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EJP-CONCERT

European Joint Programme for the Integration of Radiation Protection Research

H2020 – 662287

D 4.3 - Analysis on the assessment of final reports of CONCERT funded projects under CONCERT open RTD Call 1

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Abstract

This document is summarizing the EJP CONCERT call 2016 and is providing a final analysis of the three (3) funded projects. For the final assessment, an external independent expert panel was formed that provided additionally a general analysis of the two open calls for proposal of CONCERT in 2016 and 2017, and recommendation for potential future actions.

This document includes:

1. A general feedback on the EJP CONCERT call 2016 and the follow-up;
2. The three final assessment reports for the projects CONFIDENCE, LDLensRad and TERRITORIES funded in the open RTD Call 1;
3. A general evaluation on the RTD calls of the EJP CONCERT and recommendations for future programmes in Radiation Protection Research of the final evaluation panel.

Content Table

Background information

The European Joint Programme for the Integration of Radiation Protection Research (acronym: CONCERT) aims to contribute to the sustainable integration of European and national research programmes in the field of radiation protection.

CONCERT is a co-fund action, funded under the framework programme Horizon 2020, that aims at attracting and pooling national research efforts with European ones in order to make better use of public R&D resources and to tackle common European challenges in radiation protection more effectively by joint research efforts in key areas. CONCERT is organized in seven Work Packages, three mainly related to joint programming as well as administering open research calls. The EJP CONCERT was committed with 17 M€ for two open research calls. Based on the Strategic Research Agendas (SRA) of the European radiation protection research platforms, CONCERT developed research priorities and aligned them with priorities from participating Member States.

CONCERT as a co-fund action (70% EC and 30% national funding) aimed at integrating national and European research programmes and to engage the wider scientific community in funding research projects, with the goal to answer the needs in radiation protection for the public, occupationally exposed people, patients in medicine, and the environment.

The first open RTD call was launched in 2016, to support innovative research projects in radioprotection. Universities and research institutes from all over Europe and beyond had the opportunity to join research consortia and submit proposals.

EJP CONCERT open RTD Call 1 (2016)

The EJP CONCERT launched the first call in June 2016 with a budget commitment of approx. 10.5 M€ and started project funding after a one-stage evaluation process at the beginning of 2017. In the first call, 12 proposals were submitted with three (3) funded projects, corresponding to a success rate of 25%.

The main objectives of the first open transnational call of CONCERT were:

- To support transnational research projects that combine innovative approaches in the field of radiation protection in line with the research priorities of CONCERT;
- To actively integrate E&T activities and collaboration with universities in multidisciplinary research projects;
- To make optimal use of research infrastructures.

Project proposals had to address multidisciplinary and transnational research. The project proposals had to cover one of the following areas that were equal in relevance for this call:

- **Topic 1:**
  Improvement of health risk assessment associated with low dose/dose rate radiation;

- **Topic 2:**
  Reducing uncertainties in human and ecosystem radiological risk assessment and management in nuclear emergencies and existing exposure situations, including NORM.

Only CONCERT partners (organisations involved in the EJP CONCERT as Beneficiary or Linked Third Party) could benefit from the EC co-funding. Non-CONCERT partners (Third Parties) could participate in projects in using their own funding or via cash-funding provided by CONCERT partners (70% EC and 30% in-kind contribution of the respective CONCERT partner).

Allowing the participation of external parties in the RTD calls in form of open calls, represented a novel feature of this EJP and was an important step for cross-border collaborations and integrative research funding.

The CONCERT partners have demonstrated with the call 2016 their wish to foster broad, international collaboration. This goal was successfully achieved.

The following organisations were eligible to be funded and considered as full project partner:

- CONCERT Beneficiaries;
- CONCERT Linked Third Parties (LTP);
- Third Parties (TP):
    - Higher education establishments and other academic research institutions, in particular:
        - Research oriented radiation protection institutions;
    - Clinical/public health sector organisations, in particular those employing research teams working in hospitals/public health and/or other health care settings. Participation of Medical Doctors in the research teams is encouraged;
    - Enterprises (all sizes of private companies). Participation of small and medium-size enterprises (SMEs) is encouraged.

Call preparation and general time schedule of the call

The call was launched about half a year later than planned on June 2nd in 2016. The submission website was open for 2 months and was closed on August 2nd. In total, 12 proposals were submitted. All were found to be eligible taking into account the following criteria:

- the number of partners per project;
- the number of countries (EU/EURATOM) involved per project;
- Duration of funding period;
- Upload proceeded before submission deadline.

After allocation of proposals to the group of 15 international experts and further remote evaluation of all proposals, the Peer Review Panel (PRP) met for 2 days in Paris on October 26-27, 2016, to thoroughly discuss all 12 proposals and to rank them in the presence of André Jouve the EJP CONCERT EC Project Officer, invited as an observer and in the presence of the Call Steering Committee members (CONCERT's WP4).

