

Learner-centred digital ecosystem of competence development (CompLeap)

Modified project plan 2019

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# Background

The official mid-term review of the Compleap project was held in Luxembourg on January 31st 2019 and the Technical review report SI2.488704 (ECOKT2016-1) - CompLeap, was received on Wednesday February 20th.

The contents of this modified project plan aim to address the concerns and explain the future actions based on the recommendations and requires actions from the mid-term review.

Specifically, this documents includes the following:

2) Resubmission of deliverable D8 – Project roadmap as a living document and detailing the implementation of project tasks and objectives (section 2)

Furthermore, this document references the following:

1) The deliverables to be re-submitted (section 3.1.2)

3) Additional documents concerning the development of the beta prototype due M18 (section 3.3)

4) The deliverables to be updated in the Eduuni workspace (section 3.1.2)

This document sums up the consortium´s plans for the rest of the project and identifies the changes that are needed to achieve the goals of the project. Special emphasis has been put on financial issues and planning work in WP3 and WP4. The consortium is expecting quick feedback on the plan to be able to proceed to Amendment process and start taking planned actions.

This document focuses especially on the review feedback. Therefore, Annex I as a whole is not addressed in this document, only referred to. Changes to Annex I are listed in 3.1. under WP1 Project management. The document can be seen as an attachment to the Grant Agreement after the official Amendment has been completed.

# Project road map (D8)

Deliverable 8 - Project road map is now available in a shared working area in Eduuni wiki under WP1: <https://wiki.eduuni.fi/display/csccompleap/Project+road+map>. The page provides an overview of the main areas of work in the project. In each section, there are links which lead to the pages of relevant WPs and provide more detailed information on the planned actions for the given area of work. The project road map (including the child pages that are linked to it) forms a living document meaning that it will be constantly updated throughout the rest of the project. The responsible parties for updating each section have and will be identified on the roadmap based on WP and deliverable responsibilities.

The road map is the main tool for monitoring how the work packages are progressing with their tasks and how the project is coming together as a whole. The project management committee (PMC) will follow the progress of the project based on the road map and report based on it to the steering group which will have access to the road map continuously.

While the road map is a living document which is constantly updated, this modified project plan is a summary of current plans and proposals by which the consortium is responding to the recommendations in the Technical review report. The contents of the plan are linked to the roadmap and form an integral part of it.

The picture 1 visualizes the main points of this modified project plan. The main aspects of this picture will be closer presented later in this document.



Picture 1. Main proposals and topics addressed by this modified project plan

# Modified project plan

The modified project plan first gives an overview of the planned actions for the future from the management point of view (WP1). Proposals for re-organizing the budget and their implications to the project are presented. An updated list of deliverables is also provided.

Then, the plan addresses the concerns regarding work packages 2, 3, 4 and 5. Bearing in mind that the reviewers requested more detailed plans for the rest of the project especially regarding WP2, WP3 and WP4, the consortium has emphasized them in the plan.

## 3.1 Project management (WP1)

The main project management structures and ways of working were presented in the mid-term review and those practices will continue during the second project year. Project management will make sure that project road map and this modified project plan are closely monitored during the rest of the project. The monitoring of the project progress will be updated and strengthened to make sure that the project will stay on track as planned. Key performance indicators (KPI) have been updated to the project road map and these will be closely monitored during the rest of the project. Special focus will also be put to the monitoring of financial side of the project – from March on there will be monthly reporting of the financial figures to make sure that all resources are in use as planned. Both project road map and modified project plan, will be regularly used for example in weekly webinars to make sure that the direction of the project is right. Both documents also support the steering committee in its work.

### 3.1.1. Re-organising the project budget- proposals for updated to Annex III Budget

Table 1 below sums up the plan for the re-budgeting, transfers between partners and suggestions for internal re-allocations of the resources to achieve project goals.

After the first project year and mid-term review the consortium and EDUFI as its member have succeeded in the recruitments and staffing so that only minor budget transfers (total 12 PM in EDUFI WP3 budget) need to be done. The rest of the resources have already been tied to development plans as the monthly breakdown table later in this document shows (see pages 15-18).

*Table 1. Updated project budget after transfers and internal re-allocations. The total PMs would decrease by 6 PMs due to proposed allocation to subcontracting for WP3 EDUFI*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | WP 1 (change +/-) | WP 2 | WP 3 (change +/-) | WP 4 | WP 5 | Total person months per participant |
| CSC | **14 (-4)** | 9 | 3 | **3** | **7 (+4)** | 36 |
| OPH / EDUFI | **5,5 (+1,5)** | **16**  **(-4)** | **26,5**  **(-13,5)** | **12** | **7**  **(+4)** | 67 (-12) |
| OY / UOulu | 2 | 14 | **6 (+6)** | 5 | 1,5 | 28,5 (+6) |
| JAO / Gradia | 1 | **3** | 2 | 6 | **3** | 15 |
| DUO | 1 | **2** | 0,25 | 1,75 | **5** | 10 |
| Total person/months | 23,5 (-2,5) | 44  (-4) | 37,75  (-7,5) | 27,75 | 23,5 (+8) | 156,5 (-6) |

During the first year, EDUFI under-used the budget quite significantly. However, for the second year EDUFI has now increased the amount of employees in the project team, and foresee the use of 50 person-months (PMs) within the second year. This will significantly enhance both the ability to deliver in the project as well as enhance the possibilities to exhaust the existing budget.

