



Grant Agreement Number: 661910

H2020 – NFRP-2014-2015

ANNETTE PROJECT

Advanced Networking for Nuclear Education and Training and Transfer of Expertise

DELIVERABLE D 1.4

CONCEPT OF THE ANNETTE WEBSITE

Nature of the deliverable		
R	Report	X
P	Prototype	
D	Demonstration	
O	Other	

Author(s) Tom Clarijs, Lisanne Van Puyvelde

Date of issue: **10/09/2019** 1st Reporting Period

Start date of project: **01/02/2016** Duration: **48** Months

Project co-funded by the European Commission under the Euratom Research and Training Programme on Nuclear Energy within the H2020 Programme, Call NFRP 2014-2015		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the partners of the ANNETTE project	
CO	Confidential, only for partners of the ANNETTE project	

ANNETTE

DELIVERABLE D 1.4

1/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

DISTRIBUTION LIST

Name	Number of copies	Comments
European Commission	Electronic copy via email	
All Partners	Electronic copy via website	

Scope	ANNETTE / WP1	Version:	3
Type/No.	Deliverable Report 1.4	Total pages	21
Title:	Concept of the ANNETTE website	Chapters:	4
Access:	Public	Appendices	3
Filename:	WD1.4 Concept of the platform and website	Suppl. pages:	0
Internet	http://www.enen.eu/en/projects/annette.html https://www.annette.eu		

RESPONSIBLE BENEFICIARY: ENEN Association

DOCUMENT TRACKING

	Name	Follow-up Email to Coordinator	Date
Prepared by	Tom Clarijs Pedro Dieguez (v2)		02/05/2017 10/09/2019
Reviewed by Referee(s)	Project partners		Year 2019
Quality assurance (QA leader)	Leon Cizelj		05/09/2019
Approved by Coordinator	Pedro Diéguez Porras		10/09/2019

ABSTRACT:

This report describes a possible concept for and main features of the ANNETTE project website which aims at facilitating information exchange about the project activities and results and about nuclear E&T activities.

ANNETTE

DELIVERABLE D 1.4

2/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

TABLE OF CONTENTS

TABLE OF CONTENTS.....	3
List of abbreviations	4
1 INTRODUCTION	5
2 TARGET AUDIENCE	5
3 GENERAL FEATURES OF THE WEBSITE.....	5
4 USER AREA.....	8
ANNEX 1: PRELIMINARY CONTENT OF THE WEB SECTION ‘ABOUT ANNETTE’	8
Project description	8
Partners	9
Deliverables (Public)	10
News.....	11
Contact	11
ANNEX 2: PRELIMINARY CONTENT OF THE WEB SECTION ‘NUCLEAR COMMUNITY’	12
Organizations.....	12
Projects.....	16
European E&T Framework.....	19
ANNEX 3: CONTENT OF THE WEB SECTION ‘E&T DATABASE’	21

ANNETTE

DELIVERABLE D 1.4

3/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

List of abbreviations

ANNETTE	Advanced Networking for Nuclear Education, Training and Transfer of Expertise
CPD	Continuous Professional Development
E&T	Education and Training
ECTS	European Credit Transfer System
ECVET	European Credit System for Vocational Education and Training
EQF	European Qualifications Framework
LLL	Lifelong Learning
LO	Learning Outcome
VET	Vocational Education and Training
WP	Work Package

1 Introduction

One of the objectives of WP1 is to study tools for information exchange on E&T in nuclear fields. A project website will be one of these tools, next to a project flyer, a standard presentation etc. (preferably all carrying the ANNETTE logo and following a typical and recognizable look&feel).

The website of the ANNETTE project aims to serve as an online pool of information, including a knowledge management system on E&T in nuclear. The electronic platform could facilitate the access to education, training and exchange opportunities, as well as available E&T material and facilities in support of E&T. Different levels of privileges could be foreseen in order to distribute educational material as well as information open to the public.

2 Target audience

The following target audience is identified for the ANNETTE website:

