Executive Agency, Education, Audiovisual and Culture

Lifelong Learning Programme

NEBULA

A novel vocational training programme on cloud computing skills

Progress Report Public Part

Project information

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Executive Summary

The aim of the Nebula Project is to form a Sector Skills Alliance that will bridge the mismatch on cloud computing skills among employees of territorial public administrations in order to improve their employability by enhancing their skills and bringing them up to speed with new technologies. This aim will be achieved through the development and delivery of a VET program that will equip current and prospective public servants with the required skills to: a) evaluate the benefits of cloud computing, and b) to plan, implement, monitor and assess the migration from local IT infrastructures to cloud computing services, hence making them indispensable to employers who want to follow technological developments. The delivery of the VET program will be facilitated by the development of learning content and materials available in 7 major European languages (EN, ES, IT, FR, EL, SE, BG), and the creation of an online social learning platform that will allow the delivery of the learning content and materials to geographically disadvantaged areas. To achieve these goals, the project workplan includes research on the skills demanded for the transition to a cloud-based environment, the skills that are currently available among employees, and the skills mismatch currently present in the sector.

During the first 12 months of the project lifetime the partnership delivered an evidence-based definition of skill needs, examined the available skill supply among public administration staff and determined the existing skill mismatch that needs to be addressed. The identification of this skills mismatch has set the basis for the development of the learning objectives of the VET curriculum. The future steps include the definition of the curriculum structure and the development of the VET learning content (modules and units). The materials will be developed to be used both independently and as an integral part of innovative training delivery methods (a simulation game and social learning platform) that will be developed during the project lifetime. The VET program (i.e. all Nebula outputs, including the curriculum with all the corresponding learning material, the trainer toolkit, the simulation game, the online learning platform etc) will be tested and evaluated by learners who belong to the target group, while the train the trainer seminar will establish a pool of trainers that are familiar with the developed materials (slide sets, presentation notes & guidelines, case studies etc.). Finally, the consortium will focus on mainstreaming results to interested stakeholders (e.g. territorial public administrations, VET providers etc) with the aim of facilitating the exploitation of the project outcomes after the end of the project. For more information and the current updates on the Nebula project, please visit www.nebula-project.eu.

Table of Contents

1. Project Objectives

The project aims to bridge the mismatch on cloud computing skills of staff in the sector of territorial public administrations and improve the employability of public servants, by making them indispensable to employers who want to follow technological developments. Specifically, the Nebula project aims to enhance the skills of employees by: (a) bringing them up to speed with the emerging cloud computing technology, and (b) equipping them with the skills required to evaluate its advantages and to plan, implement, monitor and assess the migration from local IT infrastructures to cloud computing services. In the context of the project, a VET program will be developed that will be tailor-suited to the needs and profiles of the main target group, namely current and prospective public servants in territorial administrations. As a result, the project aspires to:

- Develop a VET training program and appropriate learning materials that will provide trainees with the skills necessary to evaluate, organise and overview the migration towards cloud-base IT infrastructures
- Incorporate innovative training methods for the delivery of the VET program, achieved through the exploitation of capabilities offered by simulation games and social learning platforms.

Overall the project objectives are to:

- Produce an evidence-based definition of skill needs of the labour market for cloud computing skills and competences in Europe based on the targets set by the EU Digital Agenda.
- Examine the available skill supply by public administration staff and determine the magnitude of the skill mismatch to be bridged.
- Analyse the training requirements by liaising with stakeholders, including territorial public administrations and staff/unemployed, for an innovative Cloud Computing Skills VET program.
- Design a curriculum and develop a VET program that will introduce cloud computing skills courses and materials to current and prospective public servants.
- Introduce innovative training delivery methods in the form of a simulation game and a social learning platform; both will allow to increase learner engagement and training effectiveness.
- Investigate alternative paths to link the designed curriculum with training methodologies in order to standardise it according to learning outcome approaches, like ECVET, and make it transferable across EU members.
- Establish a pool of trainers to initiate the VET program delivery by training members of the project team to deliver the program.

