

# WT3: Work package description

Project Number <sup>1</sup>	604974	Project Acronym <sup>2</sup>	COMET
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## One form per Work Package

Work package number <sup>53</sup>	WP1	Type of activity <sup>54</sup>	MGT
Work package title	Project Management and Coordination		
Start month	1		
End month	48		
Lead beneficiary number <sup>55</sup>	1		

## Objectives

The overall objective of WP1 is the coordination of the project and the consortium, applying best management practices ensuring correct positioning of the project (and radioecology) within the emerging radiation protection platforms as we move towards Horizon 2020.

This includes:

- All legal, contractual and administrative issues before and during the project
- Communication with the Commission and external bodies
- Financial management of the project
- In collaboration with OPERRA, streamlined organisation and administration related with Competitive Call to strengthen the pan-European research in the field of radioecology based on the mechanism defined in WP2 and the priorities set in WP3-WP4, and in collaboration with the Scientific Committee and Management Board
- Setting up and supporting the project management structure
- The assessment of project progress and quality, controlling project outcome and impact

## Description of work and role of partners

Task 1.1 Legal, contractual and administrative management (Lead: SCK•CEN)

The aim of this task is to keep up-to-date the EC Grant Agreement (ECGA), the Consortium Agreement (CA) and to deal with all other legal issues during the project, including Intellectual Property Rights (IPR). The coordinator will handle the pre- and post-processing tasks of the full consortium meetings organised within the project and will be responsible for adequate document management during and after the project. Task 1.1 also covers the official reporting to the Commission, including the Periodic Reporting, submission of the Deliverables and all issues that need to be communicated or discussed with the Commission. To ensure uniformity, templates (for reports, presentations, letters, etc.) will be provided to the partners.

To allow for an integrated approach to project and programme management, a streamlined and standardised reporting system will be designed. Relevant project data and reports will be uploaded in a web-based tool (see WP5) to simplify the reporting exercise. To ensure uniformity, templates (for reports, presentations, letters, etc.) will be provided to the partners.

Task 1.2. Financial management and association of Competitive call projects within COMET (Lead: SCK•CEN)

This task covers the monitoring and management of the financial situation of the project and partner budgets (Periodic financial reporting to EC: months 18, 36, 48; internal financial reporting: months 12 and 24). It also covers the preparation of the financial part of the periodic reporting (including controlling the correctness and compliance of the partners' contribution, with respect to the Grant Agreement and Annex I). To ensure uniformity, partner specific financial templates will be made.

COMET foresees funds that will be allocated to a Competitive Call (B2.4). To strengthen pan-European research in the field of radioecology a Competitive Call (covering two topics) will be organised in collaboration with OPERRA and selected projects will be administratively handled in WP1, in consultation with the Management Board and the joint COMET/ALLIANCE Steering/Scientific Committee based on the mechanisms of joint programming and implementation developed under WP2 and applied by WP3 and WP4 to prioritise a multidisciplinary and integrative RTD call. Preliminary criteria for a Competitive Call and the decision and review processes, performed in collaboration with OPERRA are presented in B.2.1.

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## Task 1.3. Management of the project consortium and bodies (Lead: SCK•CEN)

The coordinator will lead the consortium with the greatest care to optimise the outcome of the project, supported by the management structure defined in Part B.2.1. The different management bodies (Executive Committee, Management Board and a joint COMET/ALLIANCE Steering/Scientific Committee) will be set up and appropriate internal terms of reference established. The joint COMET/ALLIANCE Steering/Scientific Committee will include key representatives of the NERIS and MELODI associations and the projects PREPARE and OPERRA. The Management Board and Steering Committee will be invited to the annual meetings.

In addition, the coordinator will ensure adequate interaction with FP7 STAR so that maximal complementarity is achieved, thereby avoiding any redundancy. Where possible the planned meetings will be organised jointly. The coordinator will further ensure that cross-cutting objectives to enable a broader and more effective implementation of the European Research Area in the field of Radiation Protection are met.

## Task 1.4. Project assessment and adjustment (Lead: SCK•CEN)

The project progress will be measured against the Gantt Chart, deliverables, milestones, key steps and performance indicators (see B1.3.2, B2.1.1, Annex 1, A1.8.2, A1.8.4) enabling the Coordinator in collaboration with the management bodies to compare the qualitative outcome of the project with the expectations and adjust the project's course to success if required.