Two ranking lists – one for topic 1 and one for topic 2 – were established by the PRP. With the total budget of 10.5 M€ available, the first 3 proposals, according to the ranking lists, were funded. The CONCERT Grant Contracts (CGC) were finalised beginning of 2017 after the successful approval of the amendment "AMD 57" for the inclusion of new CONCERT Beneficiaries. More detailed information about the 2016 call can be found in the Deliverable D4.2. All projects were closed before May 2020.

Analysis of the proposals submitted to the call

In total, 12 proposals were submitted by 147 partners from 85 different institutions of 26 countries. Thereof, 8 proposal responded to topic 1, in the area of *Improvement of health risk assessment associated with low dose/dose rate radiation*, and 4 proposals to topic 2, in the area of *Reducing uncertainties in human and ecosystem radiological risk assessment and management in nuclear emergencies and existing exposure situations, including NORM*. All 12 proposals were found to be eligible.

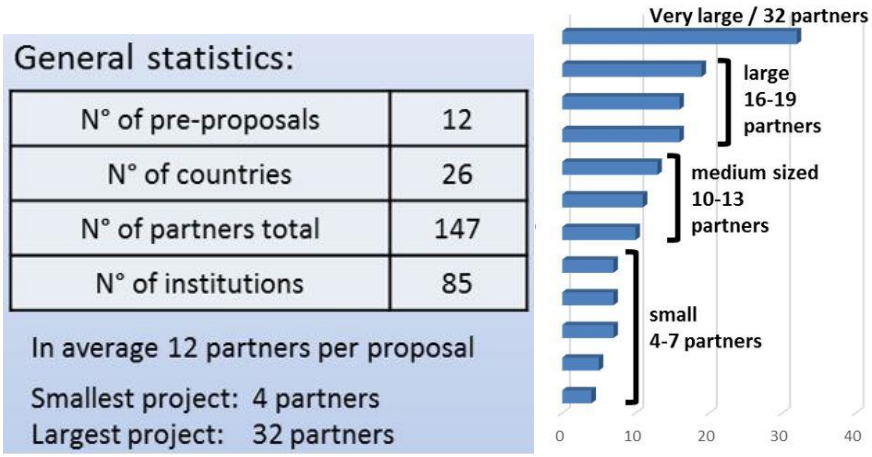


Figure 1: Consortium compositions, number of applicants and number of partners per proposal

The size of the consortia varied from 4 partners within the smallest up to 32 partners in the largest project (Fig. 1), with an average of 12 partners per proposals. Besides the 20 EU/EURATOM countries, five third countries participated; Canada, Japan, Kazakhstan, Norway and Russia; and one EURATOM associated country; Switzerland.

Funding decision

The budget of the three highest ranked projects CONFIDENCE, TERRITORIES and LDLensRad that were recommended for funding added up to approximatively 13 M€ in total (Fig. 2 left pie). From these costs, CONCERT was committed for 10.5 M€. The remaining 2.5 M€ were provided by Norway and Ireland that brought their own resources to the projects. 8 M€ went to funding of TERRITORIES and CONFIDENCE, both located in topic 2 “Reducing uncertainties in human and ecosystem radiological risk assessment and management in nuclear emergencies and existing exposure situations, including NORM.” Therewith, 76% of the budget was dedicated to topic 2, and 24% for topic 1 “Improvement of health risk assessment associated with low dose/dose rate radiation” (Fig. 2 right pie) and LDLensRad, with a budget of 2.5 M€.

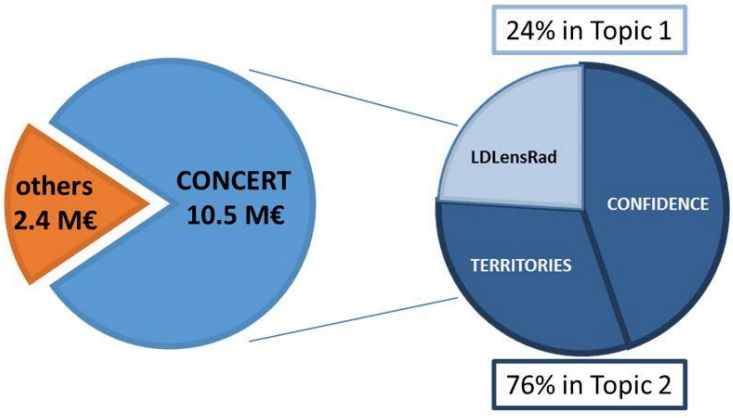


Figure 2: Allocation of budget within the first CONCERT call 2016

Analysis of the projects funded in the first CONCERT call

The 48 partners in the three funded projects CONFIDENCE, TERRITORIES and LDLensRad were coming from 16 EU/EURATOM countries, one third country; Norway, and one EURATOM associated country; Switzerland (Fig. 3A). The budget per country is presented in figure 3B and the number of projects funded per country in figure 3C.