- Run pilot delivery sessions of new VET program with the participation of members from the target group.
- Evaluate learning outcomes and verify assimilated skills by participants to ensure the transferability and adaptability of the VET program; and help public administrations improve their vocational training capacities.

The expected impact and benefits of the Nebula project for the target groups can be summarised in the following

- Learners / trainees: Nebula will allow them to better understand the migration process from a traditional IT environment to a cloud-based infrastructure for their organisation. This will be achieved by providing them with the skills and competences to initiate, organise, optimise, implement and monitor the migration process. The acquired skills and competences are expected to technologies to tackle specific work-related challenges, or to accomplish their career goals
- Trainers / training organisations: VET providers and freelance trainers will be able to expand their training portfolio with training courses on new technologies. The developed curriculum and learning materials, in conjunction with the innovative delivery methods (simulation game and online learning platform), will be suitable to be used autonomously for training purposes; furthermore they can serve as a basis, upon which further training offerings may be developed and offered by VET organisations.
- Employers and other institutional stakeholders: Public administrations and other stakeholders will be able to train their personnel on new and emerging technologies. This will increase the productivity of employees and create the appropriate pre-conditions within the organisation that may result in efficiency gaining operational transformation.

2. Project Approach

The project has been structured on the basis of a series of interlinked activities. In a nutshell, the first phase of the project involves the analysis of target groups' current skills and emerging needs. The second phase consists of activities for the elaboration of learning objectives, the formulation of the curriculum and the development of the learning and training materials (including the introduction of innovative delivery platforms). The third phase consists of the evaluation and validation activities of project outcomes. Throughout the project, dissemination and exploitation actions are also taking place. The basic concept on which the project has been built upon is the development of an encompassing training offering that will meet the Nebula objectives.

The core activities that comprise the project approach are the following, in a sequential (though interconnected order):

Learning and training needs analysis

The needs analysis is the result of several interrelated phases where evidence is collected and integrated both from the demand and the supply side for cloud technology related skills. In this context, the consortium firstly aims to identify skill and competence sets needed by staff of public administrations to manage and implement the migration of IT infrastructure to cloud computing services. This includes the analysis of all the migration/implementation processes and the identification of technical, organisational, business and financial skills. Potential obstacles, sources of resistance, technical risks will also be investigated to understand the diversity of skills required. In order to ensure the relevance of the results, Nebula foresees the validation of outcomes by territorial public administrations that will evaluate and propose amendments if needed.

At the same time the consortium aims at investigating the supply side of the cloud-related skills. To this end, existing educational/training curricula will be examined to determine the typical skill supply of individuals entering the workforce of territorial public administrations, as well as potential on-the-job training seminars.

The comparison between demand and supply side evidence is the basis for the definition of the existing skill mismatches. Identifying the existing mismatch sets the framework for the development of the learning objectives and (subsequently) the curriculum and the training materials.

Development of learning objectives and the curriculum structure

The skills mismatch identified during the needs analysis highlights the areas where current and prospective public servants need further training. It is expected that through this approach the Nebula VET programme will accurately determine the learning objectives necessary to provide vocational learners with the ability to execute a number of tasks related to cloud computing and migration from locally owned IT infrastructures.

These learning objectives will be instrumental for the development of the curriculum structure; they will be used to identify the autonomous learning modules and units in a way that concrete learning outcomes to be delivered to learners will be formulated. The sequence and dependencies between modules will be assessed to decide on the program schedule. In order to facilitate the evaluation of both the performance of learners and the effectiveness of the VET program, the developed learning modules/units will include a definition of the expected skill acquisition goals.

All components of the curriculum will be developed taking also into account the possibility of integrating them to existing training offerings; this will enhance the sustainability and exploitation potential of the Nebula results beyond the project lifetime. Although actual integration is not foreseen during this project, incorporating all the requirements from the design phase of the curriculum will enable the integration with minimum disruption after the project lifetime.

Development of learning content

The curriculum will be complemented by the development of the training material that a trainer will need to properly administrate and facilitate the Nebula VET course.