During the project life-time there are likely to be occasions where contingency plans are needed. The contractors will notify the co-ordinator and Management Board without delay on any major changes concerning unexpected difficulties in the work, the availability of infrastructures, the departure of key personnel or any condition that could jeopardize the schedule or content of the project workplan. Alternative arrangements will be actively searched for by co-ordinator and Management Board.

### Person-Months per Participant

Participant number <sup>10</sup>	Participant short name <sup>11</sup>	Person-months per participant
1	SCK•CEN	20.00
2	STUK	1.50
3	NRPA	1.50
4	IRSN	1.50
5	NERC	1.50
6	CIEMAT	0.50
7	SU	0.50
8	BFS	0.50
9	UMB	0.50
10	GIG	0.50
11	Chornobyl Center	0.50
12	NUBIP	0.50
13	Fukushima University	0.50
Total		30.00

### List of deliverables

Deliverable Number <sup>61</sup>	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemination level <sup>63</sup>	Delivery date <sup>64</sup>
D1.1	Periodic Report	1	6.00	R	RE	18

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## List of deliverables

Deliverable Number <sup>61</sup>	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemination level <sup>63</sup>	Delivery date <sup>64</sup>
D1.2	Flex Funds Report and amended workplan	1	1.00	R	RE	21
D1.3	Periodic Report	1	6.00	R	RE	36
D1.4	Flex Funds Report	1	1.00	R	RE	48
D1.5	100 page Project Report	1	14.00	R	RE	48
D1.6	20 page Summary Report	1	1.00	R	RE	48
D1.7	5 page Summary Report	1	1.00	R	RE	48
		Total	30.00			

## Description of deliverables

D1.1) Periodic Report: Document as foreseen in Art. 4 of the Grant Agreement, including a publishable summary, the project objectives, progress and achievements, the project management and the financial statement of the first 18 months. [month 18]

D1.2) Flex Funds Report and amended workplan: This report describes the use of the flexibility funding foreseen in COMET: general plans, procedures and amended work plan [month 21]

D1.3) Periodic Report: Document as foreseen in Art. 4 of the Grant Agreement, including a publishable summary, the project objectives, progress and achievements, the project management and the financial statement for the second periodic reporting. [month 36]

D1.4) Flex Funds Report: This report describes the actual use of the flexibility funding foreseen in COMET [month 48]

D1.5) 100 page Project Report: Description of the main project results, the potential impact (including socio-economic impact of the project) and the main dissemination activities [month 48]

D1.6) 20 page Summary Report: A summary description of project context and objectives and major results and achievements [month 48]

D1.7) 5 page Summary Report: Executive summary of the COMET project [month 48]

## Schedule of relevant Milestones

Milestone number <sup>59</sup>	Milestone name	Lead beneficiary number	Delivery date from Annex I <sup>60</sup>	Comments
MS11	Kick-off meeting	1	1	Minutes of the kickoff meeting
MS12	Amended grant agreement with EC and new partners	1	15	Amendments to GA
MS13	Amended consortium agreement between "old" and "new" COMET partners	1	16	Amendments to CA

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## One form per Work Package

Work package number <sup>53</sup>	WP2	Type of activity <sup>54</sup>	COORD
Work package title	Joint Programming and Implementation – Expanding Alliance		
Start month	1		
End month	48		
Lead beneficiary number <sup>55</sup>	2		

## Objectives

The overall objective of this work package is to build upon the foundations laid by the FP7 STAR NoE and the European Radioecological Alliance (ALLIANCE) to strengthen the pan-European research initiative on the impact of radiation on environment and man. To achieve this objective we will:

- Further develop the strategic research agenda (SRA) created under STAR/ALLIANCE in light of advances in knowledge, identification of new priority needs and to better align it with the SRAs of other radiation protection platforms.
- Develop innovative mechanisms for joint programming and implementation of radioecological research in close collaboration with the ALLIANCE and the platforms of allied fields such as emergency management (NERIS) and low dose research (MELODI). These mechanisms should progress to be consistent with the mechanisms developed within OPERRA for the Radiation Protection Federating Association.
- Identify and integrate national radioecology programmes to create a framework for future research activities in close collaboration with the OPERRA and PREPARE projects.

