



OPERRA

OPEN PROJECT FOR EUROPEAN RADIATION RESEARCH AREA

# The OPERRA Project: First Reporting Period Achievements

Jean-René Jourdain (IRSN, France)  
OPERRA Project Coordinator



## Presentation Outline

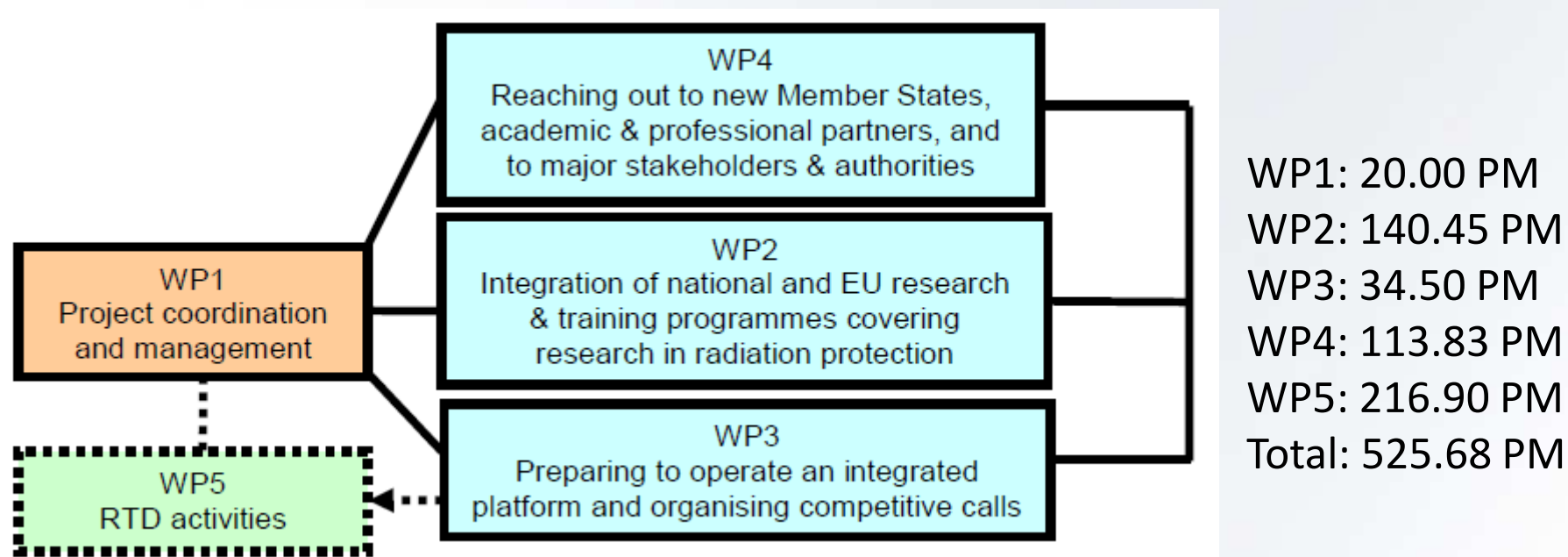
- General presentation of the project
- First call implementation
- Second call implementation
- Other OPERRA main achievements



## Overall Strategy

- The OPERRA project is a EC-funded CP-CSA that aims to implement actions supporting the development of a Joint Programming European Instrument & an umbrella structure having eventually the capacity of organizing RTD calls on behalf of the European Commission:
  - Engaging the key partners in radiation protection as well as national & international funding agencies (WP2)
  - Organising research calls in radiation protection on behalf of the EC (WP3)
  - Setting-up a sustainable organisation governing radiation protection research, including education and training issues, in Europe (WP3)
  - Reaching out to universities & academic partners, new EU Member States, major stakeholders & authorities as well as other technical platforms within and outside of Euratom (WP4)
  - Bringing together RTD activities selected via two competitive calls (WP5)

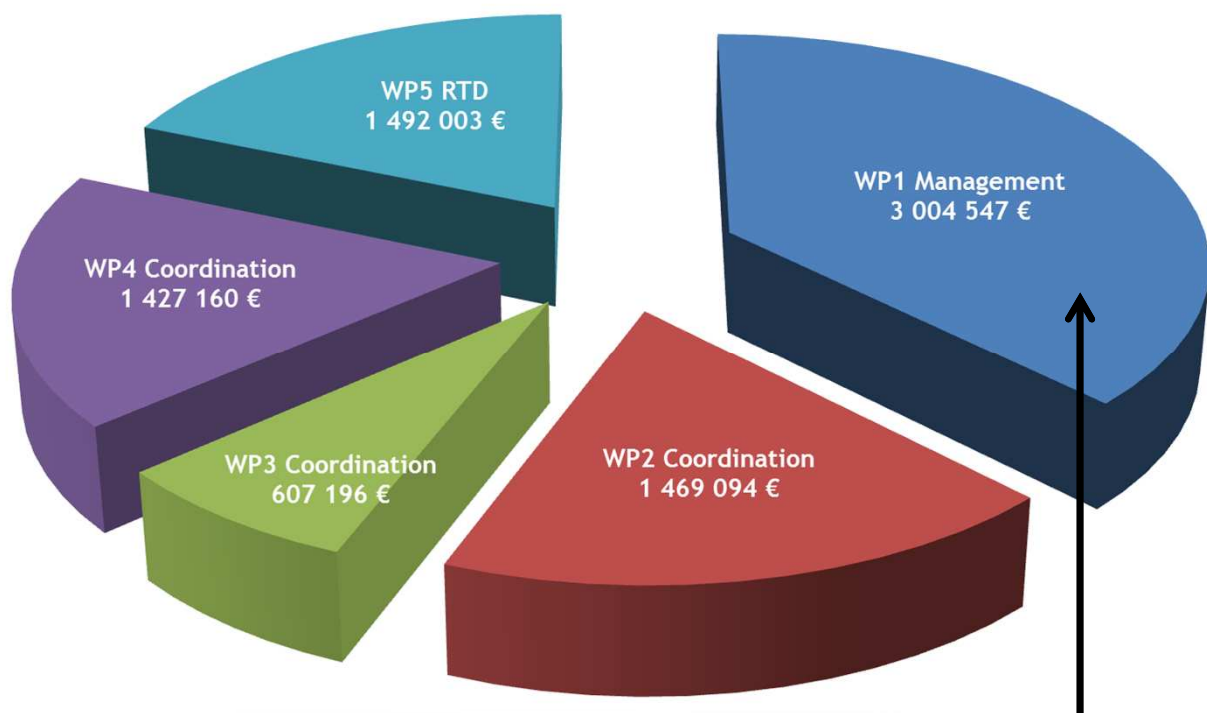
## Relationships between Work Packages



Duration of the Project: 48 Months (June 2013-May 2017)

WP Leaders: IRSN (WP1), BfS (WP2), MELODI (WP3), STUK (WP4), SCK-CEN (WP5)

## OPERRA Budget (EC Contribution as of 1 December 2014)



Total Costs  
10,266,346.35 €

EC Contribution  
8,000,000.00 €

Including 2,507,996 € for RTD activities to be selected via the second call (to be moved further from WP1 to WP5)