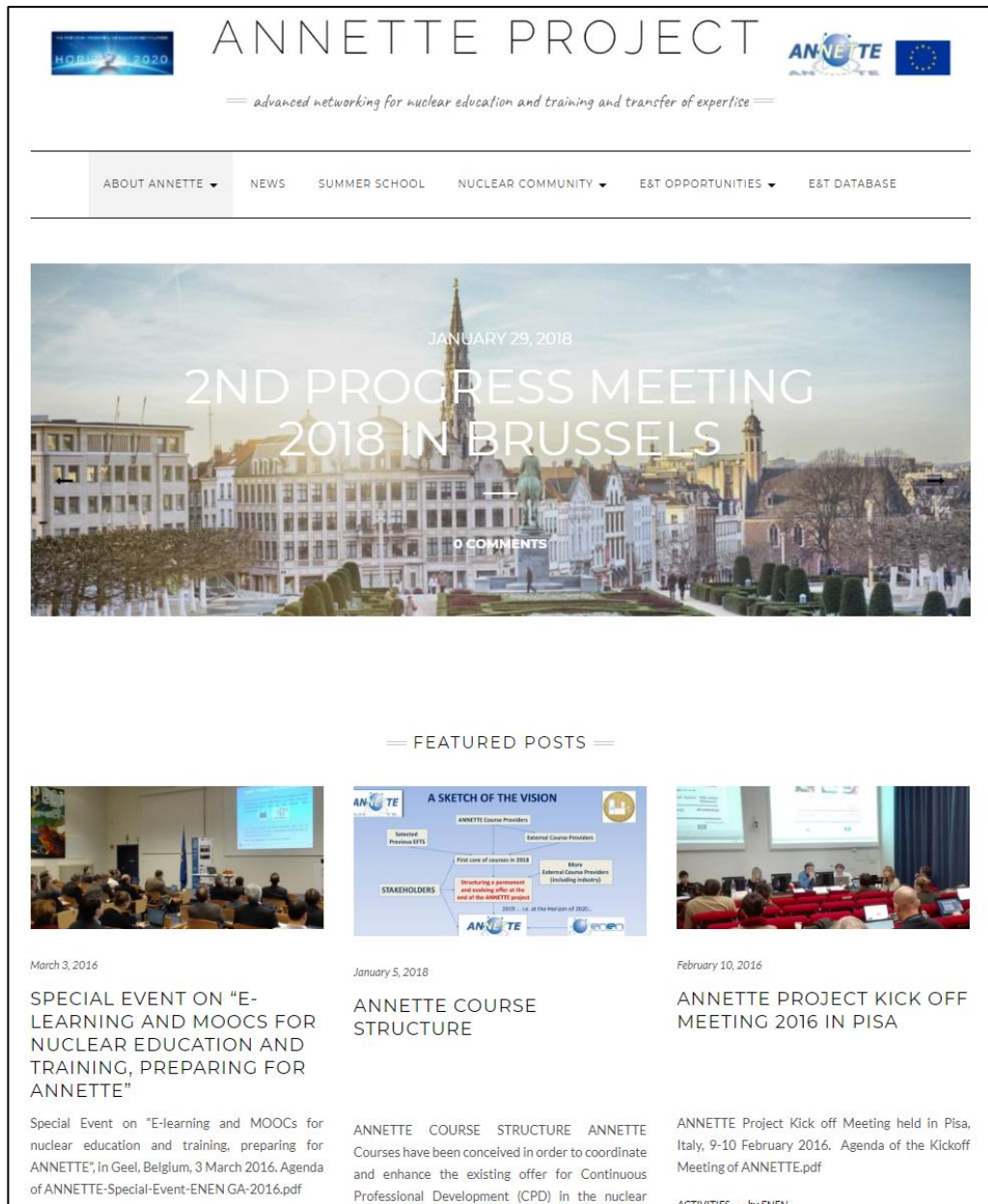
- ANNETTE project partners
 - Share documents/deliverables of the project
 - Publish E&T material and training opportunities
- Networks, working groups, ... in E&T
 - Publish E&T material and training opportunities
- University students, professionals (industry/research centres)
 - Looking for E&T, VET and professional opportunities
- Trainers / lecturers
 - Looking for E&T material and training opportunities
 - Looking for European references, examples and guidelines

3 General features of the website

On the **homepage of the website**, located at www.annette.eu, visitors can find the logo of the ANNETTE project, the website sections, a brief summary of the ANNETTE project and its objectives. There will be a space devoted to latest news related to the ANNETTE project.

Figure 1 illustrates how the homepage of the ANNETTE website is configured. Figure 2 demonstrates the main sections and subsections of the ANNETTE website.

Figure 1: design of the ANNETTE homepage



ANNETTE

DELIVERABLE D 1.4

6/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

Figure 2: overview of main sections and subsections of the ANNETTE website.

ABOUT ANNETTE	NEWS	SUMMER SCHOOL	NUCLEAR COMMUNITY	E&T OPPORTUNITIES	E&T DATABASE
DESCRIPTION			ORGANIZATIONS	COURSES STRUCTURE	
PARTNERS			PROJECTS	BULLETIN	
DELIVERABLES			EUROPEAN E&T FRAMEWORK		
CONTACT					