## Description of work and role of partners

### Task 2.1. Evolving towards a pan-European network (Lead: STUK)

The focus is on the elaboration of a European joint programming instrument and organising the radioecological research in Europe by optimising the operating mode of the ALLIANCE association, consistently with the other platforms governance. The scope and role of the ALLIANCE with respect to the functioning of the future federating association will be clarified and strengthened. Stakeholders' views on the role of the ALLIANCE can be gathered, e.g. via seminars bringing together representatives of research organisations, universities, national competent authorities, stakeholders, Eastern European, Associate and Third Countries, international interest organisations (IUR, IAEA, ICRP, UNSCEAR) as well as other platforms (NCoRe). The participation of new member states in the ALLIANCE will be enhanced, thereby supporting a more broad and effective implementation of the European Research Area in the field of nuclear fission and exploiting the full potential of institutes, universities and other organisations in these countries as regards their infrastructure, human resources and overall competences. The progress made under the FP7 project OPERRA to enhance integration of new Member States will also be followed closely to avoid overlapping work. In addition to Europe, the connections to and collaboration with relevant networks or organisations outside Europe (e.g. in Japan, US and Canada) will be enhanced. The connections to the existing platforms/networks (MELODI, NERIS, EURADOS and perhaps others) as well as OPERRA will be enhanced to proceed together towards a single umbrella network in the field of radiation protection, radioecology being one of the cornerstones. By the end of COMET, the results of the joint activities carried out under WP3 and 4 will be evaluated and a final workshop will be held together with the ALLIANCE-NERIS- MELODI and PREPARE and OPERRA to integrate the new knowledge to give recommendations for future research lines of the Horizon 2020 programme.

### Task 2.2. Developing mechanisms for joint programming and implementation (Lead: SCK•CEN with IRSN)

The objective of this task is (1) to work together with OPERRA to develop innovative mechanisms of joint programming and implementation by establishing criteria and processes for prioritisation of programming research and applying them under COMET specifically to the Radioecology research arena and (2) to set up sustainable implementation processes jointly with the ALLIANCE and in close interaction with the broader Radiation Protection arena represented by OPERRA. The task will include development of criteria to prioritize research areas, writing a first phase implementation planbasis for the Competitive Call topic area and

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description, selecting the projects identified and developing an overall integrated research implementation plan. This work includes prioritising among the key topics/areas identified in the SRA based on a set of criteria that will be established in close interaction with OPERRA. A workshop will be organized following the integration of the Paris STAR/ALLIANCE SRA workshop comments in the STAR/ALLIANCE SRA to which the ALLIANCE, NERIS, MELODI and OPERRA and PREPARE will be invited. Criteria for topic prioritisation will be discussed, research priorities defined and an initial ALLIANCE RTD roadmap will be developed and presented to OPERRA for presentation to the Gobetween Administrator Operator (GAO). This ALLIANCE RTD roadmap will form the basis for the writing of the COMET Call topics by the Independent Board of Experts (see B2.3.2). The COMET Management Board and Steering Committee will select COMET related projects based on the ranking provided by the expert panel and the budget will be assigned and the GA amended.

The initial ALLIANCE RTD-roadmap will evolve, reflecting SRA developments and the contribution potential from laboratories across Europe and beyond.

Together with OPERRA, COMET will work towards criteria and mechanisms for joint programming and implementation. The proposed mechanisms for joint programming are common for radiation protection research, of which radioecology is a cornerstone. Based on these common mechanisms, COMET will develop a specific joint programming and implementation plan for the radioecological research area (through interaction with the radiation protection research communities). The emphasis needs to be put on sustainability of the proposed work after projects such as STAR, COMET and OPERRA. Following interaction at workshops and sister networks, and the advancement of science, a need to update the SRA may arise. Thus, the task will also include updating the SRA, initiated by the FP7 project STAR, in close collaboration with the ALLIANCE.

**Task 2.3. Infrastructures – evolving from STAR to the ALLIANCE (Lead: CIEMAT with CEH and NUBIP)**

The focus of this task is to assure the smooth evolvement from STAR&COMET to ALLIANCE. This will be achieved by ensuring adequate exchange of information, databases, relevant content and links in websites etc. between STAR, COMET and ALLIANCE in the overlapping period and to draft procedures for accessing the large infrastructures (including collaboration at the Radioecological Observatories). Under STAR, catalogues of databases and sample banks as well as information on analysis methods and facilities are being created. These catalogues and databases will be updated with the information obtained from the new COMET and ALLIANCE partners. At the end of COMET, the ALLIANCE will maintain the databases.

