ENEN RU Project
Cooperation in personnel training

Pedro Diéguez Porras
Secretary General of the European Nuclear Education Network

ATOMEXPO 2015
Round Table «Integrated solution for personnel training and development of nuclear infrastructure for national nuclear programmes»
Moscow, Russian Federation, June 2nd, 2015
Content:
1. ENEN Association
2. ENEN RU I project
3. ENEN RU II project
4. Link with NUSHARE project
5. Link with CORONA II project
6. Conclusions
1. ENEN Association
The European Nuclear Education Network is a non-profit international organization established on 22 September 2003 under the French Law of 1901.

Its mission is the preservation and further development of expertise in the nuclear fields by higher education and training through:

- promotion of networking for education and training in Europe
- favouring borderless mobility of students and teachers
- providing attractiveness for young and motivated students
- leading relevant EU Projects for E&T and R&D
- qualifying itself as a reference institution to cross-cut E&T in the nuclear fields: setting up a “bridge” academia ↔ stakeholders

ENEN presently involves Universities or University clusters, Research Institutions, Industrial Bodies and International Agencies or Societies.
EMSNE Certification

PhD Event & Prize

Competitive and friendly presentation of research in Nuclear fields.
12 Finalists, of which 3 winners

Signature of Practical Arrangements with IAEA

This year will be held in ICAPP’2015

Certifications
European Master of Science in Nuclear Engineering (EMSNE)
European Nuclear Education Network
September 2014 – Present

2009

2013
Network
E & T
K. Mg.
2. ENEN RU I project
ENEN RU projects are two parallel projects on the EU side and the Russian side

**Coordinator: ENEN**

**Partners:**
- SCK-CEN, Belgium
- CVUT Praze, Czech Republic
- CV REZ, Czech Republic
- Universität Stuttgart, Germany
- TU Muenchen, Germany
- CIRTEN, Italy
- University Politehnica Bucharest, Romania
- STU v Bratislave, Slovakia
- University of Manchester, UK
- Tecnatom (TEC), Spain

**Coordinator: ROSATOM**

**Partners:**
- State Atomic Energy Corporation (ROSATOM)
- National Research Nuclear University
  - NRNU-MEPhI *
  - NRNU-Obninsk
- Central Institute for Continuing Education and Training (CICET) *
- SSC - Research Institute for Atomic Reactors (SSC-RIAR)
- Russian Technology Transfer Network (RTTN)
- Ulyanovsk State University (ULSU)
The objectives of the ENEN-RU I project (2011 – 2013) were:

- to define a common basis to allow effective cooperation between the European and Russian networks for nuclear E&T
- to define the needs of cooperation in the long term
- to establish a framework for mobility of teachers and students
- to conduct some pilot items for Education and Training (E&T)
- to list up and promote the use of E&T facilities and laboratories
- to launch the knowledge management framework
## ENEN RU - WORK PACKAGES

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WP1</strong> Bologna process and ECTS in Russia</td>
<td>Nuclear competence building by education and training</td>
</tr>
<tr>
<td><strong>WP2</strong> Needs for long term cooperation</td>
<td>ENEN-RU E&amp;T forum</td>
</tr>
<tr>
<td><strong>WP3</strong> Pilot items for education</td>
<td>Strengthening participation in nuclear education</td>
</tr>
<tr>
<td><strong>WP4</strong> Pilot items for training</td>
<td>Strengthening participation in nuclear training</td>
</tr>
<tr>
<td><strong>WP5</strong> E&amp;T facilities, laboratories and equipments</td>
<td>E&amp;T facilities, laboratories and equipments</td>
</tr>
<tr>
<td><strong>WP6</strong> Knowledge dissemination</td>
<td>Project management and knowledge dissemination</td>
</tr>
<tr>
<td><strong>WP7</strong> Project management</td>
<td></td>
</tr>
</tbody>
</table>

[ENEN RU logo]
## ENEN RU II - WORK PACKAGES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WP1</td>
<td>Bologna process and ECTS in Russia</td>
<td>Nuclear competence building by education and training</td>
</tr>
<tr>
<td>WP2</td>
<td>Needs for long term cooperation</td>
<td>ENEN-RU E&amp;T forum</td>
</tr>
<tr>
<td>WP3</td>
<td>Pilot items for education</td>
<td>Strengthening participation in nuclear education</td>
</tr>
<tr>
<td>WP4</td>
<td>Pilot items for training</td>
<td>Strengthening participation in nuclear training</td>
</tr>
<tr>
<td>WP5</td>
<td>E&amp;T facilities, laboratories and equipments</td>
<td>E&amp;T facilities, laboratories and equipments</td>
</tr>
<tr>
<td>WP6</td>
<td>Knowledge dissemination</td>
<td>Project management and knowledge dissemination</td>
</tr>
<tr>
<td>WP7</td>
<td>Project management</td>
<td></td>
</tr>
</tbody>
</table>
3. ENEN RU II project
ENEN RU II

