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## ANNETTE PROJECT

Advanced Networking for Nuclear Education and Training and Transfer of Expertise

### DELIVERABLE D 4.2

### Software support for competency management

Nature of the deliverable		
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P	Prototype	
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#### ANNETTE

DELIVERABLE D 4.2

1/19

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## ABSTRACT:

This report describes the requirements and specification of a software tool capable to support the users in handle of job profiles, learning outcomes, qualification, certification and mutual learning recognition issues. Such approach and tool could be used for developing ECVET based professional trainings competences programs in the nuclear field. The software tool could be then used to support human resources cross border transfer and their expertise in the nuclear field.

It gives input data needed to manage a training profile and expected output from a competency software to allow setting up a professional training certified by the users.

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## ANNETTE

DELIVERABLE D 4.2

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## **TABLE OF CONTENTS**

<b>1. ACRONYMS .....</b>	<b>4</b>
<b>2. INTRODUCTION .....</b>	<b>4</b>
<b>3. WHO NEEDS WHAT?.....</b>	<b>4</b>
3.1. EMPLOYEE OBJECTIVES .....	5
3.2. EMPLOYER OBJECTIVES.....	6
3.3. TRAINING ORGANIZATION OBJECTIVES.....	6
<b>4. USERS CLASSIFICATION .....</b>	<b>6</b>
<b>5. SOFTWARE SPECIFICATIONS.....</b>	<b>7</b>
5.1. COMPETENCY MODEL.....	7
5.2. INPUT DATA .....	8
5.3. OUTPUT DATA.....	8
<b>6. DETAILED SPECIFICATIONS .....</b>	<b>9</b>
6.1. VISUALIZATION OF KSCs AND JOB PROFILES.....	9
6.2. ALLOCATION OF KSCs AND/OR JOB PROFILES .....	9
6.3. TRAINING RECORDS.....	9
6.4. CAREER PATH.....	10
6.5. EVIDENCES.....	10
6.6. CONNECTIVITY .....	11
6.7. JOINT REVIEW.....	11
6.8. EXTERNAL EVALUATION FUNCTIONALITY .....	11
6.9. DATA UPDATING AND UPLOADING.....	13
<b>7. SMALL PILOT IMPLEMENTATION.....</b>	<b>13</b>
7.1. JOB PROFILE AND TOOL.....	13
7.2. IMPLEMENTATION DETAILS.....	13
7.3. PILOT CASE – PRELIMINARY CONCLUSIONS.....	17
<b>8. CONCLUSIONS .....</b>	<b>18</b>
<b>9. REFERENCES.....</b>	<b>18</b>

## 1. ACRONYMS

ANNETTE	Advanced Networking for Nuclear Education, Training and Transfer of Expertise.
EQF	European Qualifications Framework.
ECVET	European Credit System for Vocational Education and Training.
KSCs	Knowledge, Skills and Competences.
WP4	Work Package 4.

## 2. INTRODUCTION

The ANNETTE project is addressing enhancement and networking of the Europe-wide efforts initiated in the past decades by different organizations to maintain and develop education and training in the nuclear fields. Work Package 4 within this project is devoted to the investigation of cross border transfer of expertise between two independent industrial bodies. The application of the ECVET technical framework should be used as guidance during the development and implementation of this package as much as applicable.

The present document details the specification and user requirements of an appropriate software tool for competency management. The whole competency management chain comprising of job profiles, learning outcomes, qualification, certification and learning recognition as outlined in the ECVET Framework and Methodology are the subject of this specification document. The specification provides guidance for evaluation and development of a suitable software tool including data management and associated processes. This model could be later used for a comprehensive system development, however within this work package the scope is limited to a small pilot implementation. Existing standard software components with a minimum of customization will be use within this project.

Regarding this competency software, it should be noted that the tool is not a complete human resource management system and cannot be defined as such. Its intention is to propose a practical working method, at a European level, between the main stakeholders defined hereafter.

## 3. WHO NEEDS WHAT?

Three main types of stakeholders were identified as potential users of a tool that supports the management of competency.

- The employee wants to know what a job profile covers and the training that can allow him to acquire additional competency in terms of learning outcomes.
- The employer (company or industry) wants to classify its employees, or future employees, by competency as a support to its human resource management system.
- As a third stakeholder, training institutes are interested in developing a certification of acquired competency recognized by employers / the industry.

The nuclear competence management system enables the connection of the nuclear competency catalogue, the nuclear job profiles and the ECVET level system with employers, training centres and employees to facilitate the creation of a standardized qualification system and process throughout the nuclear sector.