An overview on large infrastructures important for radioecological research within Europe and beyond will be formed. This will be done in close collaboration with the ALLIANCE and it will build on the work accomplished under STAR. The work includes searching for information on conditions of access to the large facilities and finding the best solutions for the optimal use of the facilities and identification of requirements for new infrastructure and its optimal localization. Some infrastructures are of importance to COMET and OPERRA and for defining optimal use, close collaboration is foreseen.

A prominent task of the FP7 project STAR is the creation of Observatories for Radioecological Research. Two contaminated field sites namely areas near Chernobyl and a previous mining and processing site in Poland have been selected as the most promising options as Radioecological Observatories. In addition to these sites, a process of establishing an observatory in the Fukushima area in Japan will be commenced. A draft for mechanisms and procedures to conduct joint research at the Radioecological Observatories by the pan-European research community as well as other large infrastructures and to prioritise the research carried out in these facilities/observatories will be formulated. The results of the work will be utilised in developing the joint Radiation Protection Federating Association.

**Task 2.4. Co-ordination with national programmes (Lead: STUK with CIEMAT and GIG-SCRS)**

The aim of this task is to get an overview of national programmes, funding schemes and requirements for radioecological research in Europe and begin the integration of national radioecology programmes to create a common framework for future research activities in collaboration with the FP7 project OPERRA. Joint research areas in radioecology in Europe will be identified utilizing the information collected under FP7 project STAR. The STAR inventory will be updated on publicly and, if possible, privately funded radioecological research projects in recent years, including funding information on agencies and funding schemes. The list of projects will be evaluated and compared to the SRA. This will give a first overview as to what extent nationally funded projects could assist in reaching the overall goals of SRA at the European level. The national funding bodies will be encouraged to take into account the research lines indicated in the SRA. A long-term plan towards integration of the national radioecology programmes to create a framework for future research activities will be created. The plan will be utilised in developing the joint Radiation Protection Research platform.

**Task 2.5. Co-ordination with training and educational platforms (Lead: UMB with SU)**

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The main focus of this task is to maintain the platform established under STAR and to further sustain and develop competence within radioecology, in collaboration with particularly the CINCH II, DoReMi/Melodi and ENETRAP II platforms. The task will implement training and educational solutions that will encourage the streamlining of the European education system in respect to the provision of radioecology and allied discipline courses at post-graduate level, and will encourage the move towards the creation of a standardized certification system for postgraduate qualifications throughout the EU. This, in turn, will enable the identification, by employers, of personnel with the specific skills that meet their needs. This will maximize the use of disparate existing resources through the sharing of personnel and facilities. The project will reduce the duplication of expensive course modules and encourage optimisation of resources (human resources, tools, investments). It will also encourage collaboration and increased utilisation of joint resources with other training and education providers such as IAEA and ENEN.

## Person-Months per Participant

Participant number <sup>10</sup>	Participant short name <sup>11</sup>	Person-months per participant
1	SCK•CEN	9.00
2	STUK	13.00
3	NRPA	3.00
4	IRSN	7.00
5	NERC	8.00
6	CIEMAT	9.00
7	SU	6.50
8	BFS	4.00
9	UMB	7.00
10	GIG	12.00
11	Chornobyl Center	11.00
12	NUBIP	11.00
13	Fukushima University	6.00
Total		106.50

## List of deliverables

Deliverable Number <sup>61</sup>	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemination level <sup>63</sup>	Delivery date <sup>64</sup>
D2.1	First phase ALLIANCE RTD implementation plan as input for the preparation of the Competitive Call organised in collaboration with OPERRA	1	4.00	R	RE	6
D2.2	Description of the protocols for access and mechanisms for research prioritization and assignment for the Radioecological Observatories as well as other large infrastructures	6	14.00	R	RE	24



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## List of deliverables

Deliverable Number <sup>61</sup>	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemination level <sup>63</sup>	Delivery date <sup>64</sup>
D2.3	Inventory on national research projects related to radioecology - description of national programmes, funding schemes and requirements for radioecological research in Europe	2	24.00	R	RE	42
D2.4	Updated version of the SRA	1	12.00	R	RE	48
D2.5	Report on developed innovative mechanisms for joint programming and implementation for future research in radioecology	1	24.00	R	PU	48
D2.6	Description of training and education coordinated platform	9	14.50	R	PU	48
D2.7	Blueprint of ALLIANCE functioning and interaction mechanisms: internally and with the outside world	2	14.00	R	PU	48
Total			106.50			

