



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

### D 5.2 – Public survey launched

**Lead Author:** Simon Bouffler

**Affiliation:** DH-PHE

**With contributions from:**

Sisko Salomaa (STUK), Liisa Sirkka (STUK), Mauro Grigioni, Sara Della Monica, Sveva Grande, Alessandra Palma, Valentina Dini (ISS), Tanja Perko (SCK.CEN), Gaston Meskens (SCK.CEN), Nathalie Impens (SCK.CEN), Tatiana Duranova (VUJE/NERIS), Christine Willrodt (ALLIANCE), Christiane Pözl-Viol (BfS), Deborah Oughton (NMBU), Svetlana Carr (PHE),

The translators:

**Bulgarian:** Nina Chobanova; **Croatian:** Ivica Prlić; **Dutch:** Tanja Perko; **Estonian:** Alan Tkaczyk, **Finnish:** Sisko Salomaa, Samu Inkinen, Johanna Vahtola; **French:** Tanja Perko; **German:** Christine Willrodt; **Greek:** Sotiris Economides; **Italian:** ISS (Sara Della Monaca); **Latvian:** Elina Pajuste; **Polish:** Bogusław Michalik; **Portuguese:** Maria José Bação Madruga; **Slovak:** Tatiana Duranova; **Spanish:** Almudena Real

**Reviewer(s): [CONCERT coordination team]**

Work package / Task	WP 5	T 5.3
Deliverable nature:	Report	
Dissemination level: (Confidentiality)	Public	
Contractual delivery date:	31 May 2016	
Actual delivery date:	02 June 2017	
Version:	2	
Total number of pages:	17	
Keywords:		
Approved by the coordinator:	19 June 2017	
Submitted to EC by the coordinator:	19 June 2017 (resubmitted 02/08/2017)	

**Disclaimer:**

The information and views set out in this report are those of the author(s). The European Commission may not be held responsible for the use that may be made of the information contained therein.

## Introduction

Work package 5 of the EJP-CONCERT deals with the stakeholder engagement and communication strategies in radiation protection; task 5.3 of the work package, in particular, concerns the development of survey activities for a more efficient interaction with civil society and the use of social media for public communication. This task falls into the scope of the CONCERT consortium of answering the needs in radiation protection for the public, occupationally exposed people, patients in medicine.

Within this context, a public survey has been developed in the last year and launched on 31 May 2017. The public survey aims to gauge the perception of radiation risk amongst a wide range of people who are not radiation specialists and their opinion on information that would be helpful to a general audience to understand radiation risk.

In the present deliverable a brief description of the structure, the implementation and the dissemination of the public survey are reported. The full text is attached as an Annex.

### **The structure of the public survey.**

First section-Background. This first part of the public survey consists in general questions about personal information on the responder, like gender, age, place and country of residence, job and level of education, as well as level of experience with the ionizing radiation and radiation protection field.

All the fields of this section, though providing precious information about the background profile of the responder, have been set as non mandatory for privacy and ethical issues.

Second section- General part. This section includes questions about the attitude towards science and technology, the satisfaction towards the actors in the radiation protection domain and the actions undertaken by radiation protection authorities, the opinion towards the communication channels about radiological and nuclear risk.

A last question has been added to the general section, in order to prepare the future consultation on the results of the research roadmap to help ensure that future scientific work is consistent with societal priorities. The roadmap drafting is foreseen within WP3. The willing of the respondents about giving his opinion in this field is investigated.

This section represents the core part of the public survey, as it provides essential information about individual perception of radiation risk. For this reason, all the fields of this section are set as mandatory.

Third section- Specific part. After the general part, the responder is invited to fill only some specific subsections, according to the roles he dealt in the ionizing radiation and radiation protection field. These subsections are: professional exposure, medical exposure, duty holders

- decision makers, specific categories of potentially exposed population, cultural involvement or interest in radiation protection issues.

The full English version of the public survey is attached as an Annex to the present document.