This system shall enable users to carry out competence evaluation and identify possible gaps and deficiencies accurately so that organizations (academic or industry) can keep their workforce suitably qualified and experienced.

In the longer term, with this system all personnel working in nuclear industry with job profiles listed in the preliminary version of NPP Job Taxonomy (see Ref.1) shall be able to produce and update the records of their individual professional pathway. A subsequent outcome could be the development and deployment of a European vocational passport, by using a quality-assured database in a harmonized and structured manner, implementing the learning from this project. It would contribute to the development of a common understanding of the qualifications being held by any employee within the nuclear sector. Final objective will be to promote both national and transnational recognition of qualifications leading to a total cross-border and cross-employer mobility.

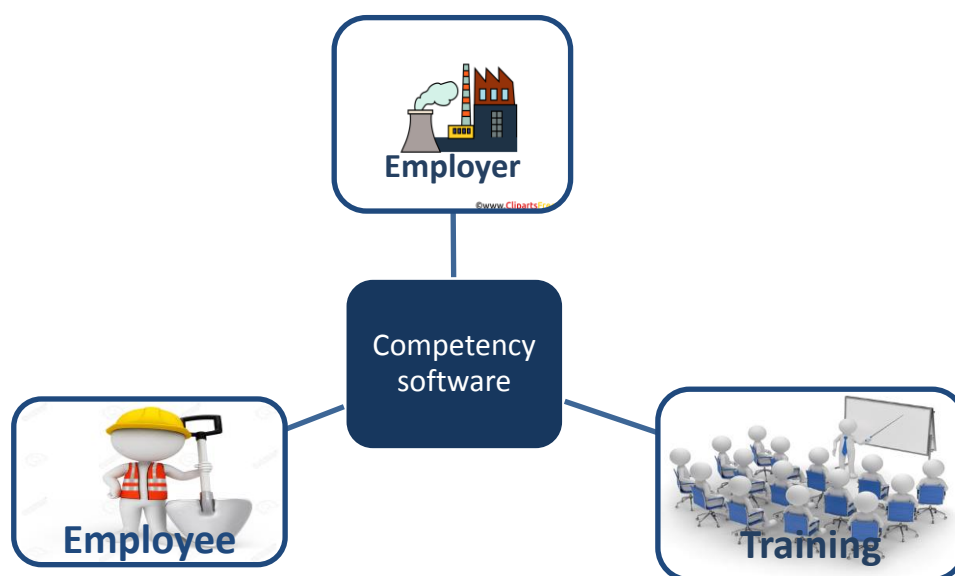


Figure 1 Main Stakeholders of Competency Software Based Module

### 3.1. EMPLOYEE OBJECTIVES

For nuclear professionals who want to expand their competency portfolio while responding to a specific job offer, dedicated training may be necessary to certify their competency and adequacy for the job. In some instances, the employee may already have many competencies in terms of learning outcomes acquired over their professional career, but not all the required ones in the job in question. In other instances, the specification of the advertised job is not structured or clear enough in function, tasks and competencies, including the breakdown in measurable units of learning outcomes, so that the candidate identifies quickly what additional certification may be required.

The software should enable candidates to list competencies, see what official block of competencies they have and what additional ones they need to respond to the advertised job position. In addition, the candidate will understand what formal or non-formal learning/training is required to fulfil the additional competencies identified through gap analysis. In summary, a comparison of his KSCs and those envisaged for the job offer should be facilitated.

It is also in the interest of the candidate to access the details of employers that recognize the value of the training he will receive with the associated competencies.

### 3.2. EMPLOYER OBJECTIVES

For the employer or advertiser of the new job position, a clear job profile is required and it is mandatory to know and list the competencies associated to a job in a European reference catalogue also known as NPP Job Taxonomy. The employer needs to ensure that its job definition is aligned with the KSCs available on the job market within the nuclear professional workforce. The employer also needs to be confident in the process set for the recruitment/acquisition of the employee e.g. training and transfer of competencies is somewhat standardized and as much as possible benefits from cross sector acceptance and accreditation.

The software should reference blocks of competencies associated with job profiles, ensure a link to the certification process of training, such that it makes valuable and transferrable. It extends the capability of the employer to hire people from another European country (increased mobility – cross-border concept), with the assurance that this professional will align and be suitable for the advertised job (mutual recognition of certified nuclear professionals – cross-employer concept).