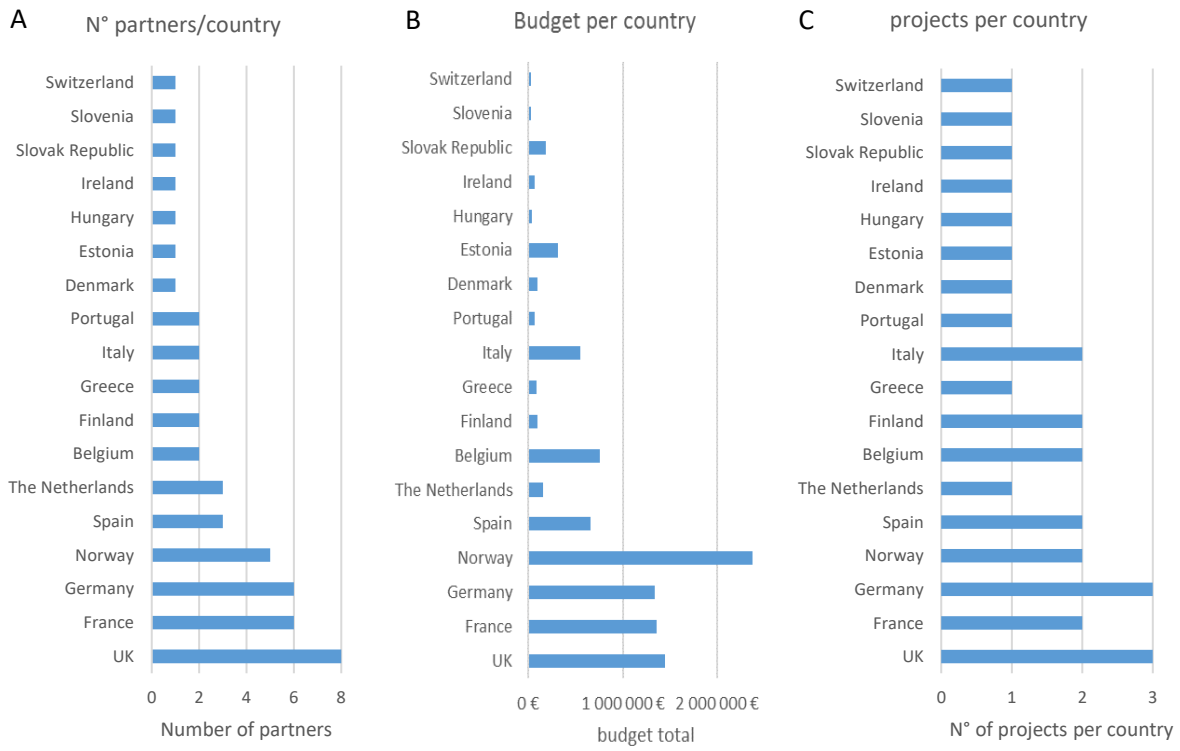


Figure 3: Visualisation of the number of partners and budget as well as the number of funded projects per country.

The amount of partners within the three funded projects varied from five (5) partners in LDLensRad, up to 11 in TERRITORIES and 32 in CONFIDENCE (Fig. 4). Except of TERRITORIES comprising only CONCERT Beneficiaries and Linked Third Parties, CONFIDENCE and LDLensRad also involved Third Parties.

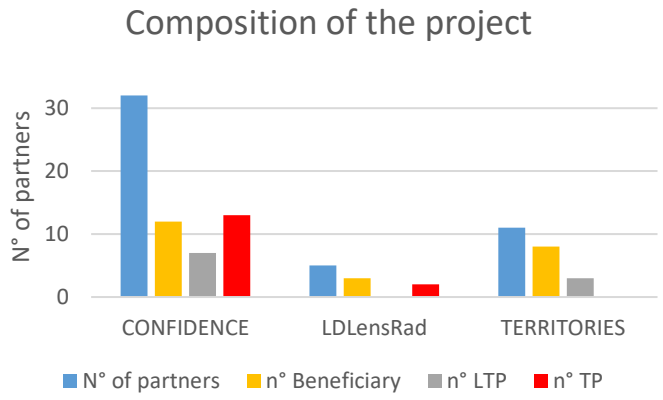


Figure 4: Number of partners within the funded projects and status of partners within CONCERT at the time of project submission.