- In the web section '**about ANNETTE**', general information about the ANNETTE project will be published, such as a project description and goals, the project partners, the public deliverables and a contact page (see annex 1: "about ANNETTE" for a preliminary content of this web section).
- A subsection for ANNETTE related '**news**' will be foreseen as well as a subsection on the ANNETTE '**summer school**'.
- As one of the main goals of ANNETTE is the promotion of networking in E&T, a section of the website '**nuclear community**' will be reserved for the major stakeholders of E&T in nuclear. Information on organizations and EU-funded projects will be included in this nuclear community section.
The website of ANNETTE further aims to become a unique information source on E&T in nuclear. A clear description of the European E&T framework will be foreseen, with references to EQF (European Qualifications Framework), ECTS (European Credit Transfer System), ECVET (European Credit system for Vocational Education and Training) and the related Nuclear Job Taxonomy developed by EHRO-N. Annex 2 describes the proposed content for the section 'nuclear community'.
- In the subsection '**E&T opportunities**', the pilot course programme of ANNETTE is listed. The ANNETTE partners (and their associated E&T networks) can post their training courses or opportunities for international exchange. In this page the monthly bulletins are collected, ready for download, in order of date of release. The monthly bulletins have been released since June 2018 in order to advise about courses which were to be released.
- A part of the website will be devoted to the '**E&T database**'. A list of facilities to support VET and E&T initiatives is obtained from the ANNETTE survey on facilities for lifelong learning (LLL) which is conducted in the frame of task 1.6 of the ANNETTE project. This list could be extended with an interactive map of these facilities (e.g. <http://www.enen.eu/en/projects/enenru2.html>). In annex 3 the preliminary content for the section 'E&T Database' is described.

4 User area

The main part of the website is accessible for the public. Some private parts on the website, which will only be accessible with a login and password, should be foreseen. Private web spaces for two different user levels can be created.

1. For ANNETTE project partners some restricted area's will be foreseen which facilitate the exchange of documents by means of a SharePoint structure. ANNETTE project partners will have the rights to publish and alter the content in the restricted area's created in the subsection 'Deliverables'.
2. Via a user level for networks and organizations in nuclear E&T these stakeholders can add content to the web section 'E&T Opportunities'.

Annex 1: preliminary content of the web section 'ABOUT ANNETTE'

ABOUT ANNETTE	NEWS	SUMMER SCHOOL	NUCLEAR COMMUNITY	E&T OPPORTUNITIES	E&T DATABASE
DESCRIPTION			ORGANIZATIONS	COURSES STRUCTURE	
PARTNERS			PROJECTS	BULLETIN	
DELIVERABLES			EUROPEAN E&T FRAMEWORK		
CONTACT					

Project description

ANNETTE: Advanced Networking for Nuclear Education, Training and Transfer of Expertise

The present situation of nuclear energy in Europe asks for a continuing effort in the field of Education and Training (E&T) aimed to assure qualified workforce in the next decades.

The ANNETTE project aims at enhancing the Europe-wide efforts initiated in the past decades by different organizations belonging to academia, research centres and industry to maintain and develop education and training in the different nuclear areas. The main aim of this action is to consolidate and better exploit the achievements already reached in the past and to tackle the present challenges in preparing the European workforce in the different nuclear areas, with special attention to continuous professional development, life-long learning and cross border mobility.

The ANNETTE consortium is committed to perform coordination and support actions coherent with the SET Plan Roadmap for Education and Training for the nuclear sector, tightening the links between the areas of nuclear safety/engineering, radiation protection, waste management and geological disposal at the same time, by better coordinating their contributions in the E&T fields. The transition from science to technology occurring in the fusion research environment justifies

ANNETTE

DELIVERABLE D 1.4

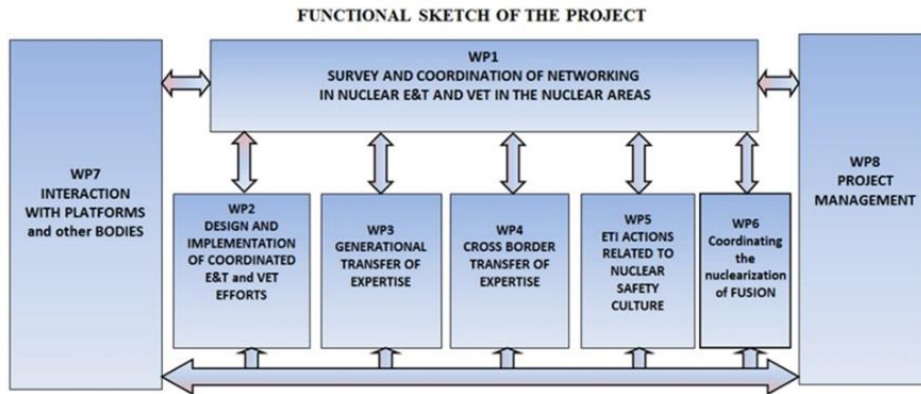
8/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

an additional effort to tighten the links with FuseNet, thus integrating the E&T effort on the fission side with common actions related to fusion.

This project receives funding from the EURATOM Research and Training programme under grant agreement N° 661910.