This will primarily consist of slide sets and presentations, accompanied by relevant notes/guidelines. The learning material will be divided according to the training modules/units as defined in the curriculum structure. In order to facilitate selective participation in some modules of the training programme, each set will be as complete and independent as possible from the other module’s material. In addition to the slides and notes the teaching material will include case studies that can be used in the courses and emulate the dilemmas and situations that trainees will face in the future and enable them to understand the impact and implications of various decisions.

The learning content will be complemented by the evaluation methodology and materials that will be used to assess whether the learning objectives will have been achieved.

Finally the learning materials will include training exercises (accompanied by the solution guidelines) that will allow trainees to further practice and augment the acquired knowledge and skills; those exercises may target individual as well as group learning.

Development of simulation game and online learning platform

An important component of the NEBULA project is the introduction of innovative learning methodologies and VET delivery platforms. This will be realised in the form of a simulation game and an online learning platform.

Regarding the simulation game, the solution adopted by the consortium involves the identification and (if necessary) adaptation of an existing game in a way that can achieve the specific learning objectives related to the training content. It will include instructions for trainers on how to optimally integrate it in the training setting. This will enable them to take advantage of the benefits associated with introducing innovative training delivery methods and make the learning experience more engaging and entertaining, while increasing retention of information and knowledge. This will be achieved by immersing learners in a realistic context and forcing them to make decisions, act upon them and witness the immediate impact through the reaction of other players in a risk and consequence-free environment; observing the process and reflecting upon it, as opposed to reading about it, enhances learners' understanding and skill acquisition.

The online learning platform will address the existing reality of territorial public administrations being typically geographically dispersed, making central training initiatives very problematic. Offering their staff the chance to follow a training course remotely and access to updated content for continuous training is important to public administrations; through the platform, civil servants will be able to access to content and to stay connected with the community of learners of this training course, share experiences and enrich the training material with real-life case studies faced and reported by learners. The platform will also offer capabilities for remote facilitation of training, peer-to-peer learning and other cooperative learning modes through social networking features. The platform will be available in all languages of the consortium countries.

Evaluation

The evaluation activities of the Nebula project include the participation of end-users (trainers and learners) in training and validation events organised by the consortium. These activities will provide evidence and support the optimisation of learning materials and the various delivery methods, eventually leading to the final versions of the (evaluated and validated) project outcomes. Specifically, a train-the-trainer seminar will be organised in Spain, followed by four training workshops in the UK, Italy, Spain and Sweden. These events will allow trainers and learners to

familiarise themselves with the project, provide feedback and ideas, and test in practice the effectiveness of the proposed training materials and delivery methods; external evaluation by independent experts has also been foreseen for ensuring the objectivity of the assessment results.

Dissemination and exploitation strategies

The dissemination and exploitation planning spans the entire duration the project and aims at structuring and organizing the communication, dissemination and exploitation efforts of the Nebula project partnership.

In regard to dissemination activities, a plan was developed in the first months of the project providing a detailed analysis of the awareness raising strategy and the relevant communication and dissemination infrastructures. The actions identified include a direct e-mail campaign to members of the target groups (in-progress), the project website (already online), the social networking platform accounts (already online), the development and translation of the project brochures (in progress). In the future the organisation of national infodays and the final dissemination conference are foreseen; they will offer an opportunity to present the project results to members of the target groups and potentially interested stakeholders. Finally in order to maximise the dissemination efforts and the valorisation potential of the Nebula results, the members of the partnership will use their own research and business networks in order to raise awareness on the Nebula project and (whenever possible) exploit thematic synergies with other relevant activities.

The sustainability and exploitation of project outcomes will be pursued by taking the following steps:

- Mapping of user groups for post-project involvement, which will allow for the identification of cooperation possibilities with stakeholders in the EU.
- Mainstreaming of results to targeted stakeholders taking into account their interests and priorities.
- Making provisions for the possibility of commercial exploitation of the project outcomes. This may include establishing an IPR agreement to regulate ownership and use rights and setting up a co-exploitation scheme of the project results.

These actions are anticipated to support the promotion and further development of outcomes based on the Nebula project. The entire approach have been described in the sustainability and exploitation plan, and will be revisited in the “project results mainstreaming and follow-up actions” report which will be delivered as soon as the final versions of the exploitable project results will have been developed.