### **Implementation of the public survey**

In origin, the public survey has been drafted in English and subjected to discussions and reviews within task 5.3 members through an extensive email exchange and several teleconferences; a final version has been sent by the WP5 leader to the EU CONCERT Management Board for a final approval. Then, to reach a larger segment of the population, trying to minimize the impact of linguistic barriers, the text of the public survey has been translated in several European languages by EU CONCERT members, mother language speakers, who volunteered for that. Besides English, following versions are available:

Bulgarian	Estonian	German	Latvian	Slovak
Croatian	Finnish	Greek	Polish	Spanish
Dutch	French	Italian	Portuguese	

All the translated versions of the public survey have been separately uploaded on Google forms. To each version, a different link is associated. All the links have been made available on the CONCERT website ([http://www.concert-h2020.eu/en/Stakeholders/Public\\_survey](http://www.concert-h2020.eu/en/Stakeholders/Public_survey)) and, each link spreads in the corresponding country through several dissemination channels following an agreed dissemination route.

### **Dissemination of the public survey**

Regarding the dissemination route, an involvement of the POMs of each country is crucial. To have a capillary dissemination of the links, it could be useful:

- to contact consumer and patient associations;
- to contact mediator associations (i.e. General practitioners);
- publication on social networks;
- distribution in hospitals and pharmacies;
- press release and massive exploitation of institutional press service;
- contact with schools and universities.

Of course, this list is not exhaustive.

## ANNEX:

### BACKGROUND QUESTIONS

While the survey is anonymous, we would like to know more about your background.

BG 1	Gender of the respondent	Male Female
BG 2	Country of residence	Country
BG 3	Place of residence	<ol style="list-style-type: none"> <li>1. Big city</li> <li>2. Medium town</li> <li>3. Small town</li> <li>4. Village</li> </ol>
BG 4	Year of birth	Year
BG 5	What is the highest Qualification you have obtained?	<ol style="list-style-type: none"> <li>1. Primary school or no education</li> <li>2. Lower secondary - general</li> <li>3. Higher secondary - general</li> <li>4. Higher non-university</li> <li>5. University – scientific/technical subject</li> <li>6. University – arts/humanities/social science subject</li> <li>7. Post University</li> </ol>
BG 6	What is your current occupation?	<ol style="list-style-type: none"> <li>1. Service industry (food, financial, IT, service provider)</li> <li>2. Manufacturing and processing trade</li> <li>3. Healthcare sector</li> <li>4. Education and training</li> <li>5. Unemployed/retired</li> <li>6. Others</li> </ol>
BG 7	Have you ever undergone one of the following medical examination/treatment involving the use of ionizing radiation?	<ol style="list-style-type: none"> <li>1. Medical X Ray (not dental)</li> <li>2. Dental imaging (X Ray, CONE Beam Computed Tomography,...)</li> <li>3. Computed Tomography (CT)</li> <li>4. Positron Emission Tomography (PET)</li> <li>5. Radiation Therapy</li> <li>6. Interventional Radiology</li> <li>7. Scintigraphy</li> <li>8. Others</li> </ol>

BG 8	Have you ever lived in an area close (within a 20 km radius) to a nuclear installation (power plant, nuclear research reactor)	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/ no answer</li> </ol>
BG 9	Have you ever had a job that involved the use or exposure to ionizing radiation?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/ no answer</li> </ol>
BG 10	Select from the list the roles you dealt with radiation protection field:	<ol style="list-style-type: none"> <li>1. Professional exposure</li> <li>2. Duty holders - decision makers</li> <li>3. Medical exposure</li> <li>4. Specific categories of potentially exposed population</li> <li>5. Cultural involvement or interest in radiation protection issues:</li> <li>6. Don't know/ no answer</li> </ol>
BG 11 a	If you answered "Professional exposure" to BG10 question, please specify (multiple answers are allowed)	<ol style="list-style-type: none"> <li>1. Medical specialist</li> <li>2. Industrial radiographer</li> <li>3. Hospital radiographer</li> <li>4. Worker at nuclear power plants</li> <li>5. Worker at water processing plants</li> <li>6. Miner</li> <li>7. Worker involved in site remediation</li> <li>8. Radiation worker in research</li> <li>9. Aircrew</li> <li>10. Others</li> </ol>
BG11 b	If you answered "Duty holders-Decision makers" to BG10 question, please specify (multiple answers are allowed)	<ol style="list-style-type: none"> <li>1. General practitioner/family physician</li> <li>2. Industrial manager</li> <li>3. Nuclear power regulator</li> <li>4. Involved in emergency planning</li> <li>5. Others</li> </ol>
BG11 c	If you answered "Medical exposure" to BG10 question, please specify (multiple answers are allowed)	<ol style="list-style-type: none"> <li>1. Patient exposed to radiotherapy</li> <li>2. Patient exposed to interventional radiology</li> <li>3. Patient exposed to nuclear medicine</li> <li>4. Patient exposed to radiology</li> <li>5. Others</li> </ol>