Partners

(with logo's and links to the respective websites)

N°	Participant organization name Country	Short name	
1	European Nuclear Education Network	ENEN	France
2	Commissariat à l'Énergie Atomique – Institut National des Sciences et Techniques Nucleaires	CEA-INSTN	France
3	Belgian Nuclear Research Centre	SCK•CEN	Belgium
4	Technical University of Catalonia - Barcelona Tech	UPC	Spain
5	TECNATOM	TECNATOM	Spain
6	AREVA	AREVA	Germany
7	Consorzio Interuniversitario per la Ricerca Tecnologica Nucleare	CIRTEN	Italy
8	Jozef Stefan Institute	JSI	Slovenia
9	Aalto University	AALTO	Finland
10	Uppsala University	UU	Sweden
11	Joint Research Centre	JRC	Belgium

ANNETTE

DELIVERABLE D 1.4

9/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

12	FuseNet Association	FUSENET	Netherlands
13	Bundesamt für Strahlenschutz	BfS	Germany
14	Czech Technical University	CVUT	Czech Republic
15	Horia Hulubei National Institute of Physics and Nuclear Engineering	HH-IFIN	Romania
16	Forschungszentrum Jülich GmbH	JUELICH	Germany
17	Karlsruhe Institute of Technology	KIT	Germany
18	Université Catholique de Louvain	UCL	Belgium
19	Université de Lorraine	UL	France
20	University of Manchester	UMAN	UK
21	Università di Pavia	UNIPV	Italy
22	Universidad Politecnica de Madrid	UPM	Spain
23	University of Centre Lancashire	UCLAN	UK
24	Universidad Nacional de Educación a Distancia	UNED	Spain
25	National Skills Academy for Nuclear Ltd	NSAN	UK

Deliverables (Public)

Number	Title	WP number	Lead beneficiary
D1.1	Survey on E&T and VET in the Nuclear Fields in Europe	WP1	1 - ENEN
D1.2	Sustainable Advanced Networking in Nuclear E&T	WP1	7 - CIRTEN
D1.3	Implementation of an advanced database for nuclear E&T and VET	WP1	3 - SCK•CEN
D1.4	Concept of the platform and website	WP1	3 - SCK•CEN
D1.5	Effective and sustainable communication with national networks	WP1	3 - SCK•CEN
D1.6	European certifications for E&T and VET in relevant nuclear domains	WP1	4 - UPC

ANNETTE

DELIVERABLE D 1.4

10/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

D1.7	Procedures for the coordinated E&T efforts planned for WP2	WP1	3 - SCK•CEN
D1.8	Nuclear facilities in support of Lifelong Learning	WP1	11 - JRC
D2.1	Specific needs for an advanced European Programme for CPD in the nuclear areas	WP2	1 - ENEN
D2.3	Course Web Pages (<i>direct link to the pages</i>)	WP2	1 - ENEN
D2.4	Implementation of the pilot courses	WP2	7 - CIRTEN
D3.1	Criteria for selecting the E&T products	WP3	4 - UPC
D3.2	Summary description of the E&T products	WP3	4 - UPC
D4.1	Application of the ECVET System in the Nuclear Field	WP4	3 - SCK•CEN
D4.2	Software Support for Competence Management	WP4	6 - AREVA-G
D4.6	Evaluation of the Exchanges and Recommendation for Future ECVET Implementation	WP4	8 - JSI
D5.1	Specific needs for courses on nuclear safety culture	WP5	1 - ENEN
D5.3	Practical implementation of courses on NSC	WP5	1 - ENEN
D6.1	Competence needs for the nuclearization of Fusion	WP6	12 - FuseNet
D6.4	Implementation of courses of Nuclear Awareness for Fusion	WP6	12 - FuseNet
D6.5	Participation in the courses	WP6	12 - FuseNet
D7.1	Presentation of the ANNETTE Project	WP7	8 - JSI
D7.3	Summary of Special Events on Advanced Networking	WP7	8 - JSI
D7.4	Interactions and feedbacks for the ANNETTE Project	WP7	8 - JSI

News

This subsection contains new outcomes and updates achieved within the ANNETTE project.

Contact

Pedro Dieguez Porras
Executive Director
Phone: +32 484201504

ENEN
Rue d'Egmont 11,
1000 Brussels Belgium
Email: secretariat@enen.eu

ANNETTE

DELIVERABLE D 1.4

11/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

Annex 2: preliminary content of the web section 'NUCLEAR COMMUNITY'

ABOUT ANNETTE	NEWS	SUMMER SCHOOL	NUCLEAR COMMUNITY	E&T OPPORTUNITIES	E&T DATABASE
DESCRIPTION			ORGANIZATIONS	COURSES STRUCTURE	
PARTNERS			PROJECTS	BULLETIN	
DELIVERABLES			EUROPEAN E&T FRAMEWORK		
CONTACT					

Organizations

This page shows a list of most important organizations in the nuclear field. A short description of each organization, the logo and a direct link to the respective websites are shown on this page.