The gender distribution including the main contact person (principle investigator) of each partner within the three funded projects is presented in the further graph (Fig. 5):

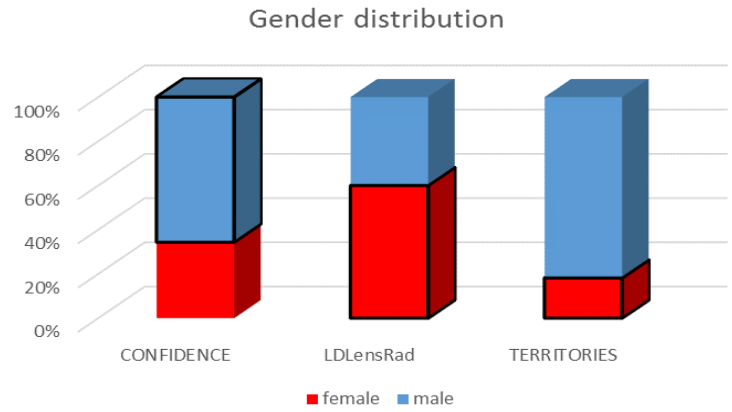


Figure 5 : Gender distribution within the three funded projects. The gender of the respective coordinator is highlighted (black frame).

All three coordinators are coming from institutions having either the status of a Beneficiary or LTP within CONCERT and from the following countries: France, Germany and UK.

The majority of institutions within the funded projects are research oriented radiation protection institutions (30 in total; Fig. 6). Furthermore, there are 14 partners coming from academic organisations, three coming from enterprises and one organisation of the clinical/public health research sector.

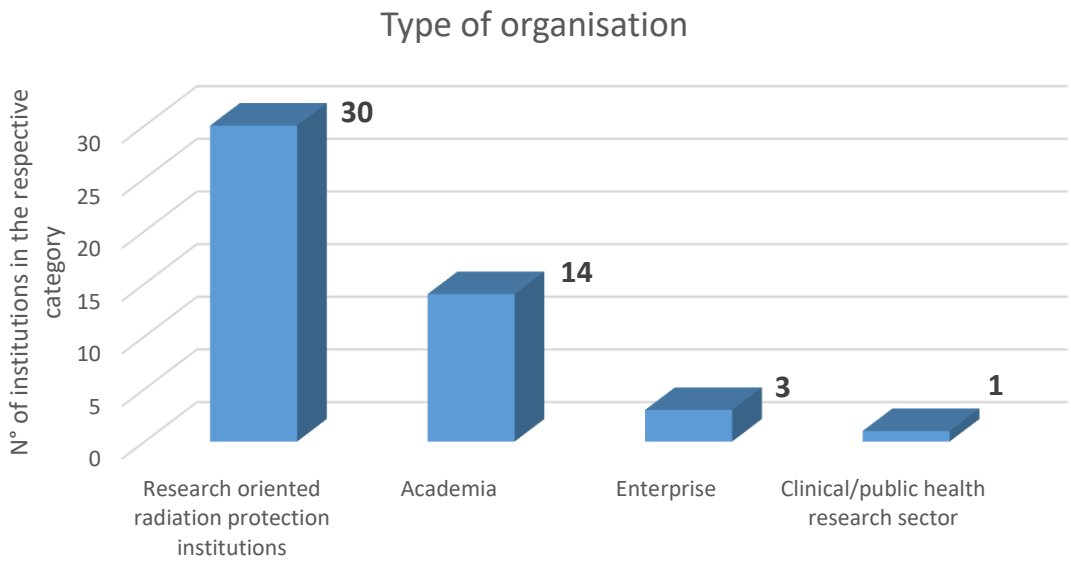
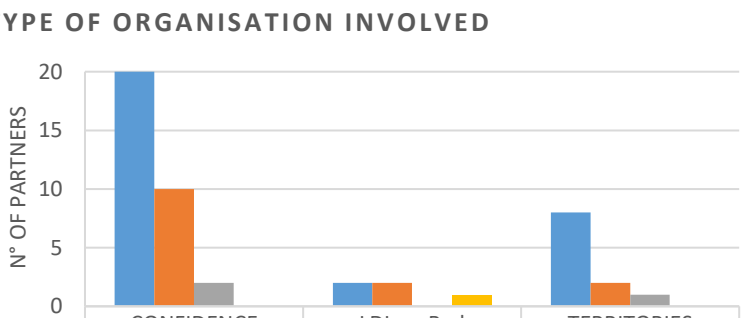


Figure 6: Analysis of the type of organisations participating in the funded projects.

The following graph (Fig. 7) illustrates the participation of the different types of organisation within the three funded projects:



	CONFIDENCE	LDLensRad	TERRITORIES
Research oriented radiation protection institutions	20	2	8
Academia	10	2	2
Enterprise	2	0	1
Clinical/public health research sector	0	1	0

Figure 7: Analysis of types of organisation involved in the three funded projects.