However, even with this much ameliorated situation, there is a risk of 12 PMs being left unused out of the total budget. In order to negotiate this situation, we offer a twofold approach:

1. Six PMs would be transferred to the University of Oulu to hire a data scientist for the development of the analytics prototype in WP3.
2. Another six PMs would be transferred to subcontracting in order to better support the development of the analytics functions as a part of WP3 development

**Proposal 1: Change of resources 6 PM for WP3 from EDUFI to University of Oulu.**

Purpose:

A technical expert in Natural Language Processing (hired for March-August) to develop functionality for analytics (Analytics prototype) together with researchers at the University of Oulu and in collaboration with Competence profile development. This work will produce an algorithm that is intended to translate the register data from the national student records database (KOSKI) and the classification of sub-competences signed to the vocational education offered by the institutions in Finland (ePerusteet) with the ESCO classification in the background. The ESCO classification of competences offers a rather mechanical language which is not so easily utilised by young students or persons with limited language command. A natural language processing solution is sought in this work, that would provide the user more natural language expressions to select competences into their competence profile. This kind of budget transfer could support the collaboration between EDUFI and UOulu and also help linking WP3 and learning analytics task force in WP2 closer together.

*Table 2. Change of resources 6 PM for WP3 from EDUFI to University of Oulu.*

|  |  |
| --- | --- |
| **Partners affected** | EDUFI, UOulu |
| **Work packages affected** | WP3 |
| **Tasks to be transferred with corresponding deliverables** | No effect on the deliverables as such. This work will be reported in the original deliverables listed in the table. |
| **Person months, type of costs and costs in EUR transferred** | Salary for 6 months: 17325 EUR (6x2887,39)  Salary with person costs (51%): 1,51\*17325= 26 160 EUR  Other direct costs (travels): 2000 EUR  Flat rate for indirect costs (7%): 26 161\*0,07 = 1831 €  Total eligible costs: 29 992 € -> 30 000 € |
| **Total EU funding transferred to from EDUFI to Uni Oulu (70%):** | 21 000 € |

**Proposal 2: Moving EDUFI PM´s to subcontracting**

As the usual practice, all software development contracts as well as service design contracts at EDUFI are subcontracted. This was not taken fully into consideration in the proposal or in Annex 1 as in these document it is stated simply that the project will outsource some of the IT development.

The amount of person months allocated to WP3 in contrast to the amount of subcontracting is not in line with other EDUFI service development project, which has also slowed down implementation. EDUFI has not had the needed expertise in-house and rather has had to outsource (as per usual) all services relating to software development including service design expertise.

EDUFI core competencies are in planning and guiding the development process. As such, we propose that and additional six PMs of EDUFI WP3 be transferred to subcontracting to be used in IT development and in securing the availability of a Data Scientist for the full development period until May.

The key tasks involved in this re-allocation is the **module 3 of the Learner Plan prototype** (Deliverable 26 Three prototypes) with analytics functions. While a very rudimentary product of this task can be achieved even without re-allocation, the additional change would significantly improve the success-rate of the module at hand.

EDUFI will conduct all subcontracting within WP3. All procurements are obtained via the National Agency for Education’s officially procured service contracts. EDUFI has strong experience in selecting and managing outsourcing relationships including understanding the risks involved. The selected IT-partner is a high-quality service provider and has an existing contract with EDUFI as well as experience with EDUFI products and services, including developing the Koski study records service. Use of this subcontracting resources is later shown in the monthly breakdown table (See p.17-19)

*Table 3. Moving EDUFI PM´s to subcontracting*

|  |  |
| --- | --- |
| **Partners affected** | EDUFI |
| **Work packages affected** | WP3 |
| **Tasks to be transferred with corresponding deliverables** | No effect on the deliverables, this work will be reported in the original deliverables listed in the table. |
| **Person months, type of costs and costs in EUR transferred** | EDUFI medium wage 4153 e x 6PM = 24 918 EUR  Salary with personnel costs 17,224 % x 24 918 = 29 209,88 EUR  Indirect costs 7% = 2 044,69 EUR  Total: 31 254,57 EUR  Total costs transferred from EDUFI PMs to subcontracting 31 254,57 € |
| **Total EU funding transferred to subcontracting (70%)** | 21 878,20 € |

**Proposal 3: Internal re-allocations (CSC and EDUFI)**

There were new tasks proposed in the review, more accurately a Europass case study. This will be done under WP5 as part of D39 (see 3.1.2 Deliverables and 3.5 WP5).

It is foreseen that some small-scale internal re-allocations between work packages are needed for each partner to fully be able to contribute on these replanned and added project tasks as described in this plan. First year of the project has also shown that some internal transfers to WP5 are needed to support the international network building. The proposal for internal transfers are detailed below for each partner.