BG11 d	If you answered " Specific categories of potentially exposed population " to BG10 question, please specify (multiple answers are allowed)	<ol style="list-style-type: none"> <li>1. Living close to the Energy Plant/Nuclear waste disposal sites</li> <li>2. Living close to contaminated areas (currently or in the past)</li> <li>3. Living in a house or region with high radon levels</li> <li>4. Others</li> </ol>
BG11 e	If you answered "Cultural involvement or interest in radiation protection issues" to BG10 question, please specify (multiple answers are allowed)	<ol style="list-style-type: none"> <li>1. Student</li> <li>2. Teacher</li> <li>3. Journalist</li> <li>4. Scientific mediator</li> <li>5. Others</li> </ol>
BG 12	What kind of training have you had in radiation protection field?	<ul style="list-style-type: none"> <li>– High school</li> <li>– University</li> <li>– PhD</li> <li>– Master</li> <li>– Professional training (<i>una tantum</i>)</li> <li>– Professional training on a regular basis</li> <li>– Informed consent</li> <li>– Personal interest</li> <li>– Other</li> <li>– None</li> </ul>

## GENERAL SECTION

### AX1 - ATTITUDE TOWARDS SCIENCE AND TECHNOLOGY

Please indicate to what extent you agree or disagree with these statements:

Future generations will have a better quality of life as a result of science and technology	1. Strongly Disagree
Science and technology will make our lives easier	2. Disagree
Science and technology have made life more dangerous	3. Agree
Science and technology development have unforeseen side effects that harm human health and the environment	4. Strongly Agree
	5. Don't know / no answer

### RPP1 - RISK PERCEPTION

Please indicate to what extent you think each of the following affects your relatives' health.

Air pollution	1. No risk at all 2. Very low 3. Low 4. Average 5. High 6. Very high 7. Don't know / no answer
Radioactive waste	
Chemical waste	
An accident in a chemical installation	
An accident in a nuclear installation	
Radiation from mobile phones (cell phones)	
High voltage power lines	
Natural radiation (e.g. radon or radiation from space)	
Medical X-rays	
CT scans or PET etc. for medical examinations	
MRI scans for medical examinations	
A terrorist attack with a radioactive source	
Residues of radioactivity in food	
Sterilization of food by radiation	



**RBD1 – BENEFITS AND DETRIMENTS**

Please select the items for which you think that the benefits (social, economic, health ...) are higher than detriments (multiple answers are allowed)

Chemical installation	
Nuclear installation	
Mobile phones (cell phones)	
High voltage power lines	
Naturally occurring radioactivity (e.g. in food or building materials)	
Medical X-rays	
CT scans or PET etc. for medical examinations	
MRI scans for medical examinations	
Sterilization of food by radiation	

**ARP1 - ACTORS IN THE RADIATION PROTECTION FIELD/AWARENESS**

Please tell us if you think that the following actors are aware to public concerns about radiation (give an answer only for the actors that you know)

Actors in Radiation Protection	
National radiation protection authorities	1. Yes 2. No 3. Don't know / no answer
Environmentalist organisations	
Nuclear industry	
The journalists	
National Agencies/Institutes for nuclear safety or control	
General practitioners	
Medical personnel in hospital	
The national agency for radioactive waste and enriched fissile materials	
IAEA (International Atomic Energy Agency) in Vienna	
Scientists from Universities / Public Institutes	
ICRP (International Commission on Radiological Protection)	
Scientists from private companies	
The European Commission	

ARP2 - ACTORS IN THE RADIATION PROTECTION FIELD/COMPETENCE

Please tell us if you think that the following actors are technically and scientifically competent to point out the risks and benefits of the use of ionising radiation (give an answer only for the actors that you know)

Actors in Radiation Protection	
National radiation protection authorities	1. Yes 2. No 3. Don't know / no answer
Environmentalist organisations	
Nuclear industry	
The journalists	
National Agencies/Institutes for nuclear safety or control	
General practitioners	
Medical personnel in hospital	
The national agency for radioactive waste and enriched fissile materials	
IAEA (International Atomic Energy Agency) in Vienna	
Scientists from Universities / Public Institutes	
ICRP (International Commission on Radiological Protection)	
Scientists from private companies	
The European Commission	