## List of Beneficiaries (as of December 2014)

No	Name	Short name	Country	Project entry month <sup>10</sup>	Project exit month
1	INSTITUT DE RADIOPROTECTION ET DE SURETE NUCLEAIRE	IRSN	France	1	48
2	STUDIECENTRUM VOOR KERNENERGIE	SCK•CEN	Belgium	1	48
3	BUNDESAMT FUER STRAHLENSCHUTZ	BfS	Germany	1	48
4	SATEILYTURVAKESKUS	STUK	Finland	1	48
5	Association Melodi	MELODI	France	1	48
6	JIHOESKA UNIVERZITA V CESKYCH BUDEJOVICICH	JU	Czech Republic	1	48
7	ORSZAGOS FREDERIC JOLIOT-CURIE SUGARBIOLOGIAI ES SUGAREGESZSEGUGYI KUTATO INTEZET	OSSKI	Hungary	1	48
8	HEALTH PROTECTION AGENCY HPA	HPA	United Kingdom	1	1
9	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	CEA	France	1	48
10	FUNDACIO CENTRE DE RECERCA EN EPIDEMIOLOGIA AMBIENTAL - CREAL	CREAL	Spain	1	48
11	ISTITUTO SUPERIORE DI SANITA	ISS	Italy	1	48
12	HELMHOLTZ ZENTRUM MUENCHEN DEUTSCHES FORSCHUNGSZENTRUM FUER GESUNDHEIT UND UMWELT GMBH	HMGU	Germany	1	48
13	UNIVERSITA DEGLI STUDI DI PAVIA	UNIPV	Italy	1	48
14	STOCKHOLMS UNIVERSITET	SU	Sweden	1	48
15	KATHOLIEKE UNIVERSITEIT LEUVEN	KU Leuven	Belgium	19	48
16	UNIVERSITE PARIS DESCARTES	UPD	France	19	48
17	University of Medicine and Pharmacy	UMFCL	Romania	19	48
18	UNIVERSITAETSKLINIKUM BONN	UKB	Germany	19	48
19	UNIVERSITAETSMEDIZIN DER JOHANNES GUTENBERG-UNIVERSITAET MAINZ	UMC	Germany	19	48
20	VRIJE UNIVERSITEIT BRUSSEL	VUB	Belgium	19	48

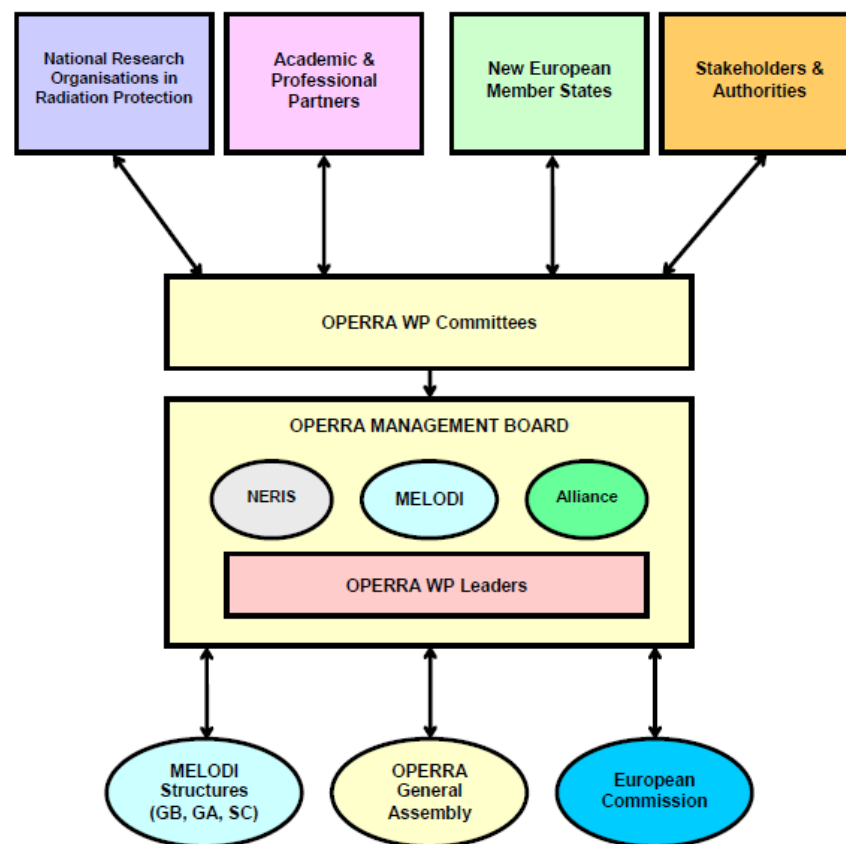


## List of Beneficiaries (as of December 2014)

No	Name	Short name	Country	Project entry month <sup>10</sup>	Project exit month
21	INSTYTUT MEDYCZYNY PRACY NOFERA	NIOM	Poland	19	48
22	GREEK ATOMIC ENERGY COMMISSION	GAEC	Greece	19	48
23	STICHTING KATHOLIEKE UNIVERSITEIT	RUMC	Netherlands	19	48
24	ASSOCIACAO DO INSTITUTO SUPERIOR TECNICO PARA A INVESTIGACAO E DESENVOLVIMENTO	IST-ID	Portugal	19	48
25	NORWEGIAN RADIATION PROTECTION AUTHORITY	NRPA	Norway	19	48
26	INSTITUT ZA NUKLEARNE NAUKE VINCA	VINCA	Serbia	19	48
27	CONSIGLIO NAZIONALE DELLE RICERCHE	CNR-IFC	Italy	19	48
28	UNIVERSIDAD AUTONOMA DE MADRID	UAM	Spain	19	48
29	UNIVERSITAT ROVIRA I VIRGILI	URV	Spain	19	48
30	SERVIZO GALEGO DE SAUDE	SERGAS	Spain	19	48
31	AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE	ENEA	Italy	19	48
32	ARISTOTELIO PANEPISTIMIO THESSALONIKIS	AUTH	Greece	19	48
33	RIJKSINSTITUUT VOOR VOLKSGEZONDHEIDEN MILIEU*NATIONAL INSTITUTE FOR PUBLIC HEALTH AND THE ENVIRONMENTEN	RIVM	Netherlands	19	48
34	Fédération des Hôpitaux Luxembourgeois	FHL	Luxembourg	19	48
35	Department of Health	DH-PHE	United Kingdom	1	48



# Decision-making Structure







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**WP2: Integration of national and EU  
research and training programmes  
covering research in radiation protection**

Lead: Thomas Jung (BfS, Germany)



## WP2 Tasks

- Task 2.1 - Identifying key partners involved in RP research, and E&T, and joint programming of research activities in RP: links with MELODI, ALLIANCE, NERIS, EUTERP, EURADOS & EURAMET
- Task 2.2 - Determining joint funding mechanisms for national & EU Fission R&D programmes
- Task 2.3 - Identifying experiences and lessons learned from existing exposure situations, including Chernobyl, Fukushima, and the NORM industry
- Task 2.4 - Exploring how to enhance radiation protection research activities related to the medical uses of ionizing radiation
- Task 2.5 - Preparing the migration from DoReMi, STAR & NERIS-TP
- Task 2.6 - Integrating knowledge from non-radiation research