### 3.3. TRAINING ORGANIZATION OBJECTIVES

The training organization has to develop and deliver training that takes into account the necessary KSCs expressed in measurable units of learning outcomes requested by the job. For this organization, it is useful to get a taxonomy of the job profiles for its own scope of work, their variation in blocks of competency and their associated units of learning outcomes.

The software should enable the split of nuclear jobs into blocks of competency and associated learning outcomes as this will help the training organization to specify relevant training and promote this to industrial employers.

## 4. USERS CLASSIFICATION

The type of user determines the level of access and the corresponding available functions to be used. There are four types of users within an employer account.

- **Member:** employee that holds an individual account. Members can action their own account such as: edit personal information, add or modify competences and qualifications, upload evidence of competence, request their line manager to validate their competence and training, perform self-assessments, undergo external assessment (including competence recognition) from evaluators (internal and external to the employer) and so on. **Members** are not able to make changes on other users' accounts. The employer to which a **Member** belongs may manage its individual account. A reporting section should be available to the **Member** but limited to his own profile.
- **Line manager:** holds an individual account managed by the employer and has the ability to manage and edit certain **Members'** accounts such as validating qualifications, evaluating and validating KSCs, search across the employer records using multiple criteria to identify **Members** who meet a required level of KSCs, certifying job profiles, creating team members and allocating suitable **Members** to those specified teams, etc. Line managers are nominated personnel within the employer and the number of individual **Member** accounts they can manage shall directly depend on their role and responsibilities designated by the employer. A reporting section or a reporting suite tool should be available to the **Line Manager** and should cover the entire members allocated to his/her area of responsibility.

- **Evaluator:** any **Member** or **Line manager** can be evaluator when a particular evaluation of an external is required. In many organizations there will be internal subject matter expertise evaluators also that normalize the process and scoring done by **Line managers** across the business. **Member** belonging to another employer has to be carried out by using the evaluation module. **Members** and **Line managers** can be temporarily assigned to an evaluator account in the system if they have the required experience or certified qualifications in the same domain than the external **Member** subject to the evaluation. Therefore, **Evaluators** are the users that carry out the evaluation of external **Members** in the evaluation module playing an important role in the process of mutual recognition of competences between different employers. The status of Evaluator is temporarily held for the time necessary for performing the evaluation. Once the evaluation is complete, the **Evaluator** rights are removed from the **Member** or **Line Manager**.
- **System administrator:** the user in charge of the technical maintenance and technical support of a corporate account. The **System administrator** manages from a technical point of view the individual accounts (**Line Managers**, **Members** and **Evaluators**) belonging to the employer account. User responsibilities include: assigning or modifying permissions to the different user types, solving technical incidents, ensuring data protection and application of privacy policies, managing bulk data import/export from/to the different interfaces of the system (for example the bulk import of users data from the HR management system of the employer, management of e-mail notification templates within the system and to users using the system including communication on technical related issues).
- **Gatekeeper :** is a named individual in the system, either internal or external to employer organization, to whom is given permission to view the records of a team of individuals (a team can contain one person), for the purpose of working on a particular site, a project or a bid for work. Permissions can be set for what the Gatekeeper can see and the time period they can view the records of that team.

## 5. SOFTWARE SPECIFICATIONS

From the objectives described in Chapter 3 and user classifications in Chapter 4, a software specification can be derived and the resulting tool could be used by all stakeholders identified i.e. professionals looking for advertised jobs, professional employees in employment, employers and training organizations.

### 5.1. COMPETENCY MODEL

A competency model translated in a form of a software identifies the competencies needed to operate in a specific role within a job, occupation, organization, or industry [5]. Simply stated, a competency model is a behavioural job description that must be defined by each occupational function and each job. Depending on the work and organizational environment, a group of 7 to 9 total blocks of competency are usually required for a particular job and depicted in a competency model. The model used here is derived from the ECVET methodology defined within Ref. 11.

Competencies are also specific of the context. Some competencies weight more than others in the overall evaluation for a specific job position. The level to which they are needed and demonstrated may vary depending on the job or task required of the position. One might conclude that there are different levels of profile for the various descriptors included in a competency model. A classification of levels from an academic entry level point of view and/or professional categories could be taken in consideration as in the ECVET system as basis for a competency model.

A block of competencies may vary depending on the job position and their associated tasks: it is necessary to freeze the blocks, to level the learning outcomes, and clearly set the number of blocks per job. This should be done through interviews of national experts coming with a large majority from industry employers. They are the main stakeholders and owners of future and current job positions. A list of employers that recognize the value of the learning outcomes for a given block of competences might give larger credibility and non-formal acceptance of such a model. Such a list could be attached at initial stage and could be obtained through a general survey or direct interviews.