3. Project Outcomes & Results

During the first 12 months of the Nebula project (the period covered in this Progress Report), the consortium has achieved the expected results that will allow the seamless implementation of the following planned activities. In particular, the most important outcomes within this period is the completion of the skills mismatch analysis, and the development of the learning objectives of the VET programme.

Skill demand documentation and validation

The migration from the traditional IT infrastructures to the cloud environment introduces a new set of professional skills that public servants should possess in order to plan, implement and monitor the migration process as well as to use and manage cloud services. The skills identified in the report can be summarised in the following categories:

- Managerial skills that are required to implement the shift from asset acquisition to utility services computing. During the migration process, managerial skills grow in importance as proponents of cloud computing will be increasingly involved in analysing existing systems, identifying needs and defining requirements, formulating strategies towards cloud computing and developing roadmaps and business plans. Areas such as project management, business change management and risk management are considered of critical importance.
- Financial skills and knowledge of the law are also essential components of the skill set of public servants. Financial literacy of public administrations' staff is essential to ensure the financial sustainability and profitability of the project as well as the budgeting process; knowledge of the law and institutional policies are required to comply with the regulations and the data-handling laws respectively.
- Technical skills, which remain important even though the migration to the cloud results in the outsourcing of a number of traditional IT tasks such as system architecting, programming and testing to cloud service providers. A solid understanding of the technical layer of cloud computing as well as the possession of high-level technical skills still remain necessary for the IT staff and IT administrators.
- Data Security skills which remain a top priority for the IT staff of territorial public administrations given the amount of applications and data stored in the cloud as well as the sensitive nature of information transferred.
- Soft and Transversal skills that are necessary for the shift from an asset-based focus to a service-based IT infrastructure. Negotiation skills are needed to work with cloud service providers and produce agreements and contracts. Communication skills are necessary to interact with cloud

providers, stakeholders and internally with decision makers and staff and analytical skills are required to apply logical thinking in a series of issues and tasks related to the project initiation and development.

The skills identified by the “Skills Demand Documentation” report were validated through a survey among members of the stakeholders (T3.2), such as elected representatives, administrative manager, IT staff, field experts etc. 108 respondents from 15 countries provided their input regarding the skills indentified in T3.1. The main conclusions drawn from the validation are the following:

- All thematic areas identified in T3.1 can be considered as validated by the public administrations’ stakeholders and experts participating in the survey.
- The thematic areas of skills related to security (“Security Strategy Development” and “Information Security Management”) are considered as the “top rated”. Security skills are followed by a group of two managerial thematic areas of skills (“Project / Process Management”, “Business Change Management” skills), one technical (“System and Data Integration” skills) and one transversal.
- “Financial” skills are last in the ranking, signalling a potentially low relevance of financial skills in order to manage and implement the migration to the cloud.

Overall, evidence shows that the majority of respondents believe that the skill set identified in T3.1 is necessary for public administrations staff wishing to migrate to the cloud.

Skill Supply Documentation

The skills demanded provide only one part of the overall picture, which must be complemented by the skills supplied in order to be able to assess the skills mismatch (T3.4). Through the report for T3.3 AELP reviewed a total of 83 academic courses that either had cloud computing in their title or referred specifically to cloud computing in the description. The aim was to study their content and availability, and assess the extent to which they are meeting the skills demand identified in T3.1.

The main obstacle for the collection of data was the fact that information about course content that is in the public domain is generally confined to general course aims and module titles. Moreover, detailed content within a module is not available

in most cases, making the accurate mapping of course content difficult. Nonetheless, some of the conclusions regarding the course offerings are the following:

- Academic and commercial courses often approach cloud computing from an initial perspective of ***business/management***, ***software development*** or ***networking/infrastructure***. This distinction provides a useful structure for classifying courses since it relates to current job roles/specialisms and previous qualifications. The academic business/management courses, for example, cover a lot of the corresponding skills but it is unlikely that they go into as much technical detail as some of the more technical courses.
- In general, migrating to the cloud is likely to shift the emphasis from technical skills (which are still important) towards a broader range of business related skills.
- There are few examples of vocational qualifications that relate specifically to cloud computing, and are mainly aiming at developing work related skills at technician level.
- Masters Degrees in cloud computing are much more widely available. Specialism in Business/Management, Software Development and Networking/Hardware is available, providing a possible match with the skills needs of EU Public Administration Departments. They could provide a possible option for the technical updating of existing staff, although this route can be relatively expensive and requires significant commitment from the individual employees themselves.