Because of the new Europass case study (WP5) and the need for supporting WP5 work in general a bit more than originally planned, CSC will suggest to re-allocate internally 4PM from its allocation in WP1 to WP5. After this transfer there will still be enough PMs available for WP1 based on the first year figures.

EDUFI isplanning to re-allocate 4 PMs from WP2 to WP5 to encompass the case study as well as increased need for communications contributions. The substance for all communications on the prototypes needs to be contributed on by EDUFI, and as such WP5 needs additional PMs as those initially planned have already been exhausted. Additionally, as the project has required a substantial amount of management tasks for EDUFI as the largest funded consortium member, we propose to re-allocate 1,5 PMs from WP3 to WP1.

No internal re-allocations needed in other partners budgets.

### 3.1.2 Deliverables – proposal for updates to the Annex 1

Table 4 is an updated version of the deliverables table in Annex I. It reflects the changes proposed in proposal 4.

**Proposal 4: Moving the delivery date of Deliverable 22 to M23**

Since the project started in December, it means that the Deliverable No 22: Final seminar should be organised during the high summer holiday season. To avoid this unfavourable timing, the consortium suggests this deliverable to be delivered by M23. The plan is to organise the final seminar as a side event of the Skills week international event during the Finnish EU presidency. The program of this week is still under construction so the plan for the final seminar will be available in Eduuni wiki as soon as possible.

*Table 4. Updated deliverables table*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Del.  No | Title of Deliverable | WP number | Lead participant number | Type | Delivery date |
| 1 | Standard management report Q1 | WP1 | CSC (no. 1) | Report | M3 |
| 2 | Standard management report Q2 | WP1 | CSC (no. 1) | Report | M9 |
| 3 | Standard management report Q3 | WP1 | CSC (no. 1) | Report | M15 |
| 4 | Standard management report Q4 | WP1 | CSC (no. 1) | Report | M21 |
| 5 | Standard progress report P1 | WP1 | CSC (no. 1) | Report | M6 |
| 6 | Standard progress report P2 | WP1 | CSC (no. 1) | Report | M12 |
| 7 | Standard progress report P3 | WP1 | CSC (no. 1) | Report | M18 |
| 8 | Project Roadmap | WP1 | CSC (no. 1) | Document | M1-M24, **updated to Eduuni wiki as living document** |
| 9 | Project management and steering groups meetings | WP1 | CSC (no. 1) | Event, Document | M1-M24 **to be updated to Eduuni wiki as living document** |
| 10 | Midterm report | WP1 | CSC (no. 1) | Report | M12 |
| 11 | Final report | WP1 | CSC (no. 1) | Report | M24 |
| 12 | Eduuni wiki webpage | WP1 | CSC (no. 1) | Website | M1 |
| 13 | Eduuni workspace | WP1 | CSC (no. 1) | Website | M1 |
| 14 | Risk Management Plan | WP1 | CSC (no. 1) | Document | M3 - **to be re-submitted by March 14th** |
| 15 | Desk research | WP2 | OPH (no. 2) | Document | M3 - **to be re-submitted by March 14th** |
| 16 | Kick-off seminar and workshops in cooperation with WP5 | WP2 | OPH (no. 2) | Event | M5 |
| 17 | Task-force and WP2 meetings and meeting notes | WP2 | OPH (no. 2) | Event | M5 |
| 18 | Detailed description of the user scenarios with guidelines and advice for developers in WP3 | WP2 | OPH (no. 2) | Document | M6 – **to be re-submitted by March 14th** |
| 19 | Mid-term review seminar in cooperation with WP5 | WP2 | OPH (no. 2) | Event | M12 |
| 20 | Running prototypes in cooperation with WP3 | WP2 | OPH (no. 2) | Prototype | M12-M18 **– to be updated to Eduuni wiki as living document** |
| 21 | Feedback and specifications to user scenarios | WP2 | OPH (no. 2) | Prototype | M6-M18 - **– to be updated to Eduuni wiki as living document** |
| 22 | Final seminar in cooperation with WP4 and WP5 | WP2 | OPH (no. 2) | Event | **M23 – proposal for new delivery date** |
| 23 | Sustainability Plan | WP2 | OPH (no. 2) | Document | M23 |
| 24 | Open source code for all components, including example code | WP3 | OPH (no. 2) | Document | M7-M18 - **– to be updated to Eduuni wiki as living document** |
| 25 | Technical documentation, including glossary, model and architecture | WP3 | OPH (no. 2) | Document | M18 |
| 26 | Three prototypes | WP3 | OPH (no. 2) | Prototype | M10-M18 **– to be updated to Eduuni wiki as living document** |
| 27 | Pilot deployment of the architecture | WP4 | JAO (no.4) | Pilot | M17-M22 **– to be updated to Eduuni wiki as living document** |
| 28 | Pilot deployment of analytics prototype | WP4 | JAO (no.4) | Pilot | M17-M22 **– to be updated to Eduuni wiki as living document** |
| 29 | Pilot deployment of learner plan prototype | WP4 | JAO (no.4) | Pilot | M17-M22 **– to be updated to Eduuni wiki as living document** |
| 30 | Report on pilot deployment of the architecture | WP4 | JAO (no.4) | Pilot | M20-M22 **– to be updated to Eduuni wiki as living document** |
| 31 | Report on pilot deployment of analytics | WP4 | JAO (no.4) | Pilot | M20-M22 **– to be updated to Eduuni wiki as living document** |
| 32 | Report on pilot deployment of learner plan prototype | WP4 | JAO (no.4) | Pilot | M20-M22 **– to be updated to Eduuni wiki as living document** |
| 33 | Impact evaluation study that will provide in-depth evaluation of effectiveness and usability of the produced digital solutions in cooperation with WP1 | WP4 | JAO (no.4) | Document | M20-M23 **– to be updated to Eduuni wiki as living document** |
| 34 | Dissemination and Communication Plan | WP5 | DUO (no.5) | Document | M3 |
| 35 | Stakeholder Management plan | WP5 | DUO (no.5) | Document | M3 – **to be re-submitted by March 14th** |
| 36 | Project identity | WP5 | DUO (no.5) | Other | M3 |
| 37 | Project Website | WP5 | DUO (no.5) | Website | M3 |
| 38 | Presentations and Publications | WP5 | DUO (no.5) | Other | M3-M24 **– to be updated to Eduuni wiki as living document** |
| 39 | Targeted workshops and seminars in cooperation with WP2 | WP5 | DUO (no.5) | Event | M6-M24 **– to be updated to Eduuni wiki as living document** |
|  | | | TOTAL | 39 deliverables | |