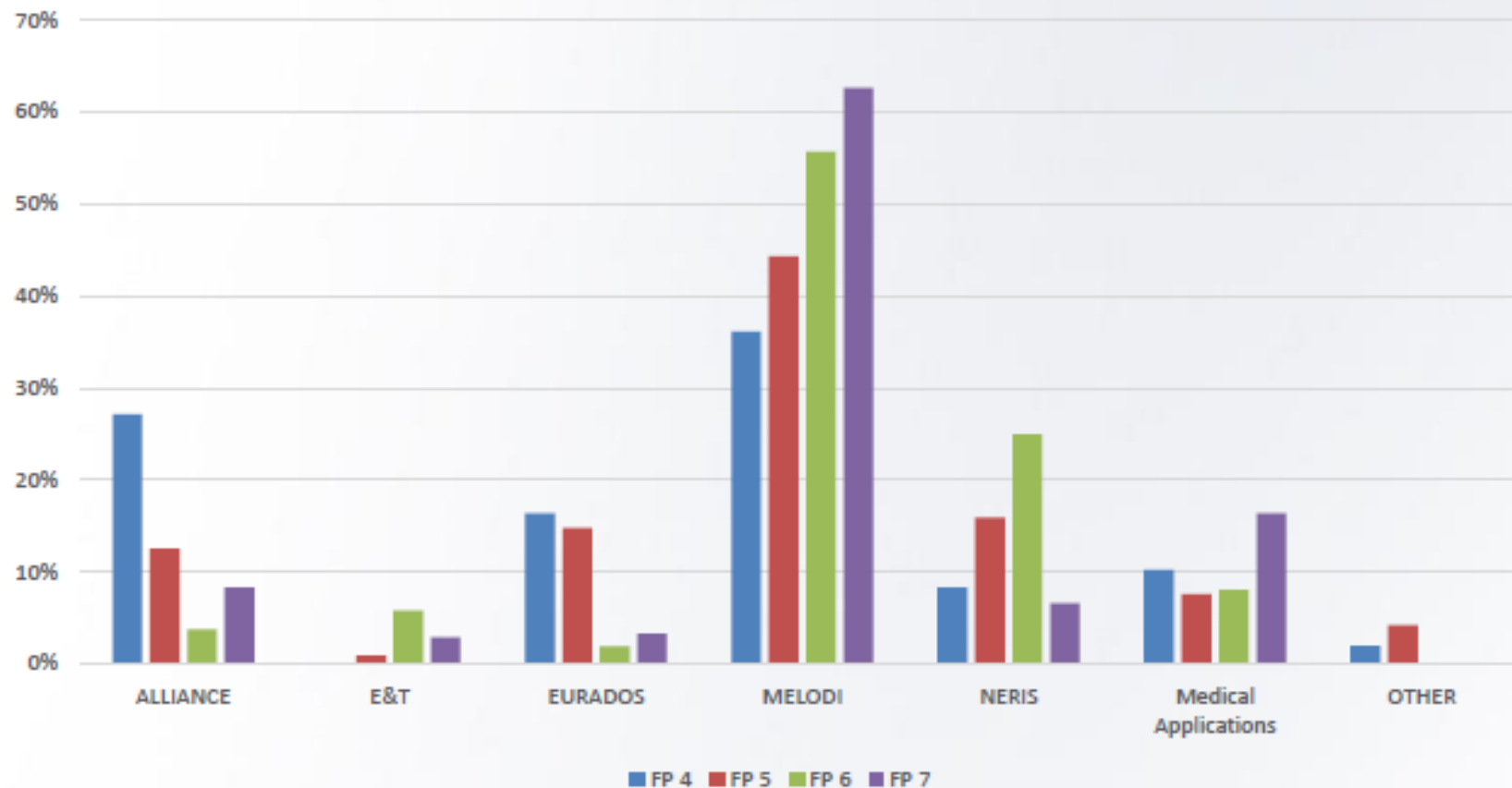
## EU Contribution: FP4 to FP7

Table 1: Number of projects by target platform and FPs, based on CORDIS

Target Platform	FP 4	FP 5	FP 6	FP 7
ALLIANCE	31	11	5	2
E&T	1	3	7	3
EURADOS	21	16	2	3
MELODI	40	31	11	17
NERIS	8	14	2	3
Medical Applications	7	4	4	6
OTHER	3	4	0	0
SUM	111	83	31	34



## EU Contribution: FP4 to FP7



## EU Contribution: FP4 to FP7

**Table 2:** Percentage of overall EC funding per target platform, broken down by FPs (based on CORDIS); for FP 4 as far as information could be retrieved

Target Platform	FP 4	FP 5	FP 6	FP 7
ALLIANCE	27.1%	12.5%	16.3%	8.4%
E&T	0.1%	0.9%	5.0%	2.0%
EURADOS	16.3%	14.7%	1.6%	3.3%
MELODI	36.1%	44.3%	48.4%	63.2%
NERIS	8.3%	15.9%	21.7%	6.6%
Medical Applications	10.2%	7.6%	6.9%	16.5%
OTHER	1.9%	4.2%	0.0%	0.0%
EC contribution	56,887,708 €	49,536,777 €	61,206,333 €	88,214,693 €



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**WP3: Preparing to operate an integrated platform & organizing competitive calls**

Lead: Jacques Repussard (MELODI Association)



## Setting-up a European Umbrella Structure for Radiation Protection Research Call Administration

- The OPERRA Project aims at bringing the MELODI Association, with the support of its sister structures, to the level of managerial, legal, administrative and financial maturity required to implement the preparatory phase for the development of a federating body
- The OPERRA project will elaborate a draft European Joint Programming Instrument describing the operational function of an umbrella structure as a federating body, structuring and organising radiation protection research in Europe (see CONCERT)
- This task will get benefit of consensus seminars bringing together representatives of research organisations, universities, national competent authorities, stakeholders, and non-EU countries: the draft instrument should be applicable to the other fields of radiation protection





## HORIZON 2020 - EURATOM CALL NFRP-07-2015: Integrating Radiation Research in the European Union

- European Joint Programme, Co-fund action (70:30)
- Integrating national and European RP research programmes
- Builds on SRAs of MELODI, ALLIANCE and NERIS and making use of expertise in dosimetry (EURADOS) and medical use of radiation
- Research and innovation supporting the implementation of the revised BSS
- Expected Impact: Better integrating of the radiation protection scientific community at EU level, leading to a better coordination of research efforts and the provision of more consolidated and robust science-based policy recommendations to decision makers in this area. In the long term, these efforts will translate into additional or improved practical measures in view of the effective protection of people and the environment.
- EC funding about 20 M€, EJP to run calls for research

Integration and SRA development  
in radiation protection research

Priority research and joint programming needs  
in the perspective of European research

Management of the open RTD calls

Stakeholder  
involvement and  
communication

Access to  
infrastructures

Education and  
training



- Proposal submitted on 17.9.2014
- Project will start on 1 June 2015
- EC funding requested: 20 M€
- Integration of national programs (Co-fund action)
- 70:30 EU:Co-fund
- 68 partners
- Coordination: BfS



## WP2: Integration and SRA development of radiation protection research

- Task 2.1 - Development of Strategic Research Agenda, roadmap and priorities for research on low dose risk (MELODI)
- Task 2.2 - Development of Strategic Research Agenda, roadmap and priorities for research on radioecology (ALLIANCE)
- Task 2.3 - Development of Strategic Research Agenda, roadmap and priorities for research on emergency preparedness and response (NERIS)
- Task 2.4 - Development of Strategic Research Agenda, roadmap and priorities for research on dosimetry (EURADOS)
- Task 2.5 - Development of Strategic Research Agenda, roadmap and priorities for research with the medical scientific community
- Task 2.6 - Creating Strategic Research Agenda on social sciences and safety culture in radiation protection
- Task 2.7 - Research and innovation supporting the implementation of the revised European Basic Safety Standards



## Supporting the organisation of competitive calls for radiation protection research

- A “Go-between Administrative Operator” (GAO) has organised the consultation with experts leading to the publication of the call texts, as well as the evaluation process. The evaluation of the responses to the call will be done by experts selected for appropriate skills and independence, from the database of experts currently operated by the EC
- The GAO will ensure that the writing and evaluation process is conducted anonymously, with respect to the OPERRA and project partners, including MELODI
- On the basis of the ranking list of the proposals, the OPERRA MB makes final decision of the proposals to be funded
- The OPERRA Coordinator then performs the necessary actions to include new beneficiaries in the consortium or allocate additional funding to existing members, informs the EC of the results of such activities and prepares amendment of the OPERRA GA to include new members in the consortium