A competency is easier to understand if it is defined by means of an action verb.

It is also of importance:

- For the user to be able to visualize in a specific form the results
- For a **Member** employee to follow his/her profile including competencies over time
- For a **Member** to accumulate a record of all evaluation undertaken and the evidence provided to demonstrate the level of competence achieved.

In the following we will refer to a software tool that includes a competency model that has a clear advantage over a classical model based on paper documentation.

## 5.2. INPUT DATA

Possible input data from the user of the software in the nuclear field are:

- Basic **Employee** characteristics,
- Evaluated Competencies of an **Employee**,
  - already acquired by a person;
- Certifications of an **Employee**,
  - already acquired by a person;
- Job profiles defined according to an ECVET approach and containing,
  - Job Title with Main Functions
  - Block of Functions, Roles and Tasks to be covered
  - Block of Competencies associated to a job profile in terms of KSCs
    - KNOWLEDGE (Cognitive competence)
    - SKILLS (Technical competence, abilities)
    - COMPETENCE (Attitude, behavioural and personal competence)

Further breakdown of input data in terms of measurable learning outcomes might be desirable. If not available, the breakdown must be completed at a later stage but not least before first evaluation and/or exchange.

## 5.3. OUTPUT DATA

Requested output from the Competence software ideally are a series of reports that summarise all the above for each individual assessed:

- Additional individual competencies to acquire, to complete full blocks;
- Process status how to evaluate existing competencies;



- Blocks of individual competency per job;
- Learning outcomes per block of competency;
- European qualification framework (EQF) classification in level associated to the validation process;
  - or any other skill level descriptions [7], or at least three basic levels of recognition of a skill (elementary, professional, advanced);
- Suggested number of ECVET points delivered for each validated learning outcome unit.

## 6. DETAILED SPECIFICATIONS

### 6.1. VISUALIZATION OF KSCs AND JOB PROFILES

The system shall be able to store and display to all users the catalogue of nuclear competencies and the nuclear job profiles. All users shall be able to consult the nuclear KSCs catalogue and the nuclear job profiles and visualize the required information. The system allows all users to display the definition of each item contained in the competency catalogue and the information of every job profile. The system offers the option of converting selected data to common formats such as .xls, .doc or .pdf.

### 6.2. ALLOCATION OF KSCs AND/OR JOB PROFILES

**Line managers** shall be able to allocate independent items of competencies from the catalogue to job profiles or tasks for each member of the employer they are in charge of.

The allocated competencies and job profiles will be displayed in the form of the datasheet allocated to each employee. The job profile contains a compilation of required competencies and the theoretical EQF level that the employee should meet in each item. However, until completion of a joint review within an employer organization, the initial status of the allocated competencies /job profile will be 'Provisional'.

A joint review with a company might consists of the following steps:

1. **Line managers** of the company assess according to the diplomas, the EQF level a member has in each item of the competencies according to their professional judgment.
2. Employees make a self-assessment of the job profile assigned by the **Line manager**. Employees can fill the EQF level according to the perception of their own professional competencies.
3. Once both of the assessments have been completed, the **Line manager** and the **Member** acquire read permission to see each other's results. Then, both of them schedule a joint review to exchange comments. The results of the definitive EQF levels agreed in the joint review are going to be the final ones being published in the datasheet of the **Member**, and the status 'Provisional' is no longer displayed, and is modified into 'Approved' together with the name of the approving company.
4. If an European certificate has been made available before evaluation, the status 'Provisional' or 'Approved' can be modified into 'Certified' indicating a competence that has the highest level of recognition.

### 6.3. TRAINING RECORDS

The system can keep track of all the training programs and/or qualifications undertaken by each individual employee. The employee **or Line manager** may create a new training record by entering the

name of the training program/qualification, number of training hours, scores, dates of the training, data of the training provider, observations, etc.

Whenever a new training record is created by allocation through an entitled career-path manager, the system shall display the default status 'Unverified'. A career-path manager can be either another **Member** entitled with this attributions by **Line Manager** or it can be the **Line manager** itself. The second case is the most use model. The system then generates an e-mail to the **Member** reminding that a certificate of achievement is needed to be uploaded in the Evidences tab to verify that the training has been completed. The training record is not yet visible for the rest of the users consulting the datasheet.

Once the certificate is uploaded, the status 'Unverified' is automatically removed and the training record is visible for users with read permission over the Training records and Evidences tabs of the datasheet in question.