Dissemination activities of funded research projects & information about licences/patents

The three funded research projects provided a feedback on their dissemination activities that mainly focused on the scientific community than on the general public. All three projects developed dedicated project websites. They successfully published peer reviewed (open access) articles and reported on further publications being currently in progress (Fig. 8A).

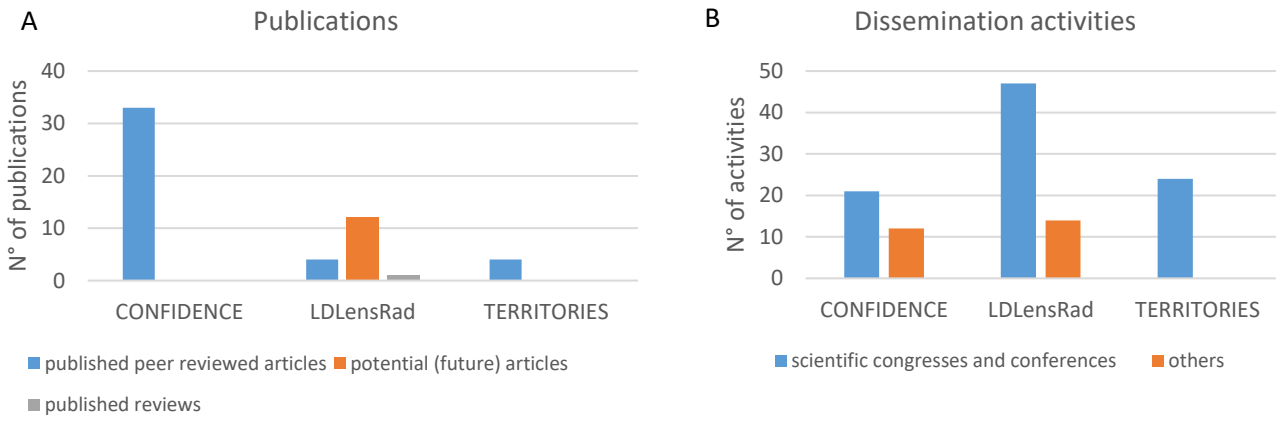


Figure 8: Information on dissemination activities to the scientific community provided by the three funded projects in their final scientific reports (A: Number of published peer reviewed articles, scientific reviews and publications currently under preparation; B: Number of dissemination activities, including the participation at scientific congresses and conferences and other activities around dissemination, e.g. via oral presentation during scientific meetings).

Further information about the projects were presented via oral or poster presentations mainly during scientific congresses and conferences but also during other scientific meetings of the research community (Fig. 8B).

All deliverables of the three funded projects are publicly available on the EJP CONCERT website https://www.concert-h2020.eu/en/Publications.

No information about patents or licences were reported as outcome of the research performed.

Follow-up and final assessment of the 3 projects funded in the open RTD call 1 (2016)

All three funded projects had a duration of three years and were requested to provide one mid-term and one final scientific report to WP4. For this purpose, two distinct templates were developed by WP4, corresponding to the respective call topics and conditions, and based on a list of assessment indicators (D4.8). The collection of the mid-term (MS22, month 30) and final reports was successfully completed at each stage.

Besides the scientific reporting, the EJP CONCERT followed the advancements of the funded projects by inviting the consortia to the annual meetings. Each project was asked to report on their advancements in dedicated sessions.

The collection of the projects deliverables was centralised by the CONCERT coordination. All deliverable are publicly available on the EJP CONCERT website: https://www.concert-h2020.eu/en/Publications.

To provide an independent assessment with an external feedback and analysis of the success and impact of the funded research projects, a final evaluation was organised by WP4 at the end of the funding period. A panel of five (5) international experts (table 1) that participated previously in the evaluation process of one or both CONCERT calls were invited to review the advancements and outcome of the funded projects.

Table 1: Experts of the final evaluation panel.

	Name	Institution	Country
	Mary Helen Barcellos -Hoff	University of California, San Francisco (UCSF)	USA
	Janet Baulch	University of California	USA
	Nolan Hertel	George W. Woodruff School of Mechanical Engineering	USA
	Larry Kapustka	LK Consultancy Canada	Canada
	Sheldon Landsberger (**Chair**)	Texas Atomic Energy Research Foundation	USA

Conflict of interests and confidentiality were respected during the entire process.

The evaluation based on two different steps: a remote evaluation and a physical panel meeting. For the remote evaluation, the further documents were provided to the experts:

- The initial proposals submitted to the CONCERT call;
- The mid-term and final scientific reports;
- The deliverables submitted by the projects;
- The participation of the projects in the AIR2 publications.