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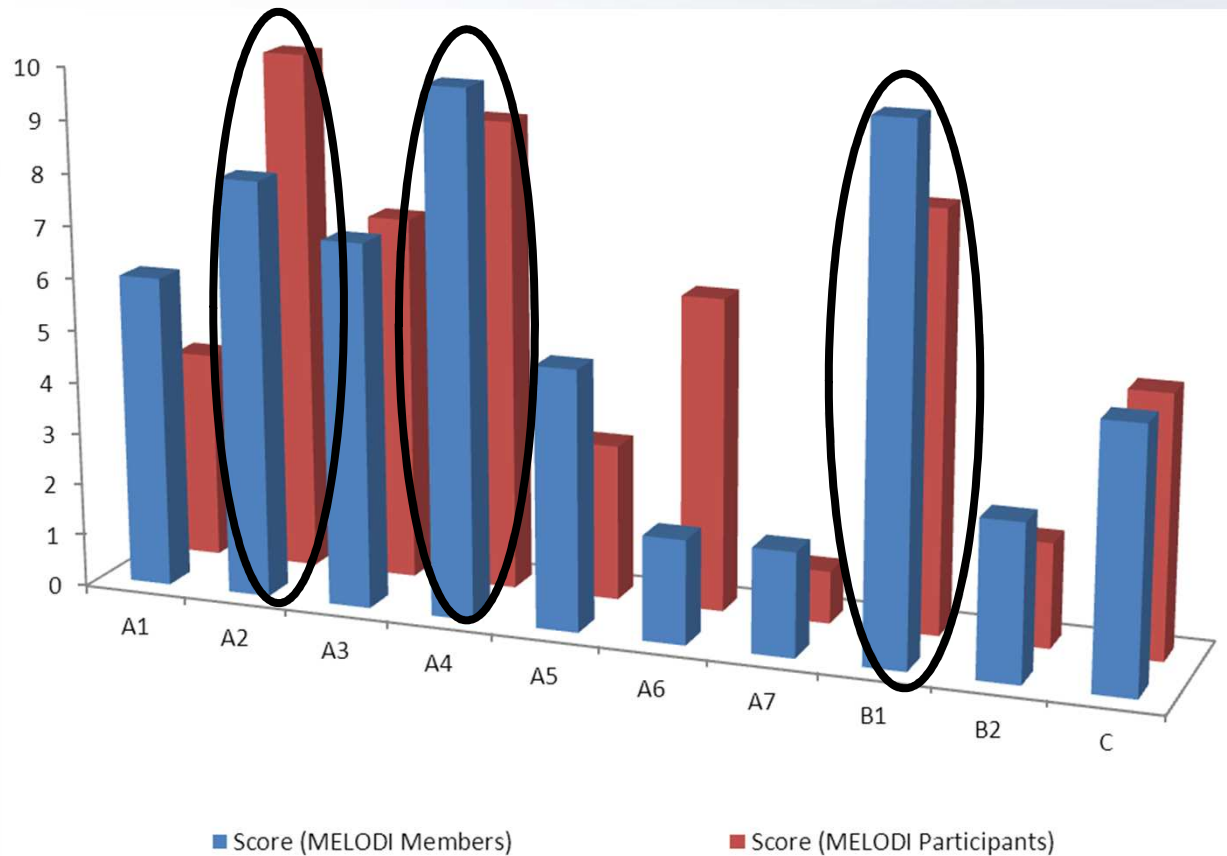
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# First Call Implementation



## MELODI Priorities Ranking: Procedure

- From the latest version of the MELODI SRA, a MELODI statement listing the 10 highest priorities was prepared and approved by the MELODI Bureau. Altogether, these ten priorities reflected the scope of the SRA (4<sup>th</sup> version), in a concise formulation
- The list was sent to the 22 MELODI members (as of 1 September 2013) for comments. In addition, MELODI members were invited to select 3 most relevant priorities among the 10 identified from the MELODI SRA. **20 votes were received**
- Also, the participants in the 5<sup>th</sup> MELODI workshop (Brussels, 8-10 October 2013) were invited to give their opinion by ranking the priorities from 1 (highest relevance) to 10 (lowest relevance). **105 opinions were received**
- To calculate the total score of each priority, priorities ranked #1 received 10 points, priorities ranked #2 received 9 points, etc.
- Selected priorities not explicitly ranked were considered equally as #1
- The priorities were ranked on the basis of the total score calculated



Three topics (A2, A4, B1) emerged as top level priority for a vast majority of the MELODI community



## MELODI Workshop Participants Priority Ranking

1

**A.2.** Analysis of mechanisms involved in low dose radiation through use and development of suitable cellular models (2D, 3D, including somatic cells, stem cells, and organo-typic tissue models) as well as animal models

2

**A.4.** Role of genetic background, immunological status, age, gender and lifestyle on radiation-induced effects, as well as identification of other factors influencing individual radiosensitivity

3

**B.1.** Identification, development and validation of biomarkers for radiation-induced health (cancer and non-cancer) effects through sound (molecular, i.e. using most recent methods such as omics, genetic and epigenetic profiling, new generation sequencing and systems biology) epidemiological studies in children and/or adults in conjunction with most suitable and promising retrospective (Techa River, Mayak, Chernobyl, Fukushima, Uranium miners, nuclear workers, secondary cancer patients with radiation therapy in childhood) and prospective (CT scan patients, medical diagnosis patients, new treatment modality RT patients) cohorts with access to biological samples and sound dosimetry



## OPERRA First Call Topics

- Analysis of mechanisms involved in low dose radiation through use and development of suitable cellular models (2D, 3D, including somatic cells, stem cells, and organo-typic tissue models) as well as animal models
- Determination of the role of genetic background, immunological status, age, gender and lifestyle on radiation-induced effects, as well as identification of other factors influencing individual radiosensitivity
- Identification, development and validation of biomarkers for radiation-induced health (cancer and non-cancer) effects through sound molecular epidemiological studies in children and/or adults in conjunction with most suitable and promising retrospective and prospective cohorts with access to biological samples and sound dosimetry

***Topics selected by the experts were very much consistent with MELODI recommendations***



## OPERRA First Call at a Glance

- Call specifications were written and evaluations performed by an independent group of experts on the basis of a series of documents provided by MELODI, on behalf of the OPERRA consortium
- To be eligible, consortia should comprise **at least three organizations not belonging to the actual OPERRA consortium, with at least 50% of the requested EC contribution going to non-OPERRA organizations**
- The call was published on 16 December 2013, closed on 14 March 2014, evaluations were achieved on 27 May 2014
- 22 proposals were submitted for a total available budget (EC contribution) of 1.5 M€: among them, **17 were scored above the thresholds, representing altogether a requested EC contribution of 11,8 M€**



## OPERRA First Call at a Glance

- The score ranged from 9.0 to 14.0 (for a maximum of 15.0)
- The EC requested contribution per project ranged from 487 k€ to 999 k€
- The project's coordinators were informed of the score on 27 May 2014 and of the possibility to ask for the ESR to the call's administrator
- The final selection was decided on 23 June 2014 and was made on the basis of the ranking list: **the 3 first projects of the list were selected (representing altogether a requested EC contribution of 1.7 M€)** and a decision was made to slightly reduce their budget (decision taking into account the project ranking) to meet the envelope of 1.5 M€
- The coordinators of selected projects were informed on 27 June 2014 (end of the redress procedure period)
- The amendment to the GA was submitted on 30 November 2014



## OPERRA First Call: Final Selection

- The 3 selected projects are as follows:
  - SOPRANO: Systems Oriented Prediction of Radiation Risk (+6 new OPERRA partners)
  - EURALOC: European epidemiological study on radiation-induced lens opacities for interventional cardiologists (+11 new OPERRA partners)
  - DIMITRA: Dentomaxillofacial paediatric imaging: an investigation towards low dose radiation induced risks (+3 new OPERRA partners)

→ As of 1 December 2014, the OPERRA consortium comprises 34 partners (including 20 new partners)

- 8 countries newly represented within the OPERRA consortium: Greece, Luxemburg, The Netherlands, Norway, Poland, Portugal, Romania, Serbia



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# Second Call Implementation



## OPERRA Second Call: Preparation Phase

- Several OPERRA tasks committed:
  - Task 2.1: Identifying key partners involved in RP research, and E&T, and joint programming of research activities in RP: links with MELODI, ALLIANCE, NERIS, EUTERP, EURADOS & EURAMET
  - Task 2.2: Determining joint funding mechanisms for national & EU Fission R&D programs
  - Task 3.3: Supporting the organization of competitive calls for radiation protection research
  - Task 4.3: Reaching out to major stakeholders & authorities
- Numerous meetings held January through June 2014 bringing together OPERRA partners and representatives of MELODI, ALLIANCE, NERIS & EURADOS





