Encircle: Encircle and No-Fear already have a working relationship, but for those people that are that don't know about the project, can you explain what the main objectives of No-Fear are?

No-Fear: No-Fear is a project consisting of 18 partners, mainly practitioners, suppliers and academics, from across Europe. The purpose of the project is to get together different experts to improve the new trends and new gaps, to improve what is expected by practitioners from the suppliers, and also to improve the input of academicians and any other stakeholder that is involved in the response to an emergency. There are seven work packages within the project, but there are three main pillars which are acute medical care, emergency management, and education and training.

Throughout the project we will organize 10 different workshops and exercises across Europe. During these meetings, the beneficiaries and the people that are invited from different groups of practitioners, suppliers and academicians, will be working on a specific topic. After each the event we will upload a report that discusses, in detail, the lessons learned etc to the project portal which is being provided by the University of Nice, and which is available to anybody with interested in the project.

Encircle: With such a diverse group of people in the project have you found difficulties with getting them to talk to one another as they often talk on very different levels, and in very different languages?

No-Fear: In all of the meetings that we've had, different people were bringing into the arena different access, different topics, and different needs. The intention of this project is to make the relationships between different people much easier than in reality. Effectively they are speaking different languages, and the project is really oriented towards reducing the differences, and the distances, between them so that each knows exactly what the other wants, and what the different stakeholders could bring to improve, or reduce, the gaps which need to be filled.

Encircle: What are your hopes for the outcomes of No-Fear? What would you like to see towards the end of the project and for its longevity?

No-Fear: The expectations are very high; we are only in the second year of the project, so we cannot say whether we will reach our target just yet. We started the project with a kick-off meeting in November 2018 at which we had a foresight exercise that was very interesting, the results of which we are going to publish in the near future. The exercise was on methodology and results and gave us the opportunity to understand exactly what the participants were expecting from the project.

From one meeting to the other, we fix our attention on what comes out of the previous meeting to improve and focus on a specific topic, and we understand that expectations will change from meeting to meeting. Things are changing year after year and we are trying to focus, from one moment to the other, depending on what the evolution is in the emergency medicine world at any given time.

Encircle: Do you find that's one of the most challenging things, needing to change your focus as the world changes?

No-Fear: Yes, we hope that we can keep up to date with what is happening in time, this is something that we are very interested in. We are trying to focus exercise after exercise, on the suggestions coming from the past, to see what could be going to happen in the future. This is the real strength of the project.

Encircle: Have you seen much interest from other H2020 projects that are looking to collaborate with No-Fear?

No-Fear: This is a very important point, that has been mandated by the European Commission. No-Fear is the only project focused solely on medicine, or on management of a medical problem. We have had lots of requests from different projects asking to collaborate with us.

Encircle: You mentioned earlier that you have set up a portal where everyone can connect. How successful have you found that in terms of people

signing up?

No-Fear: The website has been open for just a few months,and at present is mostly used by the consortium, but we want it to be used by practitioners, the beneficiaries of the project. We hope that we see it being used lot in the future and throughout the project.

Encircle: There are quite a few projects that are setting up portals and forums, how do you combat the fatigue of people not wanting to sign up to yet another portal, or network?

No-Fear: We have tried to facilitate it so that the portal is absolutely open to anybody who is interested in the project, including suppliers and practitioners that are invited to any of the events that we are organizing every six months, so I think that the destiny of this portal is to increase continuously as our activities increase.

Encircle: Have you found any difficulty in enticing people to come along and join your events or exercises?

No-Fear: No, in fact we have seen an increase in the number of people interested and wanting to be invited. One issue at times can be funding, so sometimes we have to limit the number of invitations to people who are really interested in the project, and in working with us. So far, we have had a great response of people wanting to attend our events to the point we have had to reject some requests due of the number of people already attending.

Encircle: The project has now been running for just over 18 months. What can you tell our readers about the work you've undertaken and successes that you've seen in this time?

No-Fear: At the moment, I personally, am very satisfied with the work we have done. The exercise went well, the reports after the exercise were good, and the feeling of the consortium is good. I think that in perspective this project could have a good impact on the work of emergency agencies. We have people interested in the project from all over Europe,

and I as coordinator, and the management board, are satisfied with what we have done, and we hope that it will continue for the future.

Encircle: One area that the project is looking at is improving research and development and procurement issues. What makes No-Fear different to other projects that are also working in that area?

No-Fear: No-Fear is not a research project, we are not undertaking large research issues, science is not the end point of the project. The objective of the project is to work together, the various stakeholders, in the field of emergency crisis management and medicine, to identify new trends and to find solutions to fill the gaps, and to see how the proposals raised during the different exercises could bring to implementation the expectation of the different participants of the project.

So, it's not a focus specifically on how to treat a myocardial infection or how to change some drugs that could improve someone's outcome, but how can I better use some specific tools to be adopted in the future and I, as a supplier, would like to know what is the perspective from the practitioner to produce what they need, and to keep them in the future.

Encircle: What does 2020 have in store for No-Fear?

No-Fear: This year we will have a meeting in Tel Aviv, where it will be mostly focused on hospital safety, hospital disaster planning, and the use of new technologies in hospitals to increase security. Our next meeting after that will be in Romania, in November, and that will be focusing on education and training where we will have the new tools for education and training based on the expectations that are coming from the previous meetings. There will also be other conferences where we will focus on the needs that arise from discussions throughout the project. And, of course, we will have the final meeting in which we will present a summary of what has happened during the project was and to present the final results.

INCLUDING

Luigi De Dominicis, Development Coordinator

Encircle: Can you explain for us what the main objectives of the Including project are?