ARP3 - ACTORS IN THE RADIATION PROTECTION FIELD/TRUTH

Please tell us if you think that the following actors are telling the truth about risks and benefits of the use of ionising radiation (give an answer only for the actors that you know)

Actors in Radiation Protection	
National radiation protection authorities	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know / no answer</li> </ol>
Environmentalist organisations	
Nuclear industry	
The journalists	
National Agencies/Institutes for nuclear safety or control	
General practitioners	
Medical personnel in hospital	
The national agency for radioactive waste and enriched fissile materials	
IAEA (International Atomic Energy Agency) in Vienna	
Scientists from Universities / Public Institutes	
ICRP (International Commission on Radiological Protection)	
Scientists from private companies	
The European Commission	

RC1 - SATISFACTION WITH ACTIONS OF THE AUTHORITIES

How satisfied are you with the actions the authorities undertake in the following contexts to protect the population against the risks below?

Radioactive waste	<ol style="list-style-type: none"> <li>1. Very unsatisfied</li> <li>2. Rather unsatisfied</li> <li>3. Rather satisfied</li> <li>4. Very satisfied</li> <li>5. Don't know/no answer</li> </ol>
Chemical waste	
An accident in a chemical installation	
An accident in a nuclear installation	
Radiation from mobile phones (cell phones)	
Natural radiation (e.g. radon or radiation from space)	
Medical X-rays	
CT scans for medical examinations	
A terrorist attack with a radioactive source	
A terrorist attack with chemical/biological agents (or sources)	
Residues of radioactivity in food	

AW1- KNOWLEDGE ABOUT THE RADIATION PROTECTION DOMAIN

The following questions concern the use of radiation in general. What do you think about the following issues?

Does exposure to radiation always lead to radioactive contamination?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/ no answer</li> </ol>
Is radioactive waste produced only by nuclear power plants?	
Is it true that vegetables grown near a nuclear power plant are not good for consumption because of radioactivity?	
Is it true that natural radioactivity is never dangerous because we are used and adapted to it?	
Is it true that the human body is naturally radioactive?	
Is it true that with time, every radioactive substance becomes more and more radioactive?	
Is it true that food sterilization by irradiation makes food radioactive?	

**C1 - COMMUNICATION ABOUT IONISING RADIATION IN GENERAL**

In general, how satisfied are you with the public information related to ionising radiation provided by the following sources? (Skip the item if you have never received any information related to ionising radiation from the specific source).

National Agencies/Institutes for nuclear safety or control/radiation protection	<ol style="list-style-type: none"> <li>1. Very unsatisfied</li> <li>2. Rather unsatisfied</li> <li>3. Rather satisfied</li> <li>4. Very satisfied</li> <li>5. Don't know/no answer</li> </ol>
Medical personnel in hospitals	
General practitioners or dentists	
Mass-media	
Scientists from universities	
The Nuclear industry	
Others	

**F1 - FINALLY**

The European CONCERT Project is currently developing a "research roadmap" to help ensure that future scientific work is consistent with societal priorities with respect to issues related to the protection of the public and ecosystems from ionising radiation exposure.

	<p>Would you, as a stakeholder invited to respond to this questionnaire, be interested in further giving your opinion on future research needs in the course of the elaboration of the above mentioned European Roadmap?</p>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/no answer</li> </ol>
--	--	--

F2- If you answered "yes" to F1 question, please give us your email

.....

## SPECIFIC SECTION

Please answer to the section(s) of your competence (BG10 question)

### S1 - PROFESSIONAL EXPOSURE

SP 1	How satisfied are you with the professional training in radiation protection received?	<ol style="list-style-type: none"> <li>1. Very unsatisfied</li> <li>2. Rather unsatisfied</li> <li>3. Rather satisfied</li> <li>4. Very satisfied</li> <li>5. Don't know/no answer</li> </ol>
SP 2	How satisfied are you with the implementation of radiation protection provisions by your employer?	<ol style="list-style-type: none"> <li>1. Very unsatisfied</li> <li>2. Rather unsatisfied</li> <li>3. Rather satisfied</li> <li>4. Very satisfied</li> <li>5. Don't know/no answer</li> </ol>
SP 3	How satisfied are you with the following learning material? (skip the item if you have never used it)	
	Slideshow	1. Very unsatisfied
	Video tutorials	2. Rather unsatisfied
	Books	3. Rather satisfied
	Lecture notes	4. Very satisfied
	Practical exercises on field	5. Don't know/no answer
	Official documents (ICRP, NCRP....)	
	Other (specify)	
SP 4	Are radiation protection guidelines a useful instrument for your daily work?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/ no answer</li> </ol>
SP 5	What's the field you feel more necessary to be deepened in the professional training?	<ol style="list-style-type: none"> <li>1. Regulations</li> <li>2. Individual and collective devices</li> <li>3. Early and late radiation effects</li> <li>4. Others</li> </ol>
SP 6	Please provide in the box below brief reasons for your responses above.	