Each expert was requested to complete one evaluation report per project. The reports were assembled by WP4 and provided to the panel for further common discussions in the physical meeting that was supposed to take place before the final EJP CONCERT meeting to which the reviewers were invited. Their participation in the meeting would have allowed them to follow the final presentations of the projects and to have a direct exchange with the project representatives, to direct questions to the teams of funded projects and to provide recommendations. Due to the cancellation of the EJP CONCERT meeting caused by the COVID-19 pandemic situation, the physical panel meeting initially planned on March 11, in Madrid, was transformed to a virtual meeting on March 13, 2020. There was no possibility to enable the direct exchange between the panel and representatives of the funded projects.

During the virtual panel meeting, all three projects were discussed thoroughly and the panel agreed on one final consensus report per project.

Final assessment reports for the projects funded in the open RTD call 1 (2016)

The further section contains the final assessment reports of the three projects funded in the EJP CONCERT call 2016: CONFIDENCE, LDLensRad and TERRITORIES.

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European Joint Programme for the Integration of Radiation Protection Research
H2020 – 662287

Final evaluation report CONFIDENCE

Acronym: **CONFIDENCE**
Project title: **COpingwith uNcertainties For Improved modeling and Decision making in Nuclear emergenCiEs**

General feedback

a) Meeting of objectives, novelty of research, international collaborations; b) initial project objectives met entirely or partially, comparison of the work achieved and the obtained results against the initial expectations; c) contribution to CONCERT calls objectives (including sharing of existing data and resources, harmonization of data, sharing of expertise and/or innovative technologies, use of platforms/infrastructures, E&T, etc.); d) quality assurance, Open Access.

The project was a large multinational undertaking both in scope and in the number of investigators. The work was directed at the reduction of uncertainties in risk assessments in addressing ecological and human health impacts in emergency response. A strength of the effort feature was the incorporation of social and ethical considerations in emergency response plans to share information across stakeholder communities and inform decision makers. The project definitely met the CONCERT objectives and has led to the sharing of resources and data between involved countries and organizations. The project integrated a large cross section of disciplines and expertise. The project was a first attempt to deal with emergency management and recovery in an encompassing manner. The quality assurance portion of the effort seemed to be achieved by a number of publications, contractor meeting and via a website that provided opportunities for members to perform assessments of the ongoing work.

Impact of the project

a) Challenges and issues tackled, state of the art of the research, scientific and technical approach, achieved results, exploitation of results; b) research outcomes, communications including E&T and dissemination.

The attempt to provide uncertainties in models related to social sciences was a very novel, state-of-the-art approach. This was a very challenging effort and lead to the formulation of new questions that need to be answered as any research effort into such a novel integration of physical, societal and management models. One of the most innovative approaches in this project was the development of an app to use smart phone camera systems to measure personal exposures. The success of this app was not fully explored very likely as a consequence of the limited duration of the project. The project provided a venue to convert science into practice, operational guidelines and recommendations to allow testing and integration into national response procedures. The research outcomes are leading to a special edition of the Radioprotection journal with 10 pages. The public webpage and other public information will allow the results of simulation and operation platforms to be exploited by a broad community with interest in the topic. A useful result is the insights into gaps in existing guidelines, procedures and models that can be addressed in future research endeavors. As such, this work provides the foundation for additional research into the uncertainties in emergency management and response including both physical and social sciences. The number of university students involved in this activity is another strength and will help to provide a need human resource for the future.

This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 662287.

EJP-CONCERT

European Joint Programme for the Integration of Radiation Protection Research
H2020 – 662287

Final evaluation report LDLensRad

Acronym: **LDLensRad**
Project title: **LDLensRad: Towards a full mechanistic understanding of low dose radiation induced cataracts**

General feedback

a) Meeting of objectives, novelty of research, international collaborations; b) initial project objectives met entirely or partially, comparison of the work achieved and the obtained results against the initial expectations; c) contribution to CONCERT calls objectives (including sharing of existing data and resources, harmonization of data, sharing of expertise and/or innovative technologies, use of platforms/infrastructures, E&T, etc.); d) quality assurance, Open Access.

The 'LDLensRad' project addressed how low dose radiation causes cataracts and how genetic background and age influences cataract development after radiation exposure. Outcomes include the shape of the dose response curve using different metrics of biological response. The stated goal was to define the risk of radiation cataract at low doses. The research team was comprised of members from UK, Germany, and Italy who interacted with advisory members from Japan, United States of America, and the Russian Federation. This enabled the team to access responses in human from legacy exposures providing a bridge between clinical observations and experimental work on laboratory animals. The LDLensRad transnational collaboration include radiation biologists, lens biologists, statisticians, mathematical modelers, dosimetrists and radiation protection specialists from all the major EU research facilities committed to the study of radiation lens effects. The use of mice and cultured human cells provide cross comparison of potential mediators that underscore that cataractogenesis is a complex process, like most pathologies, that are not yet fully understood. The experimental plans were modified due to shortfall in mouse models, thus restricting the dose response to two doses instead of four, which is insufficient to define the shape of the dose response. Nevertheless, there was substantive progress on each of the main objectives. Education and training during the project focused on early career and ‚in house' training for 5 PhD students, and provision of many opportunities for early career scientists to contribute to scientific and public dissemination, including the stake-holder meeting in December 2019. Dissemination via manuscripts planned for submission by the end of 2020 to form a special issue of Radiation Research and presentations at scientific congresses and conferences was very strong.