#### 6.4. CAREER PATH

The system will display the experience of an individual **Member** by listing all the projects and/or activities an individual **Member** has participated in. Individual **Members** and **Line managers** may create a new item of experience in the Career path tab, however, the status shown initially will be 'Unverified' until a **Line manager** confirms it in the system.

The experience of an individual **Member** is presented in chronological order and each item of experience shows the name of the project/activity, the dates of participation in the project/activity, the name of the **Line manager**, the functions performed in the project/activity and the name of the customer where applicable.

Whenever a new experience is added to the Career path tab, the system shall display the default status 'Unverified' and generates an e-mail requesting the **Line manager** to confirm it. The new experience added is not visible to other system users until the verification process has been completed.

Once the **Line manager** has accessed the system and confirmed the item of experience, the system automatically removes the status 'Unverified' and the new experience is visible for users with read permission over the Career path tab of the datasheet in question.

#### 6.5. EVIDENCES

**Employees** can upload a range of files to respectively support the verification of their competence and **Line managers** can do the same activity for the whole group of employees they have under supervision. When clicking on the Evidences tab of the datasheet of the individual member, a list of all evidence to support competencies ordered in the chronological order they were uploaded will be displayed.

The evidences can be uploaded to support the suitability of an individual member for performing the job profile and/or task he/she has been assigned, to support the statements on the CV tab, to provide the certificates of achievement of completed training programs/qualifications or to show the certifications provided by an external employer recognizing the competencies of the individual **Member** during an external evaluation.

The Evidences tab displays the list of all evidences provided by the employee, by the **Line manager** or even external employers through the external evaluation module.

The Evidences tab shall be updated in real time whenever an evidence is added, even from the usage of the external evaluation module. Whenever a new evidence is added, the system generates an e-mail

informing the employee that a new evidence has been added and is available for his/her revision and/or **Line Manager** verification. The new evidence is not yet visible for the rest of the users.

The employee or employer needs to acknowledge newly added information e.g. the evidence. With his confirmation, the evidence becomes visible for the rest of the users.

Since the evidences can be presented in a range of formats, the interfaces between the system and the required programs for opening the files shall be designed with this in mind.

## 6.6. CONNECTIVITY

The nuclear competence management system shall be accessible from devices connectable to the internet, such as laptops and tablets.

## 6.7. JOINT REVIEW

Both **Line manager** assessment and self-assessment of the **Member** against the allocated job profile together with the EQF target level of the job profile are made independently and separately, that is, neither the **Line manager** nor the employees fills the EQF levels knowing each other's results.

Whenever both assessments have already been completed, the system generates an e-mail to both users' account informing that the joint review has to be scheduled and carried out.

The results agreed in the joint review are then entered in the column Current EQF levels of a datasheet and the columns filled by the line manager and in the self-assessment are no longer displayed.

EQF level may also be assigned by a training institute through a national or European certificate, diploma or professional qualification.

Finally, the status 'Provisional' is automatically removed from the job profile.

## 6.8. EXTERNAL EVALUATION FUNCTIONALITY

The external evaluation functionality allows an employer to assess the suitability of an external employee, coming from another employing organization, to perform certain job profile. Should the individual employee pass the process successfully, the employer may recognize and certify the competencies of the individual external employee, object of evaluation.

- The individual external employee being evaluated is called learner.
- The employer evaluating a learner is called host institution.
- The employer a learner comes from is called home institution.



Figure 2 Roles definition in the frame of ECVET exchange

The process for using the external evaluation functionality, starts with the creation of a task group by the home institution.

The home institution designates a learner and defines the data from the learner's datasheet to be shared into the task group. There are some minimum compulsory data to be provided so that the external evaluation can be carried out. The minimum compulsory data are the name, surname and e-mail address from the Personal Information tab and the KSCs, and theoretical EQF level from the Job profile/KSCs tab.

The current EQF levels are not normally shared to ensure that the evaluation is an impartial process.

The home institution sends an invitation to the host institution to join the task group.

When the host institution joins the task group, the host institution just has read permission over the shared learner's data.

The host institution then addresses the real evaluation of the learner according to the job profile of the learner. When the evaluation is completed, the host institution updates the results in the task group.

The host institution enters the results of the external evaluation in the Host EQF levels column, conceived with write permission for the host institution exclusively. Additionally, the host institution may certify with a seal of approval those KSCs that reached or exceeded the theoretical EQF level values established by the ECVET-oriented job profile. For this purpose, there will be an adjacent column to the one of the Host EQF levels called External Certifications where the host institution may put its own unique digital seal of approval. The host institution may also use another column called Evidences where the host institution can upload the tests done by the learner or other proof, such as videos of the learner performing a task, to provide more information about the results of the external evaluation.