Skills Mismatch

Among the skills identified as important, mismatches in the skills related to cloud computing set some of the requirements in terms of learning objectives that the developed curriculum will need to accomplish:

- Managerial skills are placed at the very core of the public administration's staff skill set involved in the migration process. Managerial skills should be covered by the developed curriculum, with emphasis given in the development of skills related to "Business Change Management"; evidence demonstrates a severe gap of skills related to the implementation and management of organisational changes and changes in business processes.
- Similarly transversal skills feature are a significant source of shortages of intangible skills; these skills are required to perform vital tasks throughout the migration process, such as the analysis of organisational needs and requirements, the communication with vendors and staff and the negotiation of service level agreements with cloud service providers.
- In this context, technical and security skills appear to be well covered by existing academic and commercial courses, exhibiting the sufficient technical background of public servants to deal with a series of technical and security related issues.
- An area that also needs improvement is "User Support", and should be included in the learning objectives of the Nebula VET program.

Nebula Learning objectives

The learning objectives have been defined by considering the skill mismatch identified in preceding Nebula activities and the methodology employed provides a consistent definition in the context of the theoretical framework provided by the EQF and the relevant literature.

The majority of the learning objectives are related to the most demanded thematic areas of skills. Specifically, 16 out of 18 learning objectives address *business change management, analytical, communication,* or *negotiation* skills. In addition, the skill area which presented the most severe skill shortage (*business change management*) is covered by 14 out of 18 learning objectives defined. What is more, other thematic areas are also addressed: *risk management, project management, financial literacy,* and *knowledge of the law.* The learning objectives that need to be addressed by the subsequent tasks are:

1. Provide a view of the migration concept and the different service and deployment levels that are associated to cloud computing.

2. Explore the cloud ecosystem and the business models that are associated.
3. Address the opportunities and general benefits that are associated to the cloud models
4. Address the risks and threats that are associated to the different cloud models and the responses to mitigate or avoid these risks
5. Address the legal implications associated to the cloud migration
6. Provide the student with techniques to analyse the legacy environment
7. Provide the student with the techniques to identify the value chain of the organization, analysing the economic impact of the cloud adoption
8. Provide the student with methodologies to assess the impact of moving data and processes to the cloud, reducing the risks associated to the migration process, and considering the legal implications
9. Train the student with techniques to effectively communicate the benefits that would cause the adoption of the cloud paradigm
10. Train the student with techniques to effectively communicate the changes in the business process
11. Train the student with techniques to discuss with the organizational staff the impact that would cause the adoption of the cloud paradigm, providing arguments to discuss the potential risks and how these can be mitigated
12. Provide the student with frameworks to evaluate the cloud providers and service models in order to determine the most suitable cloud formation according to the requirements of the candidate assets
13. Provide the student with methodologies to analyse the economic model of a cloud system, defining a business model based on cloud
14. Provide the student with the capabilities to integrate contractual agreements in a business model.
15. Provide the student with methodologies to develop, monitor, and report SLA which are compliant with the requirements of the organization and business processes
16. Train the student with techniques to negotiate contracts and SLA with providers according to the established requirements of the legacy environment
17. Provide the student with the guidelines and tools for creating a migration plan
18. Provide the student with the techniques to supervise and monitor the migration plan and execution

Dissemination and exploitation

In terms of visibility and dissemination, the following activities have been carried out:

- Design of project logo.
- Launch of the project website.
- Launch of the accounts in social networking platforms (Facebook, Twitter, LinkedIN)
- Design and production of project brochure.
- Translations of website and printed materials in partners' languages.
- Uploading of materials and news to the website.
- Press releases.
- Direct e-mail awareness campaign.
- Distribution of project brochure (in the context of the awareness campaign).