- **EHRO-N**

The European Human Resources Observatory for the Nuclear Sector (EHRO-N) was established in 2011, in the framework of the EURATOM treaty, to determine the situation of nuclear-educated Human Resources, skills and competences in Europe, assess the trends and suggest policy options for improvement.

ehron.jrc.ec.europa.eu/



- **ENEN**

The European Nuclear Education Network, ENEN is a non-profit international organization established in 2003 under the French Law of 1901. The mission of ENEN is the preservation and the further development of expertise in the nuclear fields by higher Education and Training. This objective should be realized through the co-operation between universities, research organizations, regulatory bodies, the industry and any other organizations involved in the application of nuclear science and ionizing radiation.

<http://www.enen.eu/>



- **ENSREG**

The European Nuclear Safety Regulators Group is an independent, expert advisory group created in 2007 following a decision of the European Commission. It is composed of senior officials from the national nuclear safety, radioactive waste safety or radiation protection

ANNETTE

DELIVERABLE D 1.4

12/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

regulatory authorities and senior civil servants with competence in these fields. ENSREG's role is to help to establish the conditions for continuous improvement and to reach a common understanding in the areas of nuclear safety and radioactive waste management.

<http://www.ensreg.org/>



- **ESARDA**

ESARDA is an association of European organizations formed to advance and harmonise research and development in the area of safeguards. It also provides a forum for the exchange of information and ideas between nuclear facility operators, safeguards authorities and persons engaged in research and development. ESARDA was formed in 1969 with the purpose of facilitating collaboration in R&D in the field of safeguards and in the application of such R&D to the safeguarding of source and special fissile materials.

<https://esarda.jrc.ec.europa.eu/>



- **ETSON**

The European Technical Safety Organizations Network, founded in 2006, aims to promote and develop European scientific and technical co-operation between the TSOs in the field of nuclear safety. ETSON wants to be the major cooperative workplace for technical safety issues in Europe; be a source of technical reflexions on safety issues and wants to produce technical outcome and positions that foster the enhancement and harmonization of safety practices in Europe.

<http://www.etson.eu/>



- **Eurofusion**

EUROfusion, the European Consortium for the Development of Fusion Energy, manages European fusion research activities on behalf of the European Commission. It is a consortium, established in 2014, of national fusion research institutes located in the European Union and Switzerland.

<https://www.euro-fusion.org/>



- **EUTERP**

The EUTERP Foundation is an independent legal entity set up to provide a centralized European source of information on radiation protection education and training matters. Main objectives of the

ANNETTE

DELIVERABLE D 1.4

13/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

Foundation are to encourage and support harmonization of education and training requirements for radiation protection experts, radiation workers and other radiation protection professionals; to better integrate radiation protection education and training systems into general vocational training and education infrastructures; and to act as a focus for the sharing of information on training events, standards, developments etc.

<http://euterp.eu/>



- **FORATOM**

FORATOM is the Brussels-based trade association for the nuclear energy industry in Europe. FORATOM acts as the voice of the European nuclear industry in energy policy discussions with EU Institutions and other key stakeholders. The membership of FORATOM is made up of 16 national nuclear associations representing nearly 800 firms. FORATOM provides information and expertise on the role of nuclear energy; produce position papers, newsfeeds, responses to public consultations, analyses of public opinion; organize regular networking events like dinner debates, workshops, one-on-one meetings, press briefings and visits to nuclear facilities.

<https://www.foratom.org/>



- **Fusenet**

The Fusenet Association is the European Network on Fusion Education. The goal of the network is to

stimulate and coordinate high quality fusion education and make this available to students in an attractive and transparent manner. Presently it comprises over 50 members from 19 different countries, including universities, research organizations and companies that are involved in the development of energy production from nuclear fusion. The Fusenet Association is a legal entity and can apply for funding for its activities on behalf of its members.

<http://www.fusenet.eu/>



- **HERCA**

HERCA is a voluntary association in which the Heads of Radiation Protection Authorities work together in order to identify common issues and propose practical solutions for these issues. HERCA is working on topics generally covered by provisions of the EURATOM Treaty. The programme of work of HERCA is based on common interest in significant regulatory issues.

<http://www.herca.org/>



- **IAEA**

ANNETTE

DELIVERABLE D 1.4

14/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

The International Atomic Energy Agency is the world's central intergovernmental forum for scientific and technical co-operation in the nuclear field. It works for the safe, secure and peaceful uses of nuclear science and technology, contributing to international peace and security and the United Nations' Sustainable Development Goals. The IAEA plays an active part in helping the international community achieve the 17 Sustainable Development Goals.