The columns Host EQF levels, External Certifications and Evidences in the task group have write permission for the host institution and read permission for the line manager of the home institution and the learner.

Once both host and home institutions agree the evaluation data entered in the task group, an approval command will update the information in real time to the corresponding individual member's datasheets out of the task group.

The results entered in the Host EQF levels, Certifications and Evidences columns and later agreed between both parts, are also updated in the Job profile/KSCs tab of the individual employee datasheet.

In Figure 3, an example on the appearance of the Job profile/KSCs tab in the external evaluation module can be seen.

DATASHEET													
PERSONAL INFORMATION		CV	x	JOB PROFILE/KSCs	✓	TRAINING RECORDS	x	CAREER PATH	x	EVALUATIONS	x	EVIDENCES	✓
JOB REQUIREMENTS													
KNOWLEDGE (COGNITIVE COMPETENCE)		Theoretical EQF level (1-8)		Current EQF level (1-8)		Host EQF level		External Certifications	✓	Evidences	x	Comments	
Electrical installations		4		6				<div><div></div><div></div><div></div></div>	✓	Attachments	x		
Electrical instrumentation		4		5					✓		x		
Electrical equipmentet		4		4					✓		x		

Mandatory

Optional

**Figure 3 Datasheet of a learner in the external evaluation module**

The home institution will decide whether the data from the external evaluation module should be made visible for other users within the employer e.g. home institution apart from the learner and the line manager of the learner.

## 6.9. DATA UPDATING and UPLOADING

The system shall update data in real time when using all functionalities of the system. It should also be possible in the tool to upload large data e.g. bulk data in a common format like Excel or ASCII. A good option would be import of .xml data format but this is just an advanced option and not necessarily a mandated requirement.

## 7. SMALL PILOT IMPLEMENTATION

### 7.1. JOB PROFILE AND TOOL

Based on the requirements and specification mentioned through Chapter 1 to 6, a tool and a test profile has been chosen for a pilot trial with the help of a specific tool provided by one on the WP4 participants.

The tool used was Skills Assured from NSAN that describes itself as is a skills and competence management system. For more details please see Ref. 3.

The initial profile chosen to be implemented in our small pilot was of an Electrical Supervisor from Maintenance Area as given at Chapter 2.7.07 from Ref. 1. A different job profile could be used for the exchange but using the same process described here.

### 7.2. IMPLEMENTATION DETAILS

The original concept for the pilot trial for in WP4 was to make use of single structure for an organization illustrated in the Figure 4 Organisation structure for the Annette Pilot Project below. In this pilot case, the Annette Project is the parent organization and can manage the user in the child employer organizations AREVA GmbH and TECNATOM SA. The number of individuals in each employer organization can be set up.

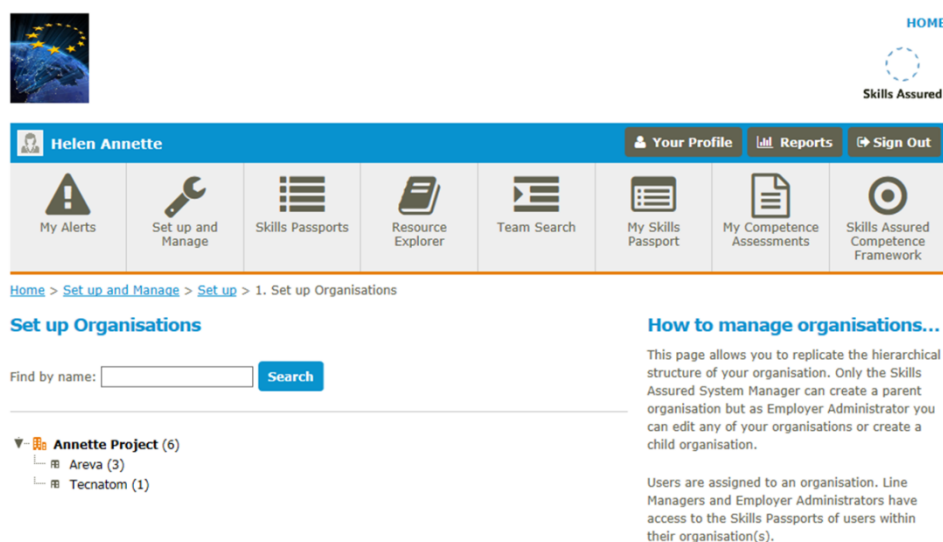


Figure 4 Organisation structure for the Annette Pilot Project

Next step was importing the chosen Job Profile into the tool. Customization was necessary to present the competences matrix in terms of KSCs as required in the ECVET Application and NPP Job Taxonomy. The preliminary results of such an import and minor customization can be seen in the Figure 5 below:

**Selected Competencies**

- Job Role - Annette Electrical Supervisor
  - Job Requirements Knowledge (Cognitive Co...
  - Preventive and Corrective Maintenance
  - General Electrical Engineering
  - Electrical installations
  - Electrical equipment
  - Electrical instrumentation
  - Electrical maintenance, fault diagnosis ...
  - Electrical safety
  - Planning, organizing and monitoring
  - Electrical machines and drives
  - Electrical motors
  - Using and interpreting electrical scheme...
  - Troubleshooting Electromechanical System...
  - Cabling
  - Planning capacity
  - Radiation safety
  - Occupational safety
  - Electrical Supply and Transportation
  - Electrical generations
  - NPP systems and components
  - Risk Assessment
  - High Voltage engineering
  - National and International regulations
  - Computer and IT literacy
  - Project Management
  - Quality assurance
  - Skills (Technical and Functional Compete...
  - Attitude, Behavioural and Personal Compe...

**Job Role: Annette Electrical Supervisor**

Training courses can be set for this job role so that users assigned the job role will ge  
Set training requirements against this job role by searching for and adding courses fn  
Remove courses by checking the box next to each one to be removed. Click 'Save' to

**Search and add required training**

☒ Training Provider ☒ NSAN Endorsed Programme ☒ Other ☒ Qualification

[Add](#)



**Required training**

Name	Delete
Company Induction to include Health and Safety Awareness	<input type="checkbox"/>
Electrical & Electronic Engineering HND	<input type="checkbox"/>
Human Performance Practitioner - 8. Human Factors	<input type="checkbox"/>

**Save and update training requirements list**

**Figure 5 Job Profile – Maintenance Electrical Supervisor**

After the Job Profile definition and customization, a pilot employee (virtual employee) was entered into the competence system. Its competencies in terms of KSCs could then be compared with the required job profile in all areas and the results compiled in a Skills Passport for example. Example of a completed preliminary of knowledge area (cognitive competences) evaluation can be seen in the Figure 6 Example Skills Passport with completed competence assessment:

Annette Electrical Supervisor - 24/01/2017 10:57:43				
Order by: Competency category				316
Job Role - Annette Electrical Supervisor				4.9
Job Requirements Knowledge (Cognitive Competence)				4.9
Competency	Score	Target	Evidence	Expand all
Preventive and Corrective Maintenance <i>Preventive and Corrective Maintenance</i>	6	6	<a href="#">View</a> <a href="#">Comment</a> Tom attended this training course and received excellent feedback from the trainers. Comment added by Peter Green on 24/01/2017 <a href="#">Files</a>  <a href="#">Certificate_20170124T104856.png</a> Uploaded by Tom Black on 24/01/2017	
General Electrical Engineering <i>General Electrical Engineering</i>	7	6	<a href="#">View</a> <a href="#">Files</a>  <a href="#">Certificate_20170124T104628.png</a> Uploaded by Tom Black on 24/01/2017	
Electrical installations <i>Electrical installations</i>	6	6	<a href="#">View</a> <a href="#">Comment</a> I have considered experience in this area. Comment added by Tom Black on 24/01/2017 <a href="#">Comment</a> Tom shows considerable knowledge in this area. Comment added by Peter Green on 24/01/2017	

**Figure 6 Example Skills Passport with completed competence assessment**


Please note that this evaluation was done only as an example and it did not directly involve an industrial employer.

Now that the employee has been evaluated/compared against existing job profiles e.g. Maintenance Electrical Supervisor, gaps can be identified and career path for completion of the required KSCs in terms of learning outcomes can be set. The follow up of a specific qualification completion patch can be followed by the tool as can be seen in the Figure 7:

Competence Records   Training Records   Organisation History   Evidence Book   Training Status   [Add a new Record](#)

All   Order by date completed   Descending   [Refresh](#)

<b>Q</b>	<b>Electrical &amp; Electronic Engineering...</b> 24/01/2017 Source: n/a	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Archive</a> <a href="#">Manage supporting files</a>
<b>O</b>	<b>Company Induction to include Health...</b> 08/01/2013 Source: n/a	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Archive</a> <a href="#">Manage supporting files</a>
<b>A</b>	<b>Triple Bar Existing Sites</b> 04/01/2012 Source: n/a	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Archive</a> <a href="#">Manage supporting files</a>



