WP3 - **Training**

Work package number	**3**		**Start Date or Starting Event**	**Month 1**
Work package title	**Training**			
Participant number	1	2	3	4
Short name of participant	UPB	UNIMIB	FOKUS	**UNESCO-IHE**
Person/months per participant:	10,5	4	6,5	5,5

Objectives
The aim of this work-package is to organize trainings on topics related to excellence in research, that will be attended by target groups of the UPB.

Description of work

The lead partner for the work package is UNESCO-IHE, that will ensure a broad inter- and trans-disciplinary approach. The internationally leading partners will participate in trainings, according to their specializations.

For enhancing the knowledge level of the researchers to the highest level in the research field, short trainings, summer schools and PhD & post-doc short trainings at partners will be organized. The "Knowledge lake" (Task 5.1) will be also used for educational purposes, based on the published research results and knowledge content.
Training activities are organized for young researchers (Master and PhD students), for experienced researcher, as well as for people from industry/administration/scientific organizations. These can participate, both as learner or trainer, thus keeping the research group in direct contact with potential users of the research results and/or potential partners.

T 3.1 Short-term trainings (M6-M31)

Establish detailed plan and organization of short term trainings. Two training periods/year are foreseen. Trainings organized in this task address both to experienced researchers and to young scientists, at the beginning of their scientific carrier. The trainings fall into three big categories:

1. topics on specific research topics in the field of ICT that are relevant for the research field of value added data based e-services for water resource management:
-   value added data services,
-   smart and open data
-   smart data models
-   interoperability of platforms, services and data
-   IoT solutions
-   Decision Support Systems

2. trainings on specific research topics in the field of SDWM, presented by experienced experts. In order to optimize the project resources, the trainings will be organized in conjunction with other scientific event, like workshops, conferences, exchanges of experts. These are mainly addressed to young scientists, master and PhD students and post-doc researchers. The topics will include, but are not restricted to:
-   topics related to Water Resources Modelling in support of Management (i.e Flood modelling, Water Distribution Modelling, Optimisation, Reservoir operation, Computational Intelligence for Water Resources, etc.)
-   specific regulations related to water management in Europe/on national level (Water Directives, INSPIRE, etc.)

3. topics related to generally increasing professionalism in research, that are addressed both to experienced and young researchers
- intellectual property issues,
- technical writing and technical communication,
- proposal writing,
- patenting process.
- standardization

The trainings will be open mainly to UPB staff and/or master or PhD students, involved in research activities and to staff and students from the other partners in the project.
The activities in this task will ensure that the young researchers have the basic required level of knowledge in the research field.

T 3.2 Summer schools (M6-M36)
The aim of summer schools is to provide researchers the competence to solve problems in the field of Smart Data for Water Resources Management. The participants will get theoretical input on research topics and will be assisted to solve specific problems, in small teams. At the end of the summer school, the participants will present their solutions. During the project, 3 summers schools will be organized. One summer school will include a competition for developing the best concept for a solution to a problem of management of a critical situation related to use of water resources.
Topics covered by the summer schools will include:
- IT solutions in water management
    - Modelling water flow processes
    - Defining added value data services
    - Modelling community/organizational/human reaction related to (water) resources management
    - Integration and interoperability of smart services
    - Decision Support Systems
- Open data
    - Portal, Pan European Portal
    - Data Formats / CKAN
    - Metadata
    - Semantic technologies
    - Public IT, Open Government
- Public Safety
    - Critical infrastructures
- Data analytics
    - Smart environment
    - Smart cities
    - IoT
    - Water management
- ICT infrastructures
    - Cloud infrastructure
    - Smart communication

To enhance the creative abilities of the participants, competitions will be organized within the summer schools. The winners will be awarded with access to scientific products or events. The organizational details will be set up for each workshop, by the organizing team.

T 3.3 PhD short-term on-site training (M5-M28)

PhD students and post-doc researchers will be encouraged to participate to a short-term training at the partners to understand the specificity of PhD studies and/or research work, to connect to other researchers. The partners will also check the possibility to organize PhD studies in co-tutoring. The future PhD students will be selected through a competition. The selected PhD students can further apply for Erasmus scholarships for a longer PhD stage.

The detailed plan will be decided during the project, according to the specific PhD regulation of each partner. The activities in this task will enhance the PhD students' activity and will ensure the research staff continuity within the UPB.

All training materials developed for the scheduled trainings will provided by the lecturers will be made available in electronic format, and will be posted on the Knowledge lake.

Deliverables (brief description and month of delivery)

D 3.1 A training needs assessment report based on a training needs survey at UPB. *[Month 5]*
D 3.2 Short Status report on training courses and summer schools *[Month 34]*