<https://www.iaea.org/>



- **IGD-TP**

The Implementing Geological Disposal of Radioactive Waste Technology Platform (IGD-TP) was launched in 2009. The main objectives of the IGD-TP are to initiate and carry out collaborative actions in Europe to facilitate the stepwise implementation of safe, deep geological disposal of spent fuel, high-level waste, and other long-lived radioactive waste by solving the remaining scientific, technological and social challenges, and thereby to support waste management programmes in the Member States. <http://www.igdtp.eu/>



- **INSEN**

The International Nuclear Security Education Network's mission is to enhance global nuclear security by developing, sharing and promoting excellence in nuclear security education. The network was founded in 2010 under the auspices of the IAEA Nuclear Security Programme.

<http://www-ns.iaea.org/security/workshops/insen-wshop.asp>



- **MELODI**

MELODI is a European Platform dedicated to low dose radiation risk research. In 2010 MELODI was founded as a registered association with 15 members. The main goals of MELODI are the promotion and coordination of low dose risk research in Europe, through an open and integrative approach, adopting a Strategic Research Agenda. Further MELODI aims to create a forum for dialogue with EU institutions and stakeholders and with international partners (WHO, IAEA, USA, ...).

<http://www.melodi-online.eu/>



- **NUGENIA**

NUGENIA is an association dedicated to the research and development of nuclear fission technologies, with a focus on Generation II and III nuclear plants. It aims to be an integrated framework for R&D to ensure safe, reliable and competitive Gen II & III fission technologies.

ANNETTE

DELIVERABLE D 1.4

15/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

<http://www.nugenia.org/>



- **SNETP**

SNETP will preserve and strengthen the European technological leadership and nuclear industry through a strong and long-term R&D programme, involving fuel cycles and reactor systems of Generation II, III and IV types. SNETP will further enhance Europe's technological leadership in nuclear science and engineering by the production of scientific and technical skills to keep pace with corresponding industrial and R&D demand and will contribute to the production of synthetic fuels and hydrogen needs.

<http://www.snetp.eu/>



Projects

This page shows a short description of various projects organized in the nuclear field, the project logo and a direct link to the project website.

- **ENEN III (May 2009 – April 2012)**

ENEN III is the third project in the ENEN project series in nuclear engineering (European Nuclear Education Network). This project covered the structuring, organization, coordination and implementation of training schemes in cooperation with local, national and international training organizations, to provide training to professionals active in nuclear organizations or their contractors and subcontractors. The training schemes provide a portfolio of courses, training sessions, seminars and workshops for continuous learning, for upgrading knowledge and developing skills. One of the project deliverables was to work towards a training passport, which allowed the recognition of qualifications and the validation of training courses according to a set of commonly agreed criteria.

<http://www.enen-assoc.org/en/training/for-nuclear-community/enen-iii.html>

- **ENETRAP II (March 2009 - February 2012)**

ENETRAP II is the second project of the ENETRAP projects series (European Network for Education and Training in Radiation Protection), focussing on the policy and implementation of education and training in radiation protection at the European and national level. The overall objective of the ENETRAP II project was to develop European high-quality "reference standards" and good practices for education and training in radiation protection (RP), specifically with respect to the radiation protection expert (RPE) and the radiation protection officer (RPO). The definitions and requirements for RPEs and RPOs were adopted in the European Basic Safety Standard (EURATOM 2013/59). A training curriculum for the RPE was developed in terms of learning outcomes in knowledge, skills and competences following the ECVET principles.

ANNETTE

DELIVERABLE D 1.4

16/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

<http://enetrap2.sckcen.be/>



- **ENETRAP III (June 2014 - May 2018)**

ENETRAP III adds new and innovative topics to existing E&T approaches in RP. It further develops the European reference training scheme with additional specialized modules for RPE working in medical, waste management and NPP. It will implement the ECVET principles and will establish targeted assistance from regulators that will play a crucial role in the endorsement of the proposed courses and learning objectives. ENETRAP III will also introduce a train-the-trainer strategy. All organized pilot sessions will be open to young and more experienced students and professionals. In this way, the project aims to contribute to increasing the attractiveness of nuclear careers and to lifelong learning activities.

A web-based platform containing all relevant information about E&T in RP will facilitate an efficient knowledge transfer and capacity building in Europe and beyond. ENETRAP III will also propose guidance for implementing E&T for RPE and RPO, hereby providing extremely important assistance to all Member States who are expected to transpose the Euratom BSS requirements into their national legislations. Moreover, ENETRAP III will demonstrate the practical feasibility of earlier developed concepts for mutual recognition and thus provide leading examples in Europe demonstrating effective borderless mobility.

