EU Framework Program for Research and Innovation (WATER-4a-2014 - H2020)

Project Nr: 641821

Applying European market leadership to river basin networks and spreading of innovation on water ICT models, tools and data.

Deliverable D 7.3
E-learning platform

Version 1.1

Due date of deliverable: 31/12/2016
Actual submission date: 16/01/2017
<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>D7.3 E-learning platform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creator</strong></td>
<td>RB</td>
</tr>
<tr>
<td><strong>Editors</strong></td>
<td>RB</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>This deliverable collects all information regarding the E-learning platform.</td>
</tr>
<tr>
<td><strong>Publisher</strong></td>
<td>WaterInnEU Consortium</td>
</tr>
<tr>
<td><strong>Contributors</strong></td>
<td>WaterInnEU Partners</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Text</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>MS-Word</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>EN-GB</td>
</tr>
<tr>
<td><strong>Creation date</strong></td>
<td>08/05/2016</td>
</tr>
<tr>
<td><strong>Version number</strong></td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Version date</strong></td>
<td>13/01/2017</td>
</tr>
<tr>
<td><strong>Last modified by</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rights</strong></td>
<td>Copyright © 2016, WaterInnEU Consortium</td>
</tr>
</tbody>
</table>

**Dissemination level**

- CO (confidential, only for members of the consortium)
- X PU (public)
- PP (restricted to other programme participants)
- RE (restricted to a group specified by the consortium)

When restricted, access granted to:

**Nature**

- R (report)
- P (prototype)
- D (demonstrator)
- X O (other)

**Review status**

<table>
<thead>
<tr>
<th>Draft</th>
<th>Where applicable:</th>
</tr>
</thead>
<tbody>
<tr>
<td>X WP leader accepted</td>
<td>Accepted by the PTB</td>
</tr>
<tr>
<td>PMB quality controlled</td>
<td>Accepted by the PTB as public document</td>
</tr>
<tr>
<td>X Coordinator accepted</td>
<td></td>
</tr>
</tbody>
</table>

**Action requested**

- to be revised by all WaterInnEU partners
- for approval of the WP leader
- for approval of the PMB
- for approval of the Project Coordinator
- for approval of the PTB

**Requested deadline**


Revision history

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Modified by</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>13/01/2017</td>
<td>RB</td>
<td>Draft</td>
</tr>
<tr>
<td>1.1</td>
<td>13/01/2017</td>
<td>LP_CREAF</td>
<td>Last updates and final revision</td>
</tr>
</tbody>
</table>

Copyright © 2016, WaterInnEU Consortium

The WaterInnEU Consortium grants third parties the right to use and distribute all or parts of this document, provided that the WaterInnEU project and the document are properly referenced.

THIS DOCUMENT IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS DOCUMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Table of Contents

1. Introduction.................................................................................................................................5

2. Task 7.2 E-learning structure ......................................................................................................6
   2.1. Design process.......................................................................................................................6
   2.2. Recommendations for implementation into the Marketplace..............................................6
   2.3. The e-learning module ..........................................................................................................7

3. ANNEXE 1: List of functionalities – short overview ...............................................................11
1. Introduction

According to the DOW this work package has to deal with the creation of multimedia products, tutorials and participative e-learning platforms and the development of activities aimed to facilitate and increase the use of the marketplace.

It will also consider the possibility to conduct competitions and youth involvement measures.

The specific objectives of this WP are:

- To promote multi-directional learning among the project partners, entities and actors.
- To raise awareness and promote a bottom-up approach within the business community and market actors for identifying opportunities and supporting their implementation processes.
- To improve the interactions between the user and practitioner community, the society and ICT business WaterInnEU and market community.

The WP includes 5 different tasks and 3 deliverables. The planning is the following:

| Task | WP | WP Title | Task | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Start | End |
| 7 1  |    | Raw materials production |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7 2  |    | Multimedia products      |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7 3  |    | Tutorials                |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7 4  |    | Skills exchange and mentoring | |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7 5  |    | Competitions and youth involvement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

This report concern the description of the deliverable “D 7.3 E-learning platform” to be submitted at month 18th.

This deliverable describes the way the e-learning platform was structured and developed. This deliverable in then constituted by this report and by the e-learning platform software.
2. Task 7.2 E-learning structure

2.1. Design process

As mentioned in the WP7 description, Open Educational Resources (OER) were analysed in order to design the e-learning material for WaterInnEU. For this last activity different platform were analysed and the reference selected was Coursera.org. Coursera is an educational technology company that offers massive open online courses, and it is probably the biggest and fastest growing company offering these services in an innovative way. Coursera offers all its courses "accessible for free" some courses have the option to pay a fee to join the "Signature Track". It is structure in a very simple and clean way mostly based on short e-learning, which provide videos with supporting materials for participants that intend to have a deeper understanding of the different subjects.