## S2- MEDICAL EXPOSURE

SP 7	How satisfied are you with the following Informed Consent steps?	
	Description of the clinical issue and suggested treatment	1. Very unsatisfied 2. Rather unsatisfied 3. Rather satisfied 4. Very satisfied 5. Don't know/no answer
	Discussion on alternatives to the suggested treatment (including the option of no treatment)	
	Discussion on risks and benefits of the suggested treatment (and comparing them to the risks and benefits of alternatives)	
	Assessment of the understanding of the information provided, and thereby consent	
SP 8	For which procedures would you like to receive more information?	1. Medical X Ray 2. CT 3. PET 4. Radiation Therapy 5. Interventional Radiology 6. Scintigraphy 7. Others

## S3 - DUTY HOLDERS - DECISION MAKERS

SP 9	How satisfied are you with the communication channels with scientific research field (Workshops, scientific projects/association websites, peer reviewed papers, blogs) ?	1. Very unsatisfied 2. Rather unsatisfied 3. Rather satisfied 4. Very satisfied 5. Don't know/no answer
SP 10	Do you think that the quality of your work would take advantage from a correct radiation protection culture spreading among the population?	1. Yes 2. No 3. Don't know/ no answer
SP 11	In your experience a more direct involment of the population, already in the early stage, could make a radiation protection decision process easier and more efficient?	1. Yes 2. No 3. Don't know/ no answer
SP 12	If you answered yes to SP11 question, among the following which do you consider the most useful tool to actively involve the population?	1. Forum 2. Working groups 3. Round tables 4. Meetings

S4 - SPECIFIC CATEGORIES OF POTENTIALLY EXPOSED POPULATION

SP 13	How satisfied are you with the quantity of the information about radiation risk received from the authorities?	<ol style="list-style-type: none"> <li>1. Very unsatisfied</li> <li>2. Rather unsatisfied</li> <li>3. Rather satisfied</li> <li>4. Very satisfied</li> <li>5. Don't know/no answer</li> </ol>
SP 14	How satisfied are you with the quality of the information about radiation risk received from the authorities?	<ol style="list-style-type: none"> <li>1. Very unsatisfied</li> <li>2. Rather unsatisfied</li> <li>3. Rather satisfied</li> <li>4. Very satisfied</li> <li>5. Don't know/no answer</li> </ol>
SP 15	Do you feel adequately protected from ionising radiation exposure risks?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/ no answer</li> </ol>
SP 16	Are you in contact/association with other people in the same situation of potential exposure? E.g. other people living in the same village; consumers' association; Whatsapp groups...	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Don't know/ no answer</li> </ol>
SP 17	If you answered yes to SP16 question, in which way you exchange information within the association?	<ol style="list-style-type: none"> <li>1. Periodical meetings (weekly, monthly,...)</li> <li>2. On line forum</li> <li>3. Mailing list</li> <li>4. Social media</li> </ol>



S5 - CULTURAL INVOLVEMENT OR INTEREST IN RADIATION PROTECTION ISSUES

SP 18	Which are your main sources of information about radiological and nuclear risk?	<ol style="list-style-type: none"> <li>1. TV</li> <li>2. Radio</li> <li>3. Newspapers</li> <li>4. Websites, blogs, e-magazine for science dissemination</li> <li>5. Scientific journals</li> <li>6. Others</li> </ol>
SP 19	What is the most important criterion do you use to decide whether a source is trustworthy or not?	<ol style="list-style-type: none"> <li>1. Reliability</li> <li>2. Competence</li> <li>3. Impartiality</li> </ol>
SP 20	Do you generally find sources of comprehensible and reliable information about radiation protection and radiation risk?	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Always</li> <li>5. Don't know/ no answer</li> </ol>