## 3.2 Requirements and architecture design (WP2)

Within WP2,the framework architecture (Learner-centred digital ecosystem of competence development) is being developed and designed as originally planned. The deployment of the architecture will start from M17 on and continue until the end on M22. Further info on the deployment of the architecture is presented later in WP4 section. The deliverables to be submitted and resubmitted (including D15 and D18) will further address the need to clarify how the framework architecture has been used in the development of the prototypes and how it will aid their deployment and ultimately, the creation of the envisioned ecosystems. The work on refining and validating requirements will continue as part of work related to WP3 and WP4.

## 3.3 Prototype development (WP3)

In WP3 the main goal is to technologically build prototypes of the ecosystem (See Annex I, specific objective No 3, p.18) created previously in WP2 (Framework architecture design). Annex I states that the principle objective of this WP is to develop prototypes to prove their practical use under real-world conditions, I.e. to create a Proof of Concept (PoC) of the architecture. As such, the prototypes will give a good understanding of the applicability of the framework and of the final product planned in the framework.

In the mid-term review the consortium was asked to deliver further plans on the development of the prototypes. Detailed plans for developing and piloting the beta prototypes are included as living documents in the project roadmap. Current plans are detailed within this section and more detailed plans are to be submitted in M18 as requested. The iterative development process is done in collaboration with DUO in the Netherlands and results in a final product that will be deployed in Finland and in the Netherlands.

The technological solutions will be open source, modular. The adaptability to different geographic locations and circumstances will be tested in WP4. As analytics is always dependent on local data, direct applicability is naturally challenging but the core functions of the competence profile as well as the use of ESCO ontology make it possible for interested parties to choose to implement the services developed as a whole or only parts of it depending on their needs and already existing infrastructure.

### 3.3.1 Prototypes being developed

The three prototypes planned in Annex 1 are embedded in the Learner Plan prototype and its three modules:

* + Module 1: Local study record service integration (past)
  + Module 2: Competence profile with current competencies (present)
  + Modele 3: Suggestions for educational opportunities (future)

Also, a separate analytics prototype (Deliverable 28 Pilot deployment of analytics prototype) is developed and will be deployed in conjunction to the deployment of the prototypes above. With analytics the principal focus is on personalization and advising. Oulu University is developing an Natural Language Processing algorithm to analyse competences from existing study records. It will be an integral part of the Competence profile.

EDUFi is additionally developing ways in which future learning opportunities of competence-based education and training are provided based on an algorithm utilising national competence requirements stemming from labour market. As such, CompLeap offers an opportunity for the personalization of educational offer based on the learner’s existing competence and interests.

In sum, the solutions and services developed in CompLeap are used for the learner’s competence mapping, presenting said competence and transferring it as a tool for educational comparison. Through the service, the user can map their competence and build their own personal competence profile.

### 3.3.2 Functionality of the prototypes by modules

Since February 2019 the project has moved into the third and final development phase in which a pilotable beta version of the prototypes is being developed. The final prototypes being developed include a user interface, with which showing both the accredited and non-accredited competence of the learner in the competence profile can be tested.

The key aim is to create a link between the competence profile (including interests and existing competencies) and the provision of educational opportunities. Compared to prior phases, this phase includes real competencies as well as proper educational offers. The utilization of national (educational) databases within the service will be tested and illustrated.

**In module 1**, the prototype will enable presenting vocational education and training (VET) records as competencies. The educational aims of completed degrees can possibly be attached to these competencies. Initially, other previous study records are framed outside of learner plan and its modules, as one of the aims is to investigate the transformation of VET education and degrees into competencies specifically. This is due to the availability of VET core curriculum and competence requirements. The result of the project is a Proof of Concept (PoC), with which the properties of the service can be tested.