These actions have raised awareness on the project within partners' countries, and established or strengthened relationships with national stakeholders involved in training activities. Also, the campaign is expected to encourage the participation of interested parties in the workshops and events that will be organised by the Nebula consortium in Greece, Sweden, Italy, France, Spain, Bulgaria, and the UK.

In regard to the sustainability and exploitation of project results, a report has been developed identifying and analysing the results that can be effectively used by the partnership to increase the impact of the project, the appropriate actions and the relevant target groups. In order to maximise the expected impact and valorisation of results, all partners have catalogued potential users of the Nebula curriculum and materials in their countries and at EU level, compiling the "mapping of potential user groups for post-project operation". This report will be further updated, enriched, and finalised at the end of the eligibility period, steering from the beginning of the project the production of results towards the demands of education and training stakeholders, policy-makers and ultimately the society, ensuring that such results will reach the right target audiences.

Online resources and contact information

The project website provides information on the project, news, announcement of events and the public deliverables developed so far: http://www.nebula-project.eu/

The accounts in the social networking platforms will mainly host information on the workshops, seminars, and events to be organised, supporting direct interaction between the consortium and the target groups. At the same time the Nebula YouTube channel will host videos related to the project:

Facebook:

https://www.facebook.com/pages/Nebula-Project/758170580894272?fref=ts

Twitter:

https://twitter.com/NebulaLLP

LinkedIn:

https://www.linkedin.com/groups/NEBULA-Project-8124218

Youtube:

https://www.youtube.com/channel/UChC3XO6By0JoWlCs-E4VHoQ

4. Partnerships

Cloud computing is an emerging technology that is expected to have significant impact on the operating procedures of many organisations. This technological shift has been identified and analysed in the EU Digital Agenda; in order to achieve the objectives set in the EU Digital Agenda, EU public administrations will need to introduce training on cloud computing for their staff. The novel characteristics of such training provision have highlighted the necessity for the development of new training offerings. This need cannot be tackled without wasting resources and duplicating development efforts, unless performed through EU-level collaboration.

At the consortium level. The possibility to exchange experiences and provide access to target groups that would otherwise be unreachable enables the formation of a common understanding among partners. The exposition to the considerable differences in the form and objectives of training provision among partners has provided valuable insight on the necessity to design a methodology that can be used and adapted to the needs and priorities existing in different settings. It is also anticipated that partners will have the opportunity to establish partnerships with target groups outside their national environments, through the training seminars that will be organised in the following months.

In this framework, the collaboration between partners across the EU in the context of the Nebula project has yielded significant benefits, which are reflected on project results. The formation of an EU-level Sector Skills Alliance has provided the opportunity to deliver outcomes that have a much wider than national scope. By taking into account the geographical and cultural diversity of the consortium it is ensured that the developed VET program fully complies with organisational and cultural characteristics of different member states and is broad enough for immediate deployment and exploitation, taking into account the similarities and differences between cross-cultural target populations. This is particularly important given the fact that consortium members represent countries with different legislation systems; cooperation allows for the development of a VET program that complies with most regulations among EU states from its inception and ensures its applicability with minimum adaptation to more EU states. Furthermore the favourable cost-to-benefit ratio achieved by avoiding duplication of research and development efforts and pooling resources in jointly analysing the learners', trainers' and public administrations' needs in as wide a European area as possible, further substantiates the European added value. Finally, the development of a common training offering will increase the mobility of the workforce, since they will be equipped with a commonly accepted and widely recognised set of mutually agreed necessary skills.