## Description of deliverables

D2.1) First phase ALLIANCE RTD implementation plan as input for the preparation of the Competitive Call organised in collaboration with OPERRA: First phase ALLIANCE RTD implementation plan as input for the preparation of the Competitive Call organised in collaboration with OPERRA [month 6]

D2.2) Description of the protocols for access and mechanisms for research prioritization and assignment for the Radioecological Observatories as well as other large infrastructures: Description of the protocols for access and mechanisms for research prioritization and assignment for the Radioecological Observatories as well as other large infrastructures including information on applying and selection of the research projects to be conducted as well as internal rules for carrying out joint research. [month 24]

D2.3) Inventory on national research projects related to radioecology - description of national programmes, funding schemes and requirements for radioecological research in Europe: Inventory on national research projects related to radioecology – Description of national programmes, funding schemes and requirements for radioecological research in Europe giving a first overview on to what extent nationally funded project could assist in reaching the overall goals of SRA on the European level. [month 42]

D2.4) Updated version of the SRA: Updated version of the SRA – The Strategic Research Agenda (SRA), which has been created within STAR project and provides a long term vision of radioecological research needed within EC, will be updated to take into account the needs arising via interactions with stakeholders, sister networks as well as the scientific community. [month 48]

D2.5) Report on developed innovative mechanisms for joint programming and implementation for future research in radioecology: Report on innovative mechanisms for joint programming and implementation for future research in radioecology – Description of the mechanisms for joint programming and implementation developed during the project including development of mechanisms to prioritize research areas, identifying the Competitive Call topics, setting up an evaluation process, selecting projects and developing an overall integrated research implementation plan. [month 48]

D2.6) Description of training and education coordinated platform: Description of the training and education coordinated platform with information on all relevant COMET course modules and course modules available at other collaborative platforms that can be utilized for professionals and ordinary student recruitment [month 48]

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D2.7) Blueprint of ALLIANCE functioning and interaction mechanisms: internally and with the outside world: Blueprint of ALLIANCE functioning and interaction mechanisms –Description of the outline for functioning and interaction mechanisms of the STAR ALLIANCE developed during the project. Interaction mechanisms include both internal interaction and interaction with research organisations, universities, national competent authorities, stakeholders, international interest organisations as well as other platforms. [month 48]

## Schedule of relevant Milestones

Milestone number <sup>59</sup>	Milestone name	Lead beneficiary number	Delivery date from Annex I <sup>60</sup>	Comments
MS21	Workshop NERIS-ALLIANCE/STAR-MELODI and OPERRA to prioritize topics for organising a Compet. Call	1	5	Workshop programme and list of participants
MS22	Initial COMET RTD roadmap	1	6	Meeting agenda and roadmap
MS23	Competitive Call launched by OPERRA	1	7	Call text published
MS24	Selection of competitive research projects by MB + SC	1	12	Invitation letters to selected projects
MS25	Explore submission of a radioecology MSc application to Erasmus Mundus	9	24	Decide submission of application
MS26	Evaluation of the joint research work carried out under WP3 and 4	1	46	Evaluation report
MS27	ALLIANCE-NERIS-MELODI workshop to integrate new knowledge and recommendations to Horizon 2020	1	48	Workshop programme and list of participants



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## One form per Work Package

Work package number <sup>53</sup>	WP3	Type of activity <sup>54</sup>	RTD
Work package title	Improving and validating radioecological models		
Start month	1		
End month	48		
Lead beneficiary number <sup>55</sup>	3		

## Objectives

The overall objectives of WP3 are to

- Strengthen pan-European links between the radioecology and the emergency and post-accident communities.
- Undertake joint research activities to improve and validate radioecological models of interest to both communities for a better protection of humans and the environment in existing, planned and emergency exposure situations.