**In module 2** a competence profile based on personal interest and existing competences is implemented. The competence profile is formed based on prior, accredited competence and information provided by the learner themselves. Through analytics, competences are formed based on this information. The ability to provide one’s own interests and competencies is crucial, as accredited competence is not available to all focus group members. The learner can also provide their own interests in this prototype.

**In module 3**, with analytics functions, the learner is offered suitable education opportunities to supplement their competence through analytics based on their educational background, other competencies and interests. In order to address the needs of citizens at risk of exclusion, focus is not only on existing study records but on interests and on the provision of interesting learning opportunities that complement the individual. User testing during the development process will aim to involve different user groups from young adults to immigrants and refugees.

#### 3.3.3 Prototype development schedule

The sections below and Tables 5 and 6 detail the iterative development schedule in the beta prototype development.

#### **First beta prototype version by the end of May**

A learner plan prototype ready for piloting and deployment will be reported to the European Commission by the end of May 2019. After this date, the prototype can be refined during the summer, due to the unfortunate timing of the piloting during the summer months.

Therefore, a first version of the prototype fit for deployment will be ready in May 2019 for piloting purposes. This version will be refined from there on.

The version deployed in May 2019 has to be fit for the testing of the usability of the learner plan prototype and its modules. This is approached from two perspectives:

* The learner plan prototype needs to be usable from the user point of view
* The data and analytics behind the prototype should be validated

This means, that primarily a functionality of the Competence Profile will be produced including the learner’s educational background in accordance to data on KOSKI. The analytics, with which the existing competence can be shown, is also implemented along with the possibility to provide personal interests. The functionality on recommended educational offers based on competences and based on interests will also be produced.

The analytics modules include a first iteration of the natural language processing relating to competence formation. Analytics forms an integrated part of the prototypes, whereby we explore alternative ways to support the learner in tailored and flexible skills and competences formation.

Analytics functions under analysis at the University of Oulu:

* forming competence via ePerusteet
* forming competence via the competence required in professions
* forming competence in other ways
* Possible use of the ESCO classification

#### **Second beta prototype version by the end of August**

By the 30th of August 2019, revisions based on needs recognized during piloting are implemented. These are released as a second version of the beta prototype.

Additional implementations by this date include the ability for the learner to include their Europass documents as well as open badges to their competence profile. These will be included only after the first full learner path has been concluded. They do not form part of the analytics functions but rather complement the profile with interesting elements from non-formal learning and job market information.

*Table 5. Summary of the timeline for WP3 prototype development*

|  |  |  |
| --- | --- | --- |
| Phase | Planned start date (MM/YYYY) | Planned end date (MM/YYYY) |
| Specification | 01/2019 | continuous |
| User interface design | 02/2019 | 05/2019 |
| Implementation (see Table 4 for details) | 02/2019 | 05/2019 |
| Finishing and refining | 06/2019 | 08/2019 |
| Testing | 04/2019 | 09/2019 |
| Piloting | 06/2019 | 10/2019 |
| Reporting | 7/2019 | 11/2019 |

The timeline has been pinned down into monthly topics and artefacts, which gives an idea how the work package will progress and will help in planning other work. The timeline also shows allocated PMs to the development work. University of Oulu’s PM use is contingent on the planned re-allocation of resources between EDUFI and Oulu as detailed earlier. Last column, the allocated PM´s, are in line with the Table 1 (page 5) so it shows how the resources and the staffing is organised in each development phase.

*Table 6. WP3 tasks for prototype development*

|  |  |  |  |
| --- | --- | --- | --- |
| Timeline | Tasks | Responsibilities (overall responsible in bold) | WP3 PMs allocated |
| February 2019  M15 | Setting up and defining priorities for development work  First, the interest is in evaluating whether the concept -- with a well-defined scope accompanied by narrowed-down scenarios -- offers the envisioned value for the user.   * Narrowing down the focus group and validating the user needs from this specific viewpoint * Designing the initial approach for gathering users' personal interests * Starting the development of the beta prototype | **EDUFI** | EDUFI 2 PM  CSC 1 PM |
| March 2019  M16 | Second, the focus is on the data sources and their use: whether the data on hand supports this case and proves to be of value.   * Building the initial designs of the three prototypes, including user interface * Ramping up the implementation of the beta prototype * Starting the demo-sessions every-two-week time to validate the beta prototype * Starting development of competence algorithm * Planning the deployment * Investigating the international deployability | **EDUFI**  UOULU  Gradia  DUO | EDUFI 2 PM  UOULU 1 PM  Gradia 0,5 PM  DUO 0,25 PM |
| April 2019  M17 | * Introducing other data sources * Iterating the design of the beta prototype with user and reference group validation * Continuing the implementation of the beta prototype * Continuing the demo-sessions to validate the beta prototype * Preparations for piloting the deployment of the learner plan prototype | **EDUFI**  UOulu  GRADIA  CSC | EDUFI 2,5 PM  UOULU 1 PM  Gradia 0,5 PM  CSC 1 PM |
| May 2019  M18 | * Finalising the implementation of the first beta prototype version * Release of beta prototype version one * Start piloting the deployment of the learner plan prototype | **EDUFI**  UOulu  Gradia | EDUFI 2,5 PM  UOULU 1 PM  Gradia 0,5 PM |
| June 2019  M19 | * Further iteration of the beta prototype towards version two * Piloting | **EDUFI**  Uoulu  Gradia with the associated partners  CSC | EDUFI 2 PM  UOULU 1 PM  Gradia 0,5 PM  CSC 1 PM |
| July 2019  M20 | * Further iteration of the beta prototype towards version two * Piloting | **EDUFI**  UOulu  Gradia with the associated partners | EDUFI 2 PM  UOULU 1 PM |
| August 2019  M21 | * Development of the beta prototype ends * Release of prototype version two * Wrapping up, reporting | **EDUFI** | EDUFI 2 PM  UOULU 1 PM |
|  | | TOTALS (M15-M21) | EDUFI 15,0  Uoulu 6,0  Gradia 2,0  CSC 3 PM  ALL 26,0 |