5. Plans for the Future

The future steps of the project are in line with the initial planning, since there have not been any considerable deviations or delays from the workplan described in the application form. The following actions will be carried out, in a rough chronological order:

- The partners responsible for developing the curriculum structure and design will translate the learning objectives and learning outcomes into autonomous modules and units that will be delivered to learners.
- The learning materials & content, in accordance with what is foreseen in the curriculum, will be developed in English by the responsible partners. Subsequently all partners will translate these materials into the 6 languages (in addition to English) of the partners' home countries
- The learning evaluation tools and methods will be developed; they will enable the quantification and assessment of whether the VET program has achieved its goals in terms of learning objectives.
- Training exercises and solution guidelines will be developed to enable practical application of the skills and knowledge acquired through the VET program, and thus enhance the effectiveness of the selected teaching approach.
- A simulation game will be developed through exploiting and adapting the advantage of existing platforms. The aim is to introduce novel training/learning methodologies and improve the effectiveness of the VET program.
- The online learning platform will be developed to offer remote facilitation of training, peer-to-peer learning and other cooperative learning modes through social networking features.
- The trainer toolkit will be developed; it is a collection of tools to help trainers achieve the training goals. It will contain the trainer's handbook and guidelines on how to use and exploit the capabilities of the Nebula VET program outputs such as the training materials, the simulation game and the learning platform.
- A "train the trainer" seminar will be organised in Spain during which all developed training content will be presented to prospective trainers. Special emphasis will be given on the trainer toolkit which will provide trainers with all necessary information.
- Four training sessions will be organised to deliver the VET program to public servants in Italy, Spain, Sweden and the UK
- The evaluation of feedback from participants will allow assessing whether the expected learning outcomes were achieved during the training sessions.
- The assessment of the Nebula VET program will be developed, where the quality of all achieved results will be evaluated. This will allow the identification

of areas that have not been sufficiently covered by the project outcomes and will facilitate the planning of further post-project improvements.

- The development of a roadmap for the integration of the VET program in certification/qualification frameworks.
- A final dissemination conference presenting the Nebula results and VET programme will be held in the UK.
- Dissemination effort will be intensified following the delivery of main project results, with the organisation of national infodays, awareness campaigns, publicity activities (videos, news, press releases), and preparation and distribution of online and offline materials.
- The sustainability and exploitation plan will be updated, the identification of user groups in partners' countries will be finalised, and the mainstreaming of exploitable project results to potentially interested stakeholders will reach its peak as soon as the Nebula VET programme will be finalised.

6. Contribution to EU policies

Policies, priorities, objectives	Project Contribution
LLP-Obg-8 / LdV-OpObj-6: To support the development of innovative ICT-based content, services, pedagogies and practice for lifelong learning	The Nebula project will employ innovative game-based learning and peer-to-peer learning through the simulation game and the online learning platform that will be developed. These innovative ICT based learning methodologies are expected to improve the impact of the VET program and increase its uptake by learners and learning providers.
LLP-Obj-11: To encourage the best use of results, innovative products and processes and to exchange good practice in the field covered by the Livelong Learning Programme, in order to improve the quality of education and training	The members of the Nebula Sector Skills Alliance combines the expertise the education, the VET provision and the employers segments of the economy. The resulting exchange of good practices, and its validation by representatives of the sector is expected to improve the quality and relevance of the project results.
LLP-SpecObj-3: To enhance the attractiveness of vocational education and training and mobility for employers and individuals and to facilitate the mobility of working trainees.	The necessity for public sector employees to have a certain level of cloud computing skills is expected to increase in upcoming years. The involvement of stakeholders from various countries in the Nebula project fosters the cross-country applicability of the results by taking into account the individual characteristics of various member states. This increases the mobility of trainees and their employability across Europe
LLP-OpObj-3: To facilitate the development of innovative practices in the field of vocational education and training other than at tertiary level, and their transfer, including from one participating country to others	The Nebula project employs a variety of innovative methodologies for the delivery of the learning units. For example, the use of ICT based gaming and the online learning platform is expected to improve the quality of the vocational education provided. Given that the consortium includes partners from multiple countries and various backgrounds, the resulting exchange of experiences will enhance in significant transfer and development of innovative solutions in all Nebula outputs.

Policies, priorities, objectives	Project Contribution
LLP-OpObj-4: To improve the transparency and recognition of qualifications and competences, including those acquired through non-formal and informal learning	The development of a roadmap for integrating the Nebula results into existing qualifications systems has the potential to initiate the process that can ultimately result in the official recognition of the corresponding competences irrespective of how they have been acquired.