## OPERRA Second Call: Main Inputs

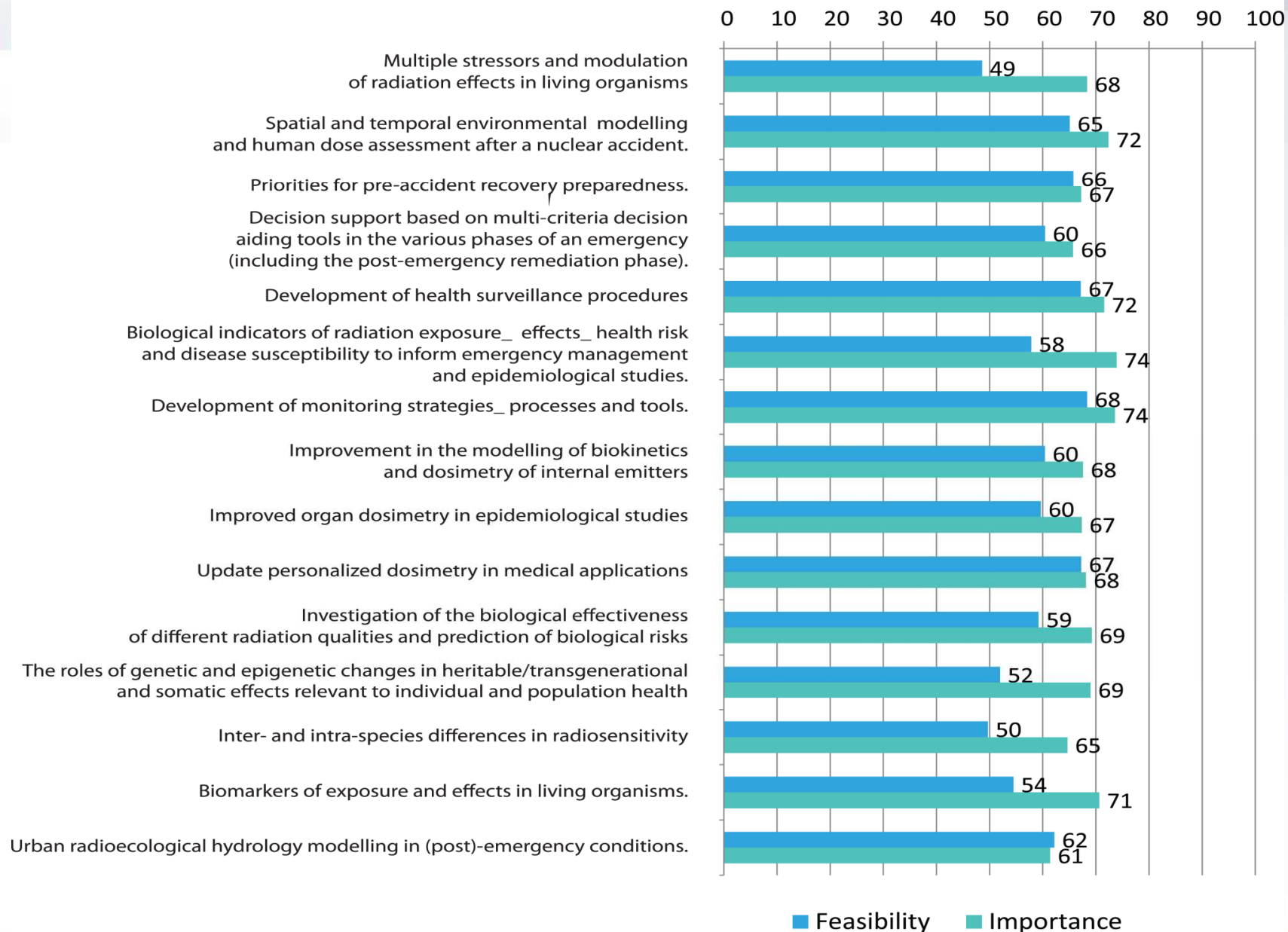
- Task 4.3 partners implemented an e-survey with the objective of collecting views and thoughts of scientific communities working on the 15 identified priorities
- The e-survey, that was addressing also social sciences and communication issues, was opened on 1 July 2014 and closed on 15 September 2014: 274 persons submitted their answers
- A summary of the report analyzing the outcomes of the e-survey has been given to the panel of experts in charge of drafting the text of the second OPERRA call



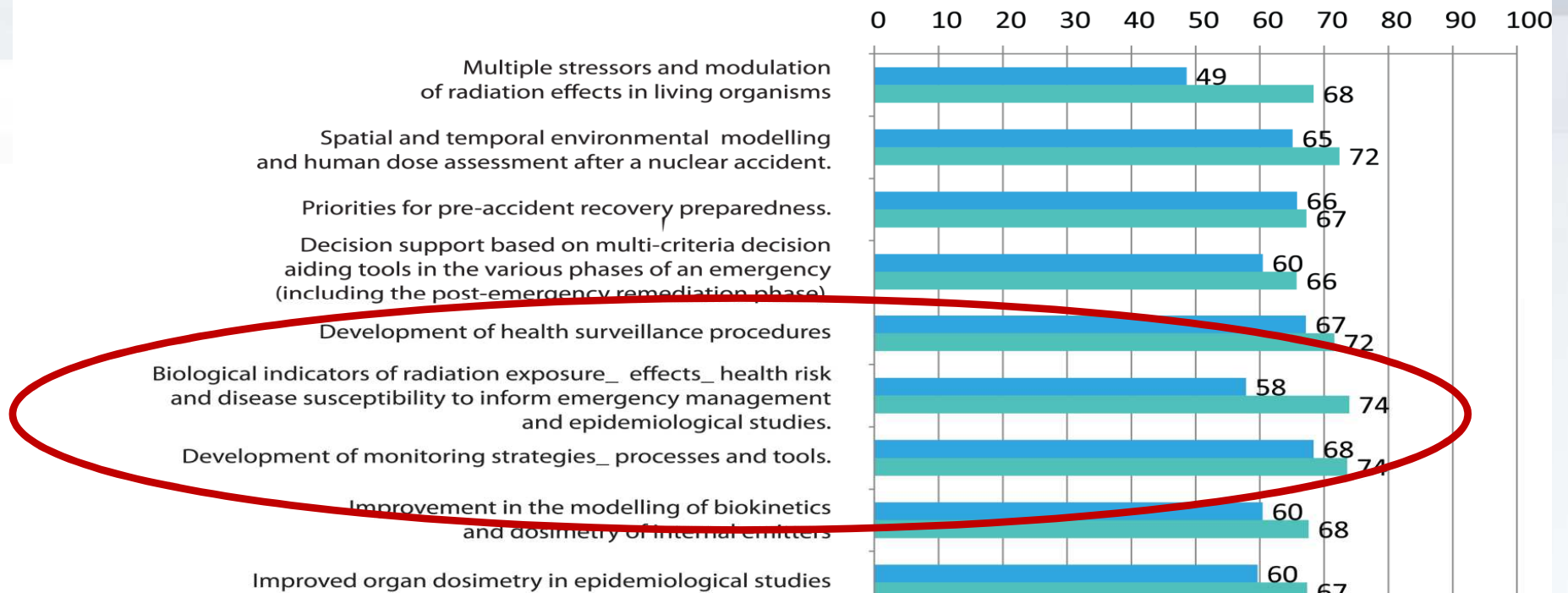
## Methodology for priorities identification