### 3.3.4 Way of Working

Agile methodology is used in the software development process. Agile methodology can be characterised as highly interactive and flexible management method with short-termed delivery cycles (sprints), agile requirements, dynamic team culture, less restrictive project control and emphasis on real-time communication. This means that the concrete route we end up at the end results and the detailed, actual end result will only emerge as we start developing and learn and know more.

So far the work has concentrated on UX design and user and expert needs in the creation of mock-up prototypes. Since February, EDUFI has contracted a Finnish digital product company focusing on strategy, design and high performance engineering, to produce a proof of concept execution of key elements of the architecture. The product commissioned includes *testable prototypes that consists of an interface, content and associated services.*

EDUFI and Uni of Oulu will work together in guiding the work of the developers. University of Oulu has an inhouse developer identified for the project. This developer will be in charge of developing the competence identification algorithm. As interoperability and timing is key in this project the facilitation of co-working will be a priority in WP3.

The CompLeap prototypes depend on the availability of data from different data sources identified in the architecture. These data sources and services are being constantly developed as well, and the success of the Compleap prototypes depends also on continuous paralel development and communications between different development projects being implemented at the same time. These other projects are naturally out of scope of the CompLeap project but are followed closely. All development projects in EDUFIs Services for Learners- unit are co-dependent and therefore controlled direction and communication is crucial during design and implementation.

### 3.3.5 Legal restrictions

Under the current Finnish legislation, the learner plan prototype cannot utilize real personal data, even though it would be possible to access it in the KOSKI-service. Therefore, the prototype employs pre-confined test data. In practice, this implies that some test users, representing some of the most general user groups will be created. Similar data to that of the KOSKI-service will be shown on these fabricated users. As such, strong authentication is not implemented into this prototype while it will be an integral part of the final product. The interface is created primarily focusing on the interface of a strongly authenticated learner and provides the interface of an unauthenticated learner secondarily.

### 3.3.6 User and Expert Validation

During the most intense months of developing the first Beta version (March-May), we organise interactive online demo-sessions to support and validate the development work.

Demo sessions will be held online every second week to ensure the involvement and participation of our Reference Groups and Associate Partners to the validation process. In these open online demos, we illustrate each time shortly how the learner plan prototype and its modules have been developed compared to previous session. After each session discussion notes and EDUFI comments are documented to project’s workspace.

Developers of the learner plan prototype will join our demos in order to receive instantly the joint feedback. By involving the associate partners in these sessions, we prepare the contact persons for the piloting actions for the end-users.

**Validating partners:**

* Reference group members
* Associate and project partners
* Prototype developers from EDUFI

Besides the demo-sessions we gather feedback to support our prototype development in collaboration with Ohjaamo Helsinki and their end-users. At these open municipal “guidance shops” personal guidance and counselling, specifically focusing on learning and employment pathways, are offered to youngsters (until 29 years). Guidance is provided by experts representing different fields of expertise as well as different administrative sectors involved in guidance service provision.

User testing will also feed into the piloting phase. The prototypes will give a good understanding of the applicability of the final product planned within the architecture. The developed prototypes will be implemented and tested by the same partners that participate in the online demos. During the onsite testing phase, Associate Partners will use, operate, evaluate and provide feedback on the prototypes. The prototypes will be available for use online in the EDUFI service framework, and as such education providers will not have to take them into use within their own service frameworks.

## 3.4 Deployment and evaluation (WP 4)

WP4 focuses on the implementation and deployment of the developed prototypes in at least one national setting through networks (see Annex I, specific objective No 14, p.18).

In the mid-term review the consortium was asked to deliver detailed plan for the deployment phase of the project. This kind of plan will be delivered later in the additional document that were expected to deliver together with the other deliverables by M18 but already in this modified project plan the consortium can present quite detailed plan how the deployment will be organised.

The focus of WP4 is on the implementation and deployment of the framework architecture and the developed prototypes including analytics. Deployment will take place in Finland, the Netherlands, Germany and some other EU-countries through networks that are already available among the partners, i.e. innoVET via Gradia.