**Tom Black**  
[helen.greaves@nsan.co.uk](mailto:helen.greaves@nsan.co.uk)

**Employer:** Areva  
**Job role:** Annette Electrical Supervisor  
**Last verified assessment:** 24/01/2017 10:57:43

## Skills Passport

Competence Records	Training Records	Organisation History	Evidence Book	Training Status
<b>Job Role Courses</b> Course requirements that have been created from assigned Job Roles.				
Job Role		Course	Completed	Date
Annette Electrical Supervisor		Company Induction to include Health and Safety Awareness	No	
Annette Electrical Supervisor		Electrical & Electronic Engineering HND	No	
Annette Electrical Supervisor		Human Performance Practitioner - 8. Human Factors	No	

Figure 7 Example Skills Passport with training records and training status

All necessary training measures, their status and degree of completion can be followed accurately within the software, fulfilling the desired competence tool management requirements.

It is now proven that the process of evaluation/comparison as required by detailed competences module can be implemented within the Skills Assured tool. However, the system may have to be implemented slightly differently from the initial pilot trial to enable independent external evaluation. Career path can be set and followed. AREVA and TECNATOM, the two main industrial employers, may manage as desired the evaluation process within the tool. The Figure 8 below describes the role of a "Gatekeeper" whereas the Gatekeeper is an internal or external system role (see definition in Chapter 4).



**Edit Access**

**Team: Areva Team**

**Viewer details**

Full name:	William Grey
Organisation:	Tecnatom
Role:	GateKeeper
Start date:	<input type="text" value="25/01/2017 10:17:23"/> <small>dd/mm/yyyy</small>
End date:	<input type="text" value="25/01/2018 10:17:23"/> <small>dd/mm/yyyy</small>

**Visibility rules**

Can view Team in Reports	<input type="checkbox"/>
Can view User Profiles	<input checked="" type="checkbox"/>
Can view Competence Assessments	<input checked="" type="checkbox"/>
Can view Training Records	<input checked="" type="checkbox"/>

**Figure 8 Sharing AREVA Record with a TECNATOM Gatekeeper**

Depending on the allocation of rights and rules “the Gatekeeper” can fulfil the requirements of sharing information at a specific point in time between the two employers aiming at exchanging employees with a specified job profile.

In addition to the Gatekeeper view, the system can be run from an individual learner perspective where the individual enables an organization to view and/or manage its competencies and training records/qualifications. Post the initial pilot trial it was agreed that this may be the best approach to take for the actual exchange between the industrial partners.

### 7.3. PILOT CASE – PRELIMINARY CONCLUSIONS

The scope of the pilot application was to demonstrate that such a specific competence management tool e.g. Skills Assured can be used for supporting a cross-border and cross-employer exchange. Important knowledge and evidence has been collected during this pilot implementation and some of the conclusions are summarized below:

- Nuclear Skills Assured Tool of NSAN can be used for the purpose of WP4 and can be supported by all participants;
- A level of customization is necessary for such a tool irrespective of the owner or job profile to be used;
- Every step during the implementation requires a common agreement and understanding between the industry partners e.g. employers since different views of tool usage might lead to different pathways in implementation;
- Allocation of KSCs to a specific job profile can be easily managed with the Skills Assured Tool. A supplementary level in terms of learning outcomes would need to be added;

- e. Processes defined within the tool might need adaptation to fit better the ECVET promoted system. Visualization methods in terms of graphs and schematics of such processes might be useful for non-expert users.

It is not the objective of this documents to specify an exhaustive number of requirements for a tool development but rather look at the practical aspects that might be encountered at such early stage of development and implementation.

## 8. CONCLUSIONS

As noted above, with certain exceptions considered, competency models are a viable tool that can be utilized to prepare the current and future employers and employees and retain skilled incumbent employees to meet the job requirements and other needs of employers. Furthermore, for career exploration and development purposes and during times of job change, whether by choice or due to market changes, competency models are an assistive device for individuals to focus on their current competencies and refocus or enhance their competencies as necessary. With the knowledge and use of the information contained within a competency model and awareness of their individual competency strengths and weaknesses, individuals may manage their future job or career success, navigate their current chosen career pathway, or apply the information to examine new career opportunities, considering the utilization of transferable competencies.

It is recommended for the choice of a tool to have at the earliest possible stage of implementation, a pilot case such as presented here, to avoid over specification and establish correctly the required processes.

## 9. REFERENCES

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