<http://enetrap3.sckcen.be/>



- **PETRUS II (January 2009 – December 2011)**

PETRUS II is the second project of the PETRUS project series (Programme for Education, Training and Research on Underground Storage), which aim at a cooperative approach of education and training (E&T) in geological disposal of radioactive waste between universities, waste management organizations, training organizations and research institutes.

<http://www.enen-assoc.org/en/training/for-nuclear-community/petrus-ii.html>



- **PETRUS III (September 2013 – September 2016)**

The PETRUS II project is currently continued in the PETRUS III project whose objective is to promote E&T in geological disposal of radioactive waste. Different aspects of the ECVET system (such as the elaboration and implementation of the professional development training programme using ECVET principles) are being developed and tested in the domain of geological disposal and waste.

<http://www.petrus3.eu/>

- **CINCH (June 2013 – May 2016)**

ANNETTE

DELIVERABLE D 1.4

17/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

The CINCH-I project aimed at the Coordination of Education in Nuclear Chemistry in order to mitigate the effects of the decline of number of staff qualified in nuclear chemistry. This project is currently continued in the CINCH II project with the aim to mobilise the identified existing fragmented capabilities to form the critical mass required to implement the courses and meet the nuclear chemistry postgraduate education and training needs of the European Union. The current curricula are being developed using the ECVET guidelines.

<http://cinch-project.eu/>



- **TRASNUSAFE (November 2010 – October 2014)**

The objective of the TRASNUSAFE (Training Schemes on Nuclear Safety Culture) project was to design, develop and test two relevant training schemes on Nuclear Safety Culture with a European environment, based on a specific evaluation of the training needs. Five different training modules were developed and tested. The LOs were described in terms of knowledge, skills and competences.

<http://trasnusafe.eu/>



- **MEDRAPET (December 2010 – February 2013)**

The main aim of the MEDRAPET project (Medical Radiation Protection Education and Training) was the identification of needs in radiation protection training for various medical professionals. The results of the MEDRAPET project were the basis for the revision of the Radiation Protection 116 Guidelines on Education and Training in Radiation Protection for Medical Exposures, which was published in February 2014 as Radiation Protection 175: Guidelines on Radiation Protection Education and Training of Medical Professionals in the European Union. It consists of core learning outcomes in radiation protection, and specific learning outcomes for various categories of medical professionals, defined in knowledge, skills and competences.

<http://www.medrapet.eu/>



- **EUTEMPE-RX (September 2013 – September 2016)**

The EUTEMPE-RX project (European Training and Education for Medical Physics Experts in Radiology) aims to provide a training scheme that allows the medical physicist in Diagnostic and Interventional Radiology to reach EQF level 8, as it was defined by the EU funded 'Guidelines for the MPE' project. The core activity of the medical physics expert (MPE) is to ensure ionising radiations are optimally used in patient healthcare and to bring new knowledge and expertise from physics into healthcare. It will develop 12 courses at EQF level 8 following the ECVET principles.

ANNETTE

DELIVERABLE D 1.4

18/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

<http://www.eutempe-rx.eu/>



- **NUSHARE (January 2013 – June 2017)**

NUSHARE is a FP7 project implementing a European Education, Training and Information initiative proposed by the Commissioner for Research and Innovation and the Commissioner for Energy after the Great East Japan Earthquake and Tsunami on 11 March 2011 (Fukushima). Its main objective is to develop and implement education, training and information programmes strengthening competences required for achieving excellence in nuclear safety culture. Particular attention is being paid to lessons learned from stress tests conducted on all EU nuclear Power Plants in response to the Fukushima accident and to sharing best practices at the European level.

<http://www.nushare.eu/>



- **CORONA II (September 2015 - September 2018)**

The main objective of the proposed **CORONA II** project is to enhance the safety of nuclear installations through further improvement of the training capabilities aimed at building up the necessary personnel competencies. Specific objective of the proposed CORONA II project is to proceed with the development of state-of-the-art regional training centre for VVER competence (which will be called CORONA Academy), whose pilot implementation through CORONA project (2011-2014) proved to be viable solution for supporting transnational mobility and lifelong learning amongst VVER operating countries.

<http://corona2.eu/>



European E&T Framework

This web section could contain general information and links to websites of the European Commission concerning EQF, ECTS, ECVET and the nuclear job taxonomy. The web section is related to Work Package 4 task 4.1 of the ANNETTE project.

- **EQF**

The European Qualifications Framework (EQF) is a translation tool that helps communication and comparison between qualifications systems in Europe. Eight common European reference levels are included, described in terms of learning outcomes on knowledge, skills and competences. Both ECVET and EQF are based on learning outcomes which makes it easier to understand what the holder of a certificate or diploma knows, understands and can do.