## Description of work and role of partners

### Task 3.1 Initial Research Activity (Lead: UMB with NUBIP)

Most of the environmental models currently used in radiological risk assessment assume that equilibrium conditions are valid and that representative radionuclide-specific parameters such as Kd, TF, TC, BCF, etc. can be described by equilibrium constants. This is usually adequate for continuous constant release situations, but it is not appropriate for accident situations, rapid pulsed releases or contamination caused by enhanced natural radioactivity exhibiting non-linearity in transfer. Neither is it appropriate if the radionuclide speciation changes over time (e.g. due to particle weathering), or if environmental and ecological factors (e.g. changes in temperature and biomass) or sequential decay (e.g. for NORM) lead to non-equilibrium conditions in the environment. For such situations, a dynamic, process-oriented modelling approach with proper time and space dependent transfer parameters are required to estimate consequences within acceptable uncertainties. Following interaction with the NERIS platform and the coordinator of the EC project PREPARE (started 1/2/2013), it is clear that joint areas of interest include:

- (1) obtaining better parameter values for Decision Support Systems for emergency situations; and
- (2) comparing the performance and robustness of model predictions for short and medium/long term after an accident between existing modelling tools and the next generation dynamic models.

An initial research activity will be performed focusing on improved parameterisation of key processes controlling the transfer of radionuclides, with a specific focus on dynamic modelling approaches.

Through review of previous (VAMP, BIOMASS, EMRAS, etc.) and ongoing (MODARIA, UNSCEAR, etc.) work and models, and in close connection with the STAR and PREPARE consortiums, the most important parameters will be identified and evaluated with respect to the available information. Based on this evaluation, radionuclides, processes and parameters for further study will be selected. The work will be divided considering both the initial phase and the medium/long term after accidental release since both the relevant radionuclides and parameters vary with time.

As COMET progresses it may be possible to test the applicability of these dynamic parameters to the post-Fukushima situation in Japan. Both the Chernobyl Observatory Site and the foreseen Fukushima field study site would be very useful in this work which strongly relates to emergency and post-accident management. The STAR observatory in Upper Silesia, Poland offers the opportunity to consider pulsed Ra discharges to the terrestrial and freshwater environments and will be used to investigate how important parameters could be characterized for dynamic modelling relevant to environmental management of the many NORM industries. Statistical analyses of data arising from the Observatory Sites, literature information, and expert knowledge will benefit for the most advanced probabilistic methods, including Bayesian statistics. Advanced statistics will be useful especially when empirical data are either absent or scarce, and/or when the number of parameters in the considered models becomes increasingly large.

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Task 3.2 Identification of common research needs for the radioecology and the emergency and post-accident communities (Lead: NRPA with STUK)

This task will critically review the SRA of the ALLIANCE in parallel with that of NERIS to further identify the most important common research topics for radioecology (including NORM) and emergency and post-accident management. A workshop will be arranged early in the project period, following the finalisation of the SRA on radioecology in STAR, to explore more in detail the research needed to improve existing predictive models and evaluate the modelling needs of environmental protection in an emergency preparedness context. The outcomes of the workshop will form the basis for a Competitive Call (under WP2) organised in collaboration with OPERRA for a research projects that would target the priority research issues.

Task 3.3 Innovative research execution (Lead: SU with CIEMAT and SCK)

The research activities selected under the Competitive Call will be implemented in this task after formal approval by the EC. The work plan and the grant agreement will be modified before starting the new research. Proposals that include research or validation of results at the foreseen STAR/COMET Observatory/Field Sites (Chernobyl, Upper Silesia, Fukushima) will be of particular interest. The task leaders will oversee the delivery of the funded projects, and the final dissemination as part of Task 3.4.

Task 3.4 Integration, validation and implementation of RTD results (Lead: BfS with GIG-SCRS )

A workshop will be held at the end of COMET to encourage integration of the new knowledge in both the radioecological, NORM and emergency and post-accident communities. The research conducted in Task 3.1 and 3.3 is expected to improve the modelling capability of the radiation protection community. Intercomparison between existing and new modelling approaches will be performed. Where relevant, the improved modelling approaches will be validated using Observatory/Field Sites. Where appropriate we will work with the IAEA MODARIA programme to maximise impact.

## Person-Months per Participant

Participant number <sup>10</sup>	Participant short name <sup>11</sup>	Person-months per participant
1	SCK•CEN	3.00
2	STUK	4.50
3	NRPA	11.50
4	IRSN	6.00
5	NERC	5.50
6	CIEMAT	4.00
7	SU	5.50
8	BFS	3.00
9	UMB	9.00
10	GIG	8.50
11	Chornobyl Center	6.00
12	NUBIP	9.00
13	Fukushima University	5.00
	Total	80.50