- **Collection of data:** between 1/07/2014 and 15/09/2014
- **Response:** the eSurvey was opened 507 times. 233 times the e-Survey was not submitted and 274 times it was submitted. Only these 274 submissions were taken as valid responses and analysed
- **Respondents:** 120 from MELODI, 119 from EURADOS, 78 from ALLIANCE, 70 from NERIS, 43 submissions from other relevant EC projects and 55 submissions from other stakeholders
- In 86 submissions it was indicated that the respondent belonged to more than one platform or association

## Feasibility and importance of synergistic research topics: average scores (all responses)



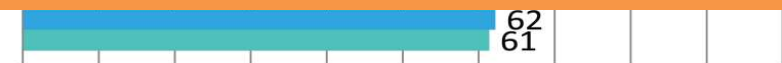
## Feasibility and importance of synergistic research topics: average scores (all responses)



The most important:

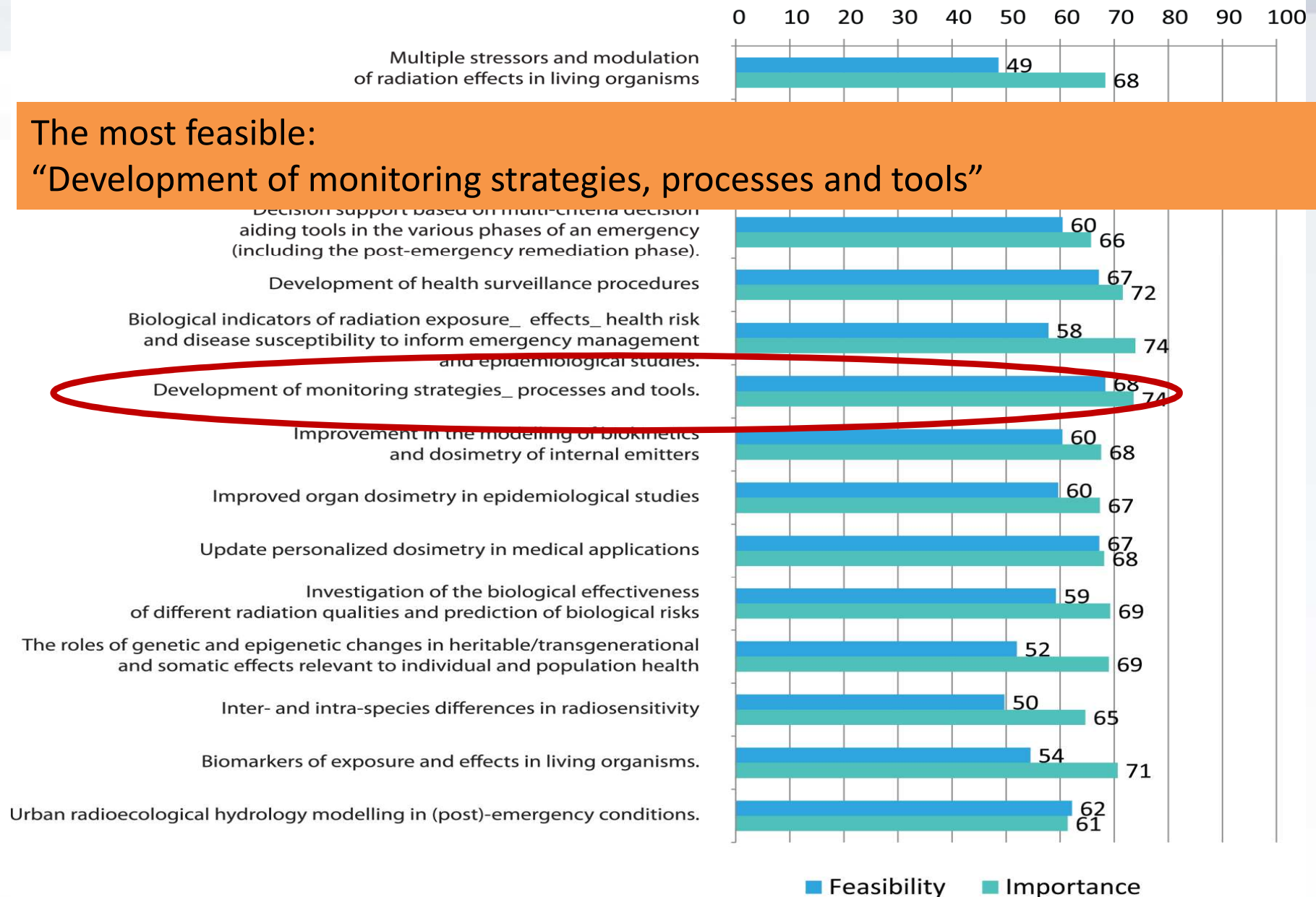
- “Development of monitoring strategies, processes and tools”
- “Biological indicators of radiation exposure, effects, health risk and disease susceptibility to inform emergency management and epidemiological studies”

Urban radioecological hydrology modelling in (post)-emergency conditions.



■ Feasibility ■ Importance

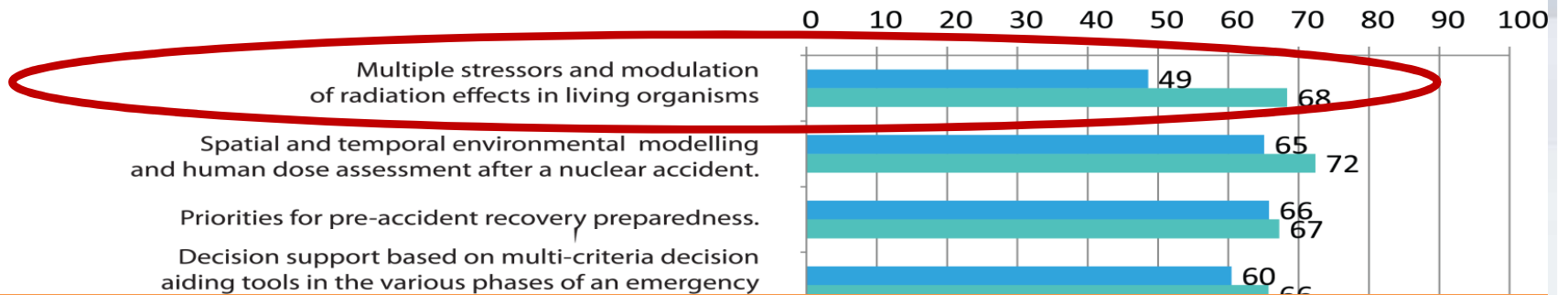
## Feasibility and importance of synergistic research topics: average scores (all responses)



The most feasible:

“Development of monitoring strategies, processes and tools”

**Feasibility and importance of synergistic research topics: average scores (all responses)**

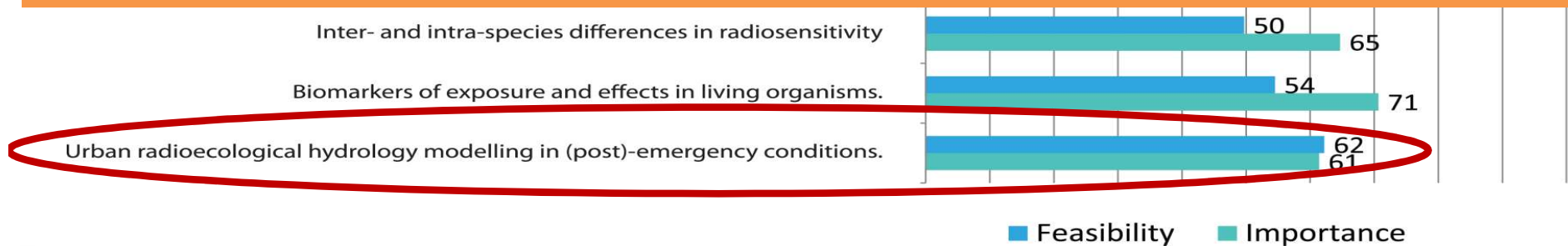


Least feasible:

“Multiple stressors and modulation of radiation effects in living organisms”