The solutions and services of the project are deployed in stages during 2019. The deployment is based on the fundamentals of distributed deployment, meaning that users will deploy the service suitable to their own needs and timetables.

Finland aims to deploy all the developed prototypes to measure the effectiveness, usability, and feasibility of the technology and concept. Associated partners that are involved in the deployment in Finland, will deploy the developed prototypes in their surroundings and use them to support the various user groups, including immigrants and NEETs (youth not in employment, education or training).

In other countries the aim is to deploy the functionality of the framework and the concept so that the suitability in other EU countries is shown.

Pilot deployment is divided into the following three concepts in accordance to the project plan:

1. **Pilot deployment of the Architecture** – Dependencies between CompLeap and other services (most central being the different national study record databases, e.g. KOSKI in Finland), links between modules and concepts.
2. **Pilot deployment of the Analytics prototype** - How and what information is being used in the background of the services in order to enhance the user experience.
3. **Pilot deployment of the Learner plan prototype** – Modular parts supporting personal competence mapping and development.

### 3.4.1 Pilot deployment of the architecture

**Responsible partners**: CSC and Finnish National Agency for Education (EDUFI)

**Contact persons:** Ari Rouvari/CSC and Annica Moore/EDUFI

**Countries involved**: Finland, the Netherlands, Germany and some other EU-countries in innoVET network (via Gradia)

Pilot deployment of the architecture aim is to assess and aid the usability of the developed Framework Architecture nationally and across EU on strategic, business and solution architecture levels. The Pilot deployment of the architecture is implemented through a series of evaluations, which in turn are carried out through interviews. This interactive process will make sure the Framework Architecture should be able to integrate and “work together” with other reference architectures in this sector.

CompLeap Framework Architecture: <https://wiki.eduuni.fi/display/csccompleap/Framework+architecture+design>

Detailed deployment plan for the architecture is maintained in Eduuni wiki: <https://wiki.eduuni.fi/display/csccompleap/CompLeap+Framework+Architecture+Deployment+Plan>

### 3.4.2 Pilot deployment of the analytics prototype

**Responsible partner:** University of Oulu

**Contact persons:** Hanni Muukkonen-van der Meer, Egle Gedrimieni, Antti Kaasila

**Countries involved**: Finland, the Netherlands (DUO), some other EU-countries via innoVET network

Pilot deployment of learning analytics prototype is closely related to the piloting of the learner plan prototype and its modules in the CompLeap project. Thus, the timing, materials to be piloted, type of feedback and other details of the piloting depend, fundamentally, on the project goals as well as development process of CompLeap services, collaboration between CompLeap project team and the developers and current legislations concerning personal information and data use in Finland and EU.

Detailed plan for the deployment of the learning analytics is maintained in Eduuni wiki:

<https://wiki.eduuni.fi/display/csccompleap/b.+T1.2+Pilot+the+analytics+prototype+and+report+the+results>

### 3.4.3 Pilot deployment of the learner plan prototype

**Responsible partners:**Finnish National Agency for Education (EDUFI) and Jyväskylä Educational Consortium Gradia with the Associated partners in Finland and other EU-countries

**Contact persons:**  Annica Moore/EDUFI, Topias Kähärä/EDUFI and Tarja Puura/Gradia

**Countries involved**: Finland, the Netherlands, Germany and some other EU-countries via innoVET network (via Gradia)

Pilot deployment of the learner plan prototype will overlap with the piloting of the architecture and the analytics prototype, as all the three elements are integral parts of the user experience.

Detailed plan for the deployment of the learner plan is maintained in Eduuni wiki:

<https://wiki.eduuni.fi/display/csccompleap/c.+T1.3+Pilot+the+learner+plan+prototype+and+report+the+results>

### 3.4.4 Pilot deployment in the Netherlands

**Responsible partner**: Dienst Uitvoering Onderwijs (DUO)

**Contact persons:** Vera Mol and Monique Leegte

The analysis of opportunities for deployment in the Netherlands will be carried out by our partner organization Dienst Uitvoering Onderwijs(DUO) during Spring 2019 (see Table 7 for details). Research will be carried out aiming to investigate if data from various educational registries in the Netherlands could be transported and used in CompLeap services.

Deployment in the Netherlands takes place in a very complex environment as there are many kinds of organizations that would make data available in the framework and therefore there are several authorities to function as logical sources.

In the most optimistic scenario DUO with The Cooperation Organisation for Vocational Education, Training and the Labour Market SBB can be part of it in the following way:

**Dienst Uitvoering Onderwijs (DUO)**

DUO hosts the national Diploma Register in the Netherlands. DUO is constantly doing research how to facilitate the owner of the data in Life Long Learning and make this data available.

Regarding to the CompLeap solution DUO will start in April/May with analyzing how diploma data can be shown to the potential CompLeap user in the Netherlands.

Therefore, DUO will use test data. After every phase there is a decision-making process to continue or not. In the time schedule below is shown how the DUO planning looks like.