The features selected for the WaterInnEU eLearning platform and its design were presented and discussed with the consortium in several meetings including January 2016 in Berlin and monthly teleconferences. In addition, some choices about the level of integration with the Marketplace platform were made. The results are presented in the following paragraphs.

2.2. Recommendations for implementation into the Marketplace

Different level of integration with the Marketplace platform were analysed. The options proposed to the consortium were the following:

- Two platforms
- Hybrid solution: iframe + users shared
- Full integration as Drupal module

The initial design of the WP was thought in order to have an independent platform based on an existing software (WordPress). The second option analysed with the consortium was to have a light integration, meaning to implement the platform as foreseen in first option but using an iFrame, so that the difference between the two platforms should have been transparent for users. The third option foresaw a total integration, also technological, between the Marketplace platform and the e-learning platform. This, in agreement with the consortium, was the choice taken. This choice implied a reshuffling of the resources internally in Randbee in order to be able to develop the e-learning module, and re-directing
more resources to the IT development from the tutorials and courses development. The e-learning module is under development in the same technology used for the Marketplace platform, Drupal, its final version is foreseen for month 24, but draft version will be issued before in order to have feedback from consortium, partners and to proceed with the testing and bugs fixing.

2.3. The e-learning module

As mentioned the e-learning module will be developed in full integration with the marketplace platform as a Drupal module through the following phases:

1. Independent development of the e-learning module
2. Testing and bug fixing in a clean environment
3. Integration of the tested module in the marketplace platform
4. Compatibilities testing
5. Testing and bug fixing

The identified objectives for the e-learning module are the following:

- Supporting the third parties providers:
  - giving them the possibility of creating e-learning courses to promote their products
  - Understanding market opportunities
  - Market introduction
- Supporting users
  - Project planning
  - Identifies products and opportunities

These initial objectives have been then integrated in the overall service offering designed by the consortium for the marketplace (WP4).

Based on these objectives and on the analysis exposed in previous paragraphs a list of draft functionalities have been identified. In the following report (month 24) the definitive list of functionalities will be presented.

The e-learning section of the platform will be organised in different section as presented in the following figures.
Figure 1: the draft mock-up of the **main page** with the explanation of the course selected

Refran-CV was developed by the Joint Research Centre (JRC) of the European Commission (Italy), CIVIKS (Czech Republic), UNAM-IDEA (Mexico), and INGMET (Cuba), in the context of the EUROCLIMA-WATER and RALCEA projects.

About the Course

The Refran-CV software allows processing time series of data from ground meteorological stations (precipitation data), in order to generate spatially-explicit products (return period maps) based on the L-moments statistics. This tool and the associated products at local and regional scale can be used in the development planning process and, concretely, to prepare investment in multi-purpose (irrigation, flood and drought prevention, environment protection) hydraulic infrastructure.

Figure 2: the draft mock-up of the **lectures** list page

- **Lecture 1**: Introduction
  - Welcome (7 mins)
  - Overview (8 mins)

- **Lecture 2**: Theoretical Part of Refran-CV
  - L-moment statistics
  - Identification of Homogeneous Regions
  - L-moment ratio diagrams
  - Example of the Regional Frequency Analysis with the NOAA Dataset across Africa

- **Lecture 3:**
Figure 3: the draft mock-up of the references page for the lectures to analyse in deep the product including some theoretical background.

Figure 4: the draft mock-up of the product reference page
Figure 5: the users could also receive a “state of accomplishment”

The final version of the e-learning platform can be found at: https://marketplace.waterinneu.org/en/e-learning. This e-learning platform provides the following courses: AquaSurvey, GUIDOS (GIS and Classification Tool), REFRAN (Processing Time Series of Meteorological Stations Data) and WEISS (Water Emission Inventory planning Support System).
3. ANNEXE 1: List of functionalities – short overview

Functionalities for course administrators:

- Create e-learning courses as content:
  - content
  - Webform
  - Create “learning verification” content:
    - Quiz
    - Multiple Answer questions
    - Yes/No questions
    - Open Answer questions
    - Associate created question to course
    - Poll
    - Configure course access based on time or other conditions such as object start, completion, grades
- Define different credit types to learner profiles and courses
- Course Administration
  - Control enrolling into, taking, and restricting access to courses.
  - Reporting
  - Check the state of a single learner in relation to a course.
  - Certificates
  - Course comes with certificate which awards a PDF Certificate on course completion

Functionalities for final users:

- Check courses offer
- Check/give rating/comments for courses
- Enrol (signup) into a course
- Check state in relation to a course
- Take course/quiz/poll
- Answer to questions
• Receive certificate of attendance
• Facebook/linkedin/twitter sharing