Least important:

“Urban radioecological hydrology modelling in (post)-emergency conditions”





## Topics selected for the second call

- Development of monitoring strategies, processes and tools
- Spatial and temporal environmental modelling and human dose assessment after a nuclear accident
- Development of health surveillance procedures
- Biological indicators of radiation exposure, effects, health risk and disease susceptibility to inform emergency management and epidemiological studies





## Minimum conditions

- Eligible consortium should comprise at least **FOUR PARTNERS** from at least **TWO DIFFERENT COUNTRIES** and should include **at least ONE NON-OPERRA PARTNER**
- With a EC contribution of 2.5 M€, it is anticipated **to fund at least one project (MAXIMUM DURATION 18 MONTHS) per topic (MAXIMUM EC CONTRIBUTION 800 k€ PER PROJECT)**, subject to meet the excellence criteria
- Provided that the above minimum conditions are fulfilled, additional participants (**no maximum limit**) may participate in the proposal. Such additional participants can be current OPERRA beneficiaries or external organizations
- One organization may participate in several proposals



## Evaluation process

- The proposals received are evaluated using the form shown in Annex 2 of the Guide for applicants, by experts who are independent of any proposer
- Each independent expert will record his/her individual opinion of each proposal first, and then they will communicate together to prepare a “consensus” form for each proposal (=Evaluation Summary Report, ESR)
- On the basis of scores, the proposals are put on a ranking list
- On the basis of ranking list, the OPERRA consortium will select the proposals to be included into the ongoing projects



## OPERRA Second Call: Next Steps

- Call text published on **Monday 15 December 2014**
- Applications closed on **Thursday 12 March 2015 at 17:00, Brussels time**
- Letter informing the consortium leader of the project's score sent **on 30 March 2015**
- **19 projects received.** It is anticipated to fund at least one project per topic
- Selection of projects to be funded expected **by end May 2015**
- Consortium leader of selected projects will be invited to enter into negotiations **in June 2015**
- End of negotiations and submission of the second amendment to the OPERRA GA **by 1 December 2015 at the latest**



## Overview of Submissions

- Topic 1: 3 projects (all above thresholds)
- Topic 2: 1 project (above thresholds)
- Topic 3: 3 projects (1 above thresholds)
- Topic 4: 12 projects (8 above thresholds)

19 projects submitted – 13 projects scored above thresholds



## Information on Selected Projects

- Topic 1:
  - 15 partners (11 new partners)
  - Requested EC contribution: 797,875 €
- Topic 2:
  - 6 partners (2 new partners)
  - Requested EC contribution: 769,326 €
- Topic 3:
  - 18 partners (13 new partners)
  - Requested EC contribution: 779,976 €
- Topic 4:
  - 6 partners (3 new partners)
  - Requested EC contribution: 637,777 €

29 new partners – Total requested EC contribution: 2,984,954 €  
The OPERRA consortium will grow from 34 partners to 63 partners



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**WP4: Reaching out to new Member States,  
academic & professional partners,  
stakeholders & authorities**

Lead: Sisko Salomaa (STUK, Finland)



## WP4 Tasks

- Task 4.1 - Reaching out to universities & professional partners
- Task 4.2 - Reaching out to and integrating new Member States
- Task 4.3 - Reaching out to major stakeholders & authorities
- Task 4.4 - Interactions with ESFRI platforms & large EU consortia to support research in the field of radiation protection
- Task 4.5 - Reaching out to the other technical platforms within EURATOM, e.g. SNE-TP & IDG-TP





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## WP5: OPERRA RTD activities

Lead: Lara Struelens (SCK•CEN, Belgium)

## WP5 Tasks

- Task 5.1 - SOPRANO: Systems Oriented Prediction of Radiation Risk
- Task 5.2 - EURALOC: European epidemiological study on radiation-induced lens opacities for interventional cardiologists
- Task 5.3 - DIMITRA: Dentomaxillofacial paediatric imaging: an investigation towards low dose radiation induced risks