More information on EQF: <https://ec.europa.eu/ploteus/en/content/descriptors-page>

- **ECTS**

ANNETTE

DELIVERABLE D 1.4

19/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

ECTS, the European Credit Transfer System, is a credit system and a central tool in the Bologna Process, which aims to make national systems more compatible. ECTS credits represent the workload and defined learning outcomes ("what the individual knows understands and is able to do") of a given course or programme. 60 ECTS credits are the equivalent of a full year of study or work.

More information on ECTS: http://ec.europa.eu/education/ects/ects_en.htm

- **ECVET**

ECVET, the European Credit system for Vocational Education and Training, is a tool designed to aid the transfer, recognition and accumulation of learning outcomes of individuals on their way to achieving a qualification. It is meant to operate in coordination with other European tools, promoting borderless mobility and lifelong learning. It creates the potential to recognize, accumulate and transfer work-related skills and knowledge acquired during a stay in another country or in different situations, so that these experiences contribute to building up recognized vocational qualifications. The implementation of ECVET will increase transparency of qualifications, support mobility and benefit professionals by providing a systematic and transparent way to present, document and validate their knowledge, skills and competence.

ECVET is one of several European tools launched the last decade as an integral part of the 'education and training 2010-20' and Copenhagen processes. The development of ECVET began in 2002 after the Copenhagen Process emphasized the need for a credit system for VET. The system has been developed by the Member States and the social partners in cooperation with the European Commission and has been adopted through a recommendation by the European Parliament and the Council in 2009.

The timetable for ECVET implementation, which is a voluntary process, as foreseen in the ECVET recommendation, includes a preparatory period running until 2012, during which the Member States are asked to create the necessary conditions and to adopt measures with a view to introducing ECVET.

The technical components for ECVET can be described in three main categories:

- Qualification design (qualifications, units of learning outcomes and credit points)
- The accumulation process (assessment, validation and recognition of learning outcomes)
- The transfer process (memorandum of understanding, learning agreement and learners' transcript of records)

More information on ECVET: http://ec.europa.eu/education/policy/vocational-policy/ecvet_en.htm

Related items are:

EUROPASS: <https://europass.cedefop.europa.eu/>

ESCO (European Skills, Competences, Qualifications and Occupations): <https://ec.europa.eu/esco/home>

- **Nuclear Job Taxonomy**

EHRO-N, the European Human Resources Observatory for the Nuclear Sector, published multiple reports on the needs of nuclear experts soon.

ANNETTE

DELIVERABLE D 1.4

20/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**

JRC-IET has developed over the last years a strategy and a road map for the ECVET implementation in the nuclear energy sector (NES). One of the components in the road map was the development of a Nuclear Job Taxonomy (NJT), where about 140 representative jobs were identified in the 3 phases of the NPP life cycle (New build, operation and decommissioning). It consists of a list of jobs and their profiles, focused on the required competences, and a catalogue of knowledge, skills and competence items to be used as an aid to draft the profiles.

More information on the Nuclear Job Taxonomy: <http://ehron.jrc.ec.europa.eu/job-taxonomy>

Annex 3: content of the web section 'E&T DATABASE'

ABOUT ANNETTE	NEWS	SUMMER SCHOOL	NUCLEAR COMMUNITY	E&T OPPORTUNITIES	E&T DATABASE
DESCRIPTION			ORGANIZATIONS	COURSES STRUCTURE	
PARTNERS			PROJECTS	BULLETIN	
DELIVERABLES			EUROPEAN E&T FRAMEWORK		
CONTACT					

This specific part of the ANNETTE website 'E&T database' could focus on E&T and VET events, exchange opportunities, educational material, E&T facilities and organizations by including the database developed in the frame of ANNETTE task T1.3 (D1.3). The database aims to provide easy and well-organized access to all E&T opportunities. The database could be designed in such a way that a connection towards other existing databases for E&T initiatives, such as IAEA, ENETRAP III/EUTERP can be made should this be desired by the ANNETTE or ENEN community.

Training courses and events developed in the ANNETTE framework will be offered via the database. E.g.:

- European Master Programme for CPD: pilot courses (WP2)
- Summer courses: pilot courses (WP2)
- Training courses in the field of nuclear safety culture (WP5)
- Fusion specific training courses (WP6)

E&T and VET initiatives or exchange opportunities in the relevant nuclear fields on an academic, vocational or professional level which can be offered via the database are:

- Thesis (BSc, MSc, PhD) opportunities
- Research opportunities (post-doc or other)
- Internships, scientific visits or on-the-job trainings

A list of job opportunities could be made available in the database.

Via the survey conducted in task T1.6 (D1.8) a list of facilities which support lifelong learning could be made available on the ANNETTE website. Contact details, main area of scientific focus and short description of each facility could be provided. These facilities can also be incorporated in the ANNETTE database.

ANNETTE

DELIVERABLE D 1.4

21/21

Dissemination level: PU

Date of issue of this report: **10/09/2019**