Impact of the project

a) Challenges and issues tackled, state of the art of the research, scientific and technical approach, achieved results, exploitation of results; b) research outcomes, communications including E&T and dissemination.

The integration of multiple types of data is still stymied by lack of readily implemented tools, so statistical models of interactions were mostly used to evaluate the interaction among dose/dose rate, genetics, age and outcome (assay endpoint in vitro). More work is need on the mechanisms that underlie dramatic differences between background or age at exposure in terms of cataractogenesis or neurogenesis, as well as mechanistic modeling to extrapolate these effects in models to predicting human pathology. However, a key concept based on the synthesis of the data generated in the program and others, as well as epidemiological observation, which was published, is that ionizing radiation damage compounds the aging process by increasing the cataractogenic load, hereby accelerating lens aging and its loss of function.

This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 662287.

EJP-CONCERT

European Joint Programme for the Integration of Radiation Protection Research
H2020 – 662287

Final evaluation report TERRITORIES

Acronym: **TERRITORIES**
Project title: **To Enhance unceRtainties Reduction and stakeholders Involvement TOwards integrated and graded Risk management of humans and wildlife In long-lasting radiological Exposure Situations**

General feedback

a) Meeting of objectives, novelty of research, international collaborations; b) initial project objectives met entirely or partially, comparison of the work achieved and the obtained results against the initial expectations; c) contribution to CONCERT calls objectives (including sharing of existing data and resources, harmonization of data, sharing of expertise and/or innovative technologies, use of platforms/infrastructures, E&T, etc.); d) quality assurance, Open Access.

This project incorporates transnational research related to the CONCERT focus on reducing uncertainties in radiological risk assessments and management of emergency situations and naturally occurring radiation. The work included modelling fate of radionuclides and accounting for variability in exposure scenarios within the context of social settings. The team sought to integrate ethical considerations in the approaches to radiological protection and socio-economic analyses. They connected the research and communication on the human health and ecological considerations to stakeholders through the use of panels and gaming scenarios. The work package activities and results were both detailed and ambitious. Focusing on fit-for-purpose modelling provides a means of finessing at least some of the variability inherent in NORM and accident sites. This enables development of practical approaches to manage exposures. The work resulted in a series of recommendations for use at NORM sites and long-term situations after nuclear accidents.

Impact of the project

a) Challenges and issues tackled, state of the art of the research, scientific and technical approach, achieved results, exploitation of results; b) research outcomes, communications including E&T and dissemination.

One limiting aspect of the work that is no fault of the investigators is the inherent variability of values and economic status among cultural and ethnic groups across Europe. Whereas specific technical approaches are needed to harmonize the physical input information, incorporation of these data into the socio-ecological setting of a given location can only be proscribed in broad terms. Moreover, the socio-ecological setting is fluid and dynamic such that considerable flexibility needs to be part of guidance on structuring management options. The results of this research were made available to European Members States and other organizations. The information has been made available through 24 presentations at international conferences, the above-mentioned workshops, and so far, four peer-reviewed journal articles. The work is being translated into relevant languages.

This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 662287.

Evaluation and recommendations to the EJP CONCERT - Overall feedback of the evaluation panel

Introduction

This document summarises the general discussions and feedback of the panel invited for the final evaluation of the two CONCERT calls (2016 and 2017) and aims to provide recommendations to the EJP CONCERT consortium for potential future research funding.

Recommendations

(Research) Project funding duration

The panel considers the EJP CONCERT as a successful action/programme while the funding period for the nine selected research projects was found to be short.

Although the scopes were different in both calls for proposals in 2016 and 2017, this aspect applies to all nine funded projects independent of their distinct, individual research focus on: radiobiology (e.g. animal, cell culture models, etc.), radioecology (e.g. including dosimetry), research on nuclear emergency preparedness and development of computational tools and on patient-tailored diagnosis and treatment.

All these research aspects do need time to be developed, established and integrated. They all might fail partially during the project and need to be redirected, or adapted taking into account recent scientific advancements and publications. This applies the same way for cell culture studies and for data that need to be analysed or integrated into models before being useful for the research community.

The panel admits that the nine funded research projects generated enormous amounts of data that would need more time to be analysed and to be set into context. This could have been achieved if the project funding duration would have been longer.