***Projects selected via the second OPERRA call will be integrated as new WP5 tasks (Tasks 5.4-5.7)***



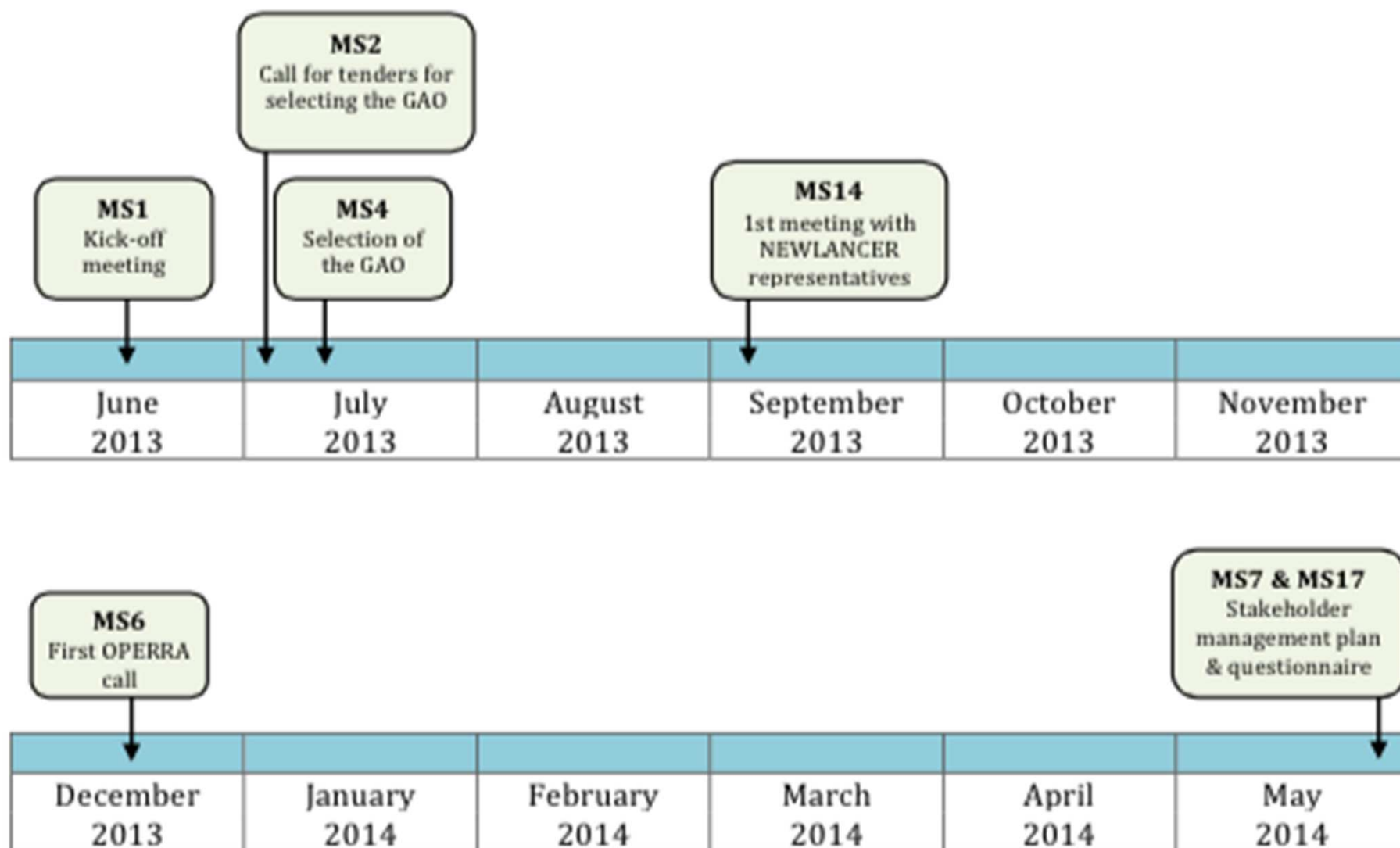
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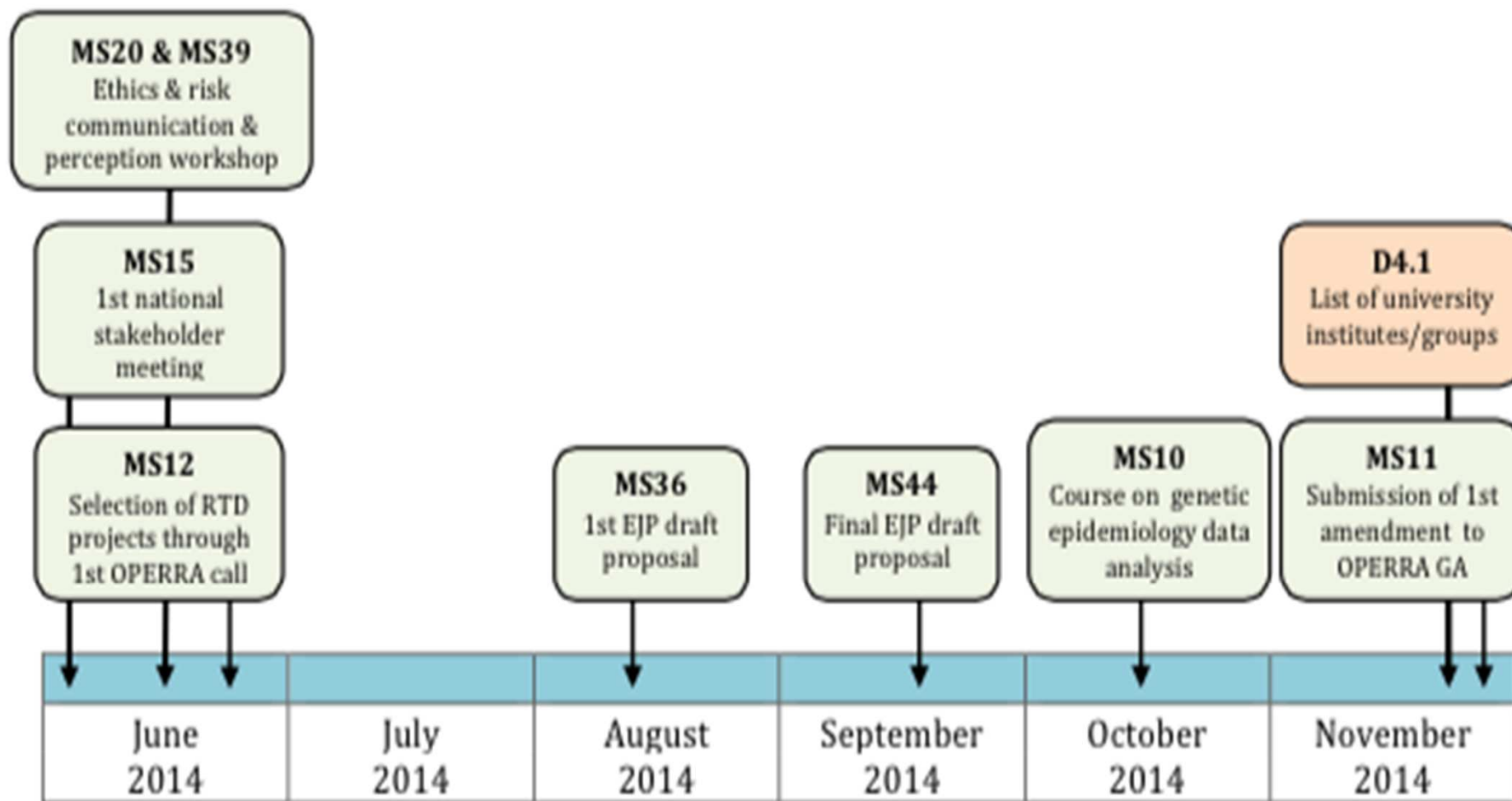
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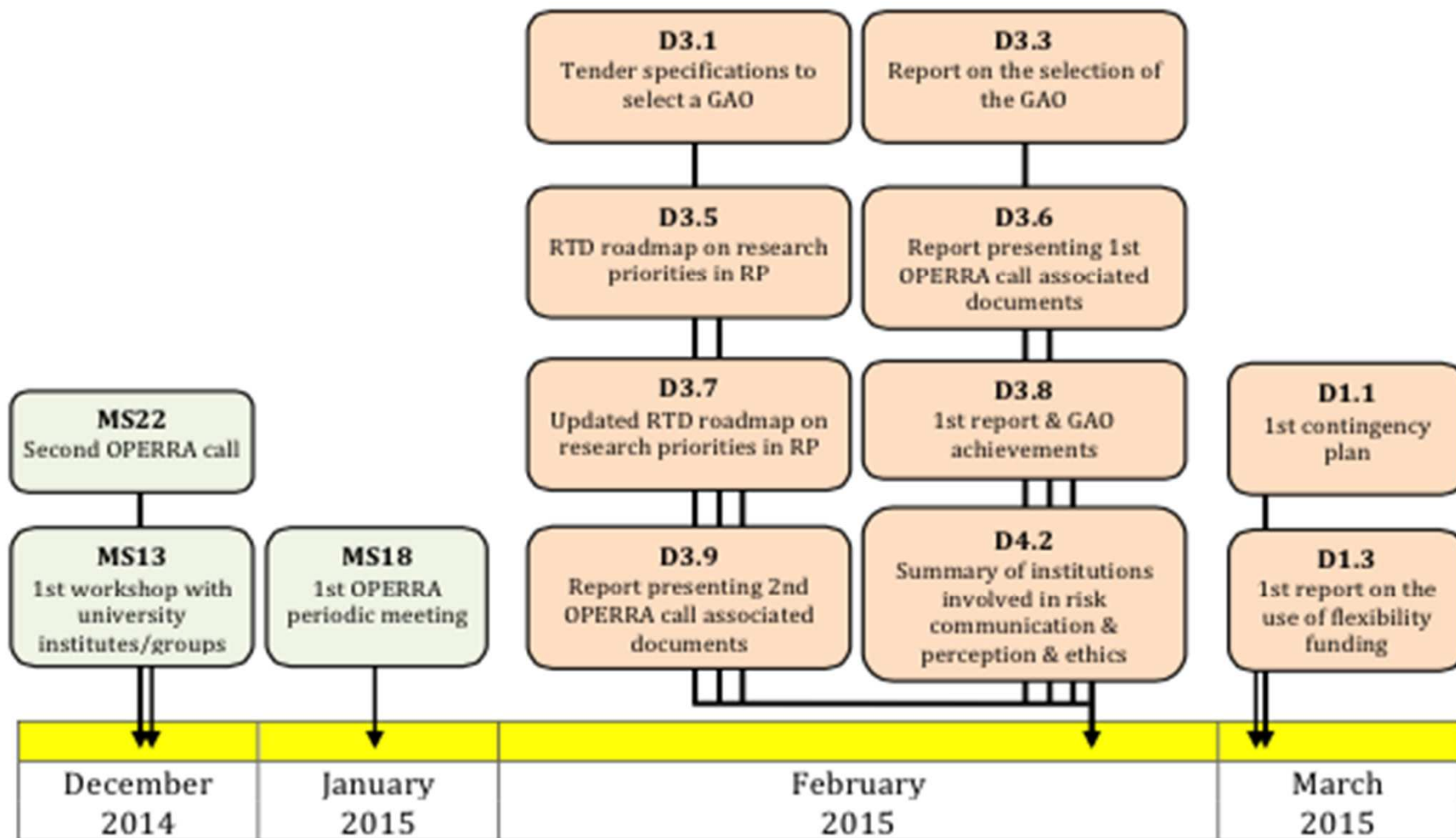
## Other OPERRA Achievements



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For more information

OPERRA project webpage

<http://www.melodi-online.eu/operra.html>





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