Including: Including is a five-year project, the main objective of which is to improve the sharing and pooling of resources for first responders and practitioners in the field of radiological and nuclear emergencies. We know that when it comes to radiological and nuclear emergency training there are a lot of difficulties related to the cost of equipment, and in finding areas that are qualified for training, so it is important to have an organization in which several research centres, and test beds, put together their resources and make them available to all of the participants in the project. In order to realize this we will adopt a so-called federation scheme, which is an evolution of the concept of a network. The idea with a network is that you have several nodes that exchange information between them. In a federation the nodes not only exchange information, but also share resources.

Encircle: There are a number of EC projects that cover CBRN in general, why did you choose to undertake one that focuses solely on radiological and nuclear emergencies?

Including: Because radiological and nuclear emergencies come with specific needs when facing the training of operators, because of the cost of equipment, and because of difficulties in finding areas in which to undertake training. The most important reason is that radiological and nuclear emergencies are by far the most feared by people and by the public authorities. These emergencies also come with very specific needs related to communication and interrogation of the crime scene. The project is focusing on unconventional scenarios, not crises like Chernobyl or Fukushima, but the explosion of a dirty bomb and irradiation in the atmosphere of radiological agents. There are some specific issues that are solely related to radiological and nuclear

crises that we would like to address in this project.

Encircle: What are your hopes for the outcomes of the project?

Including: The main outcome that we would like to achieve is the creation of a federation of centres for the training of radiological and nuclear experts. We would like to have a federation in which experts can move freely from one centre to another, use the resources of all the centres, eliminate logistical barriers, and those related to interoperability. One scope of the federation is to improve standardization in the field of radiological and nuclear training. For this we are collaborating with another European project that is focussing on this issue, Stair4Security, which is coordinated by CEN.

Encircle: As the coordinating agency, what aspects of the project do you think are going to be most challenging?

Including: The most challenging aspect is to convince members of the federation to share their equipment, their expertise, and to open their laboratories. To be a member of the federation means that you have to make available to others all of your resources, but at the same time you will have access to the resources of the other members of the federation. This next level of collaboration, that is well beyond the usual networking, is the main challenge that we are facing.

Encircle: How do you stop fatigue from first responders, and how do you plan on getting people engaged?

Including: We have first responders that are members of the project, firefighters from Finland, operators of nuclear centres from Italy and France, law enforcement from Portugal and we have institutional partners that are first responders. During the project we will organize nine joint actions which will take the form of several types of

exercises, tabletop, drills, and several practical exercises that will be carried in the testbed facilities that are part of the project. During these events we will invite first responders from across Europe to illustrate to them what the added value is to operate inside the federation and how, for example, field exercises are better executed if planned within a federation scheme instead of the usual way.

Encircle: Is there an opportunity for other projects to attend and participate, or observe?

Including: Yes, we have a specific work package which is devoted to links with other projects. We would like to have strong links, strong relationships, and strong cross fertilization with all other projects that are working on CBRNe. We have already had meetings with the NO-FEAR project, Encircle, and Stair4Security, and every six months we also have a coordination meeting in Brussels between several projects that are working on this subject in an effort to capitalize our efforts and trying to avoid duplicating the work. It is important not to do the same work in two different projects in order not to waste time.

Encircle: Speaking of other projects, you previously worked on EDEN, what lessons learned from that project do you think you can bring into Including?

Including: EDEN, from my point of view, was a wonderful project, very well managed by BAE Systems, and their results have been very important for a lot of currently running projects in the CBRNe sector. ENEA, my institute, lead the part of the work in EDEN related to radiological and nuclear emergencies. Essentially, lessons learned from EDEN have been key to developing the idea of Including, the idea of a federation, and to bring to the next level the cooperation between stakeholders in the sector, and to improve interoperability and standardization, really Including is the son of EDEN.

Encircle: Part of the plan for Including is specifically to get more intensive use of expensive equipment. Apart from the exercises, do you have

any other plans to in order to get responder engagement leading to the use of this **equipment?**

Including: Apart from the exercises we are developing a management tool, which the University of Athens oversees. This will be a web-based platform in which it will be possible for users to access, look at all the resources in the federation, and to book their use. For example, if you need to test some equipment but you do not have a qualified area available, or you don't have a radiological source to generate the necessary radiation to test your equipment, you can log in to the platform to look at who in the federation has a suitable test bed, equipment, or laboratory and request it's use. We will also make a list of resources that can be accessed remotely, simply by staying in your office you can access all the resources in the federation, like a simulator, serious gaming, or codes for calculation.

Encircle: What would you say makes Including different from existing projects?

I**ncluding:** Including is different because it mixes the concept of a federation with the real tools to realize the federation. Many projects are collecting databases and developing Excel files in which you can look up what tools there are, and what equipment is in certain facilities in Europe, but what they lack is a central management tool to help manage all these resources in an easy way. We will build upon the results of a previous project, coordinated by the University of Athens, called RAWFIE. It was a very successful project within which the concept of a federation and central management tool was used for a limited number of resources. We will build upon the results of this project to enlarge the concept of the resources that can be managed, to make the federation of Including, and a one of a kind web-based platform. We have an ambitious plan and we are confident we will accomplish it.

Register in one of the ENCIRCLE communities

To register for the Dynamic Catalogue visit the website and follow these intructions:

- Click either on "Register in the Practitioner and Customer community" or on "Register in the Technological and Industrial community",

- Fill in your organization (if not yet registered), points of contact, functions fields,

- For the Technological and Industrial community, fill at leas tone tool or project.

- Download the Letter of Intent to sign and return scanned when filling your profile,

- Submit your request (at the bottom of the questionnaire),

- You will receive an email with a link to activate your account, when the consortium accepts your request, and choose your password

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