The panel recommends that if the funding duration is short, 2-3 years, as it is in the case for the EJP CONCERT calls where funded research projects had to be closed within the 5-years running time of the programme itself, the request for proposals might need to be more focused.

Of advantage would be, if research funding could be realised over at least 5 years (ideally 10 years). This would increase the quality and impact of the research outcome and foster pertinent and sustainable collaboration. This applies for an action as EJP CONCERT and for the funded projects.

An option for research project funding could be to start with a 2-3 years funding period followed by a prolongation for those projects that successfully reached their goals. This would request a mid-term evaluation process with a go/no-go decision and might include visits of the location of project partners (if a dedicated budget and personal could be made available). Therewith, a feedback with concrete recommendations for improvements could be provided, giving guidance to the research project consortia. This would require the development of a respective process e.g. with participation of external experts. The panel acknowledges that research projects funded by CONCERT but also the EJP CONCERT itself applied internal reflection processes in having external advisory boards in place.

A longer project duration also allows the establishment of a more stable working relation within the consortium, to create strong synergies and to have the necessary logistics in place. It also gives the possibility to adapt to changes of personal and unforeseen circumstances that might occur in any kind of project.

This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 662287.

The panel suggests that the funded projects, but also the EJP CONCERT as a programme, should be considered as candidates for future funding to increase the overall success and to move towards implementation of new processes.

Internationalisation and collaboration

The panel endorses that the EJP CONCERT provided with its two open calls the possibility for collaborations beyond the CONCERT consortium and even internationally. The panel however notes that the major part of the proposals benefit from already previously established collaborations. Most probably with a longer funding duration and a simplified funding process for third parties, the EJP CONCERT could have fostered the development of new and sustainable collaborations across borders and beyond Europe and the EJP CONCERT consortium. Stable collaboration is the key to successful research that includes optimal use of already existing infrastructures and a sustainable continuation of working relations beyond an individual research project funding.

Dissemination and communication

All nine projects mainly focus on the publications of project outcomes to the scientific community. The panel recommends that the communication should be enlarged to the interested public, but recognizes that this will incur a large effort. Within the EJP CONCERT consortium and amongst the project partners, there are already examples of good practise on how to interact with the interested public, on how to inform them about and integrate them in research, how to address research communications, and simplify the content (that is to remove technical jargon) to be accessible for the public. This is especially important to gain trust, for example, in the case of a nuclear accident, and to engage citizens in emergency situations.

The panel recommends to include this aspect in future calls and research funding, to share existing examples of good practice, guidelines, recommendations and policies, and to develop new ones, where gaps are identified. Communication can start with addressing a specific target audience before being made available to the general public. For this transfer, the input and participation of external experts having experiences in communication might be needed in research projects.

Education and training

To ensure the sustainability of the radiobiology/radioprotection community within all the different fields: biological, medical, chemical, mathematical and physical research but also others as human and social sciences, the integration of especially young researchers via education and training is crucial. The panel recognises that the EJP CONCERT requested from the funded research projects the active integration of education and training activities and collaboration with universities. The panel highlights that several funded projects integrated successfully Ph.D. students in the research and organised workshops.

To improve the transfer of knowledge, future research projects could be encouraged to integrate dedicated courses and workshops in the respective topic and research question tackled. If the budget for this kind of training would be too high, research projects could develop guidelines for training and training materials suitable for online courses.

Furthermore, to better integrate young scientists in the research community, specific call for proposals dedicated to young researchers could be launched. It could be obligatory that the project coordinator be a young researcher; that has at least 30-50% of the PIs or in the best case, all participating PIs are young researchers.

This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 662287.

Quality assurance

The reliability of results generated and the quality assurance (that is the reliability of dose quantification, common standards for omics, etc.) are essential aspects within research. This concerns communication of what is expected in terms of data and statistical power, potential biases identified in advance, but also statistical power calculations that establish the confidence one has in the data.

The panel recommends to the EJP CONCERT improvements regarding the application and indication of quality standards used for future calls. In the nine funded research projects, the communication about the quality standards used was not outlined sufficiently to be evaluated. This might demonstrate a simple lack of the use of guidelines and standards by the funded projects and the need for a better communication of existing ones by the EJP CONCERT.

The panel recommends that a description of the quality assurance applied and potential risk solutions of research projects are essential at the start of the funding period and should be part of the research project description. This process would have been of benefit for the nine research projects funded in both EJP CONCERT calls.

The panel recommends to the EJP CONCERT consortium that a potential future programme following the current EJP CONCERT might be an ideal platform to share and make available existing standards and recommendations and promote new ones developed by funded research projects or within the future EJP itself. Furthermore, selected projects funded in a future EJP CONCERT like programme might receive at the beginning of the funding period, support for having quality standards in place.