**The Cooperation Organisation for Vocational Education, Training and the Labour Market (SBB)**

SBB recognizes and guides learning companies where students can go for a good quality internship or learning path. SBB makes agreements about what the student needs to know and be able to obtain a diploma or to develop a VET certificate for life. SBB provides facts and figures, such as the chance of internship, apprenticeship and work or trends and developments in the sector. And they advise the Minister of Education, Culture and Science about the connection of vocational education to the labour market. Students receive the best practical training with prospects of a job so that companies get the professionals they need.

Regarding to CompLeap, SBB is interested in the solution CompLeap is aiming and wants to know more about it. SBB is curious and needs more information to decide if they want to continue with a possible deployment. In the time schedule below is shown how the SBB planning could look like. After every phase there is a decision-making process to continue or not.

*Table 7. Timetable for pilot deployment in the Netherlands*

|  |  |  |  |
| --- | --- | --- | --- |
| Phase | Planned start date (DD/MM/YYYY) | Planned end date (DD/MM/YYYY) | Responsible body |
| Analysis | 22.4.2019 | 31.07.2019 | DUO |
| Detailed analysis | 01.08.019 | 15.09.2019 | DUO |
| Development | 15.09.2019 | 31.10.2019 | DUO |
| Exploration | 01.03.2019 | 01.05.2019 | SBB |
| Analysis | 01.06.2019 | 31.07.2019 | SBB |
| Detailed analysis | 01.08.2019 | 15.09.2019 | SBB |
| Development | 15.09.2019 | 31.10.2019 | SBB |

### 3.4.5 Deployment in other EU-countries

**Responsible partners**: CSC and EDUFI

**Contact persons:** Antti Laitinen/CSC and Annica Moore/EDUFI

Already during the first year of action the project has paid a lot of attention to building international networks and finding suitable partners with whom to collaborate during the deployment. Since most of the partners in the consortium are from Finland it has been difficult to involve networks and partners form different countries to this work especially when there is no special budget for them available – besides the budget of other costs and travel costs for the external experts that the consortium has.

The consortium has now decided to focus more on the existing EU-wide networks on lifelong learning, digital innovations in education, guidance and counselling, like innoVET (joined by Gradia), Europass (joined by Edufi and DUO), Euroguidance (joined by Edufi and DUO) and other possible partners with established institutional role in the EU-level collaboration, like Die EU-Geschäftsstelle der Bezirksregierung Köln in Germany (EU Agency in Cologne).

The deployment in other EU-countries (apart from the two, Finland and the Netherlands) will consist of exploration of existing educational data systems in place in said countries. We will organize separate workshops for the key persons and in addition, join the network meetings with motivating and expanding presentations of CompLeap.

In more detail, the deployment process in these countries will preliminary follow the outlines described below:

* Exploration of the chosen countries with existing similar or customisable educational register data in place (i.e. national student register databases and/or national databases on curricula).
* Upon choosing the countries, the systems in place will be examined, and the possible role and data architectural position will be investigated. The main question at this stage would be if and how the CompLeap system would fit into the architecture of said countries.
* In these countries, there would be no concrete service to be deployed – rather the deployment would consist of the abovementioned desk research on the possibilities of future deployment.

## 3.5 Dissemination, communication and exploitation (WP5)

The communication calendar and the events calendar are updated to Eduuni wiki and both of them are living documents that show the status of WP5. WP5 aims to promote the ecosystem concept across Europe, get interested stakeholders involved in the process and support the deployment in other countries (See Annex I, specific objective 4). The communication calendar and the events calendar are updated to Eduuni wiki and both of them are living documents that show the status of WP5.

Communications calendar <https://wiki.eduuni.fi/display/csccompleap/a+Communication+Calendar>

Events calendar <https://wiki.eduuni.fi/display/csccompleap/b+Events+for+dissemination+and+network+building>

EDUFI and CSC have suggested internal re-allocations in their budget to WP5 (see section 3.1.1) to account for the work detailed in 3.5.1 and other WP5 needs.

### 3.5.1 Europass case study

Since the Compleap project is trying to achieve similar goals as the new Europass project more research into project synergies is needed. The Europass development into an online portfolio was started after the Compleap had already started. The mid-term review suggested that a separate Europass case study should be done during 2019.

As the review suggested, Europass case study will be done by organising Compleap-Europass workshop. Ideally, two workshops would be organised where both projects could find synergies for the development. The first workshop could take place before midsummer and the second in August or September according to the schedule of the beta prototype development. The first workshop would consist of brainstorming. New ideas and insights would then be strung together in the second workshop.

The case study would research possible points of resembles between CompLeap and the New Europass and map out both synergies and challenges for further joint development in terms of shared data models, sources etc. This way we could find possibilities to integrate Europass plans into the Compleap profile.

Administratively this work will be under WP5 and reported by DUO as a part of deliverable No. 39 Targeted workshops. All other partners will contribute to this case study. Since EDUFI is the national contact point of Europass network and also responsible of prototype development EDUFI would play an especially active role in this case study. The necessary Europass aspects will also be added into Deliverable 15 Desk research which will be re-submitted by March 14th.