Project Title:
Strengthening of Cooperation and Exchange for Nuclear Education and Training between the European Union and the Russian Federation

The OBJECTIVES of the ENEN-RU II project (2014 – 2017) project are:

- to further define a common basis for effective cooperation between the European and Russian networks for nuclear Education & Training (E&T)
- to define a detailed implementation plan based on the needs of cooperation in the long-term agreed
- to implement the plan in a sustainable manner
- to operate the knowledge management framework
- to list up and promote further use of E&T facilities, laboratories and equipment
# WORK PACKAGES

<table>
<thead>
<tr>
<th></th>
<th>ENEN-RU II (2014-2017)</th>
<th>EU Leader</th>
<th>RU Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WP1</strong></td>
<td>Nuclear competence building by education and training</td>
<td>UPB</td>
<td>NRNU-MEPhI</td>
</tr>
<tr>
<td><strong>WP2</strong></td>
<td>ENEN-RU E&amp;T forum</td>
<td>ENEN</td>
<td>ROSATOM</td>
</tr>
<tr>
<td><strong>WP3</strong></td>
<td>Strengthening participation in nuclear education</td>
<td>CTU</td>
<td>NRNU-MEPhI and CICET</td>
</tr>
<tr>
<td><strong>WP4</strong></td>
<td>Strengthening participation in nuclear training</td>
<td>SCKCEN</td>
<td>CICET</td>
</tr>
<tr>
<td><strong>WP5</strong></td>
<td>E&amp;T facilities, laboratories and equipments</td>
<td>TUM</td>
<td>NRNU-MEPhI</td>
</tr>
<tr>
<td><strong>WP6</strong></td>
<td>Project management and knowledge dissemination</td>
<td>ENEN</td>
<td>ROSATOM</td>
</tr>
</tbody>
</table>
ENEN-RU II
WP1 - Nuclear competence building

- To promote the implementation of the Bologna process and ECTS

- To establish the **nuclear competences** required for BS and MS level graduates in Nuclear Engineering based on learning outcomes as defined by knowledge, skills and attitudes

- To analyse the **curricula** for Nuclear Engineering in EU countries and Russia

- To define, on this basis, the criteria for **mutual recognition** of nuclear E&T.

- To investigate the opportunity of professional E&T passport for Russian professionals
ENEN-RU II
WP2 - ENEN-RU E&T FORUM

• To establish the ENEN-RU E&T Forum, among the project partners and experts beyond the project.

• To get expert advice review the progress of the project, on a regular basis, in terms of the short-term strategy and give *advices* to WP1, WP3, WP4, WP5 and WP6;

• To clarify the long-term *strategy* and define actions to be taken towards the agreed future direction.
ENEN-RU II
WP3 - Pilot courses of ENEN-RU II, Strengthening Participation in Nuclear Education

• To organize and review the participation of Master and/or PhD students and professors to selected existing courses

• To organize joint course(s) at Master or PhD level taking into account the recommendations from the ENEN-RU project;

• To organize joint PhD projects taking into account the recommendations from the ENEN-RU project;

• To promote and demonstrate the use of distance learning tools to facilitate participation to selected courses; and

• To develop a system of financial support for students by the industry.
ENEN-RU II
WP4 - Strengthening Participation in Nuclear Training

• To organize and review the **participation of young professionals and lecturers** to selected training courses

• To organize one or more joint training **courses** taking into account the recommendations from the ENEN-RU project.

• To promote and demonstrate the use of **distance learning** tools to facilitate participation to selected training courses.

• To develop a system of financial support for young professionals by the industry
ENEN-RU II
A Very Fruitful Progress Meeting
Moscow, July 1-2, 2015
5. Link with NUSHARE Project
Project proposed by:
- Commissioner for Research and Innovation
- Commissioner for Energy

after the Great East Japan Earthquake and Tsunami in 2011.

**OBJECTIVE:** to develop and implement Education, Training and Information programmes strengthening competences required for achieving excellence in **NUCLEAR SAFETY CULTURE.**

From January 2013 to December 2016, a 4-years action!
EUROPEAN NUCLEAR EDUCATION NETWORK

Single Beneficiary of NUSHARE

Target Group 1
Policy decision makers & opinion leaders

Target Group 2
Nuclear Regulatory Authorities & TSOs

Target Group 3
Electric utilities, suppliers, & providers of Nuclear services
1st phase: Development of concepts and basic programmes

- **NUSHARE Catalogue** (NSC training courses - live document)
  It includes 45 offers for E.T.I. schemes offered by 20 providers
- **Stakeholders’ Meeting** (Brussels, March 13-14, 2014)

- **Validation**
  - Interaction with international recognized experts from industry and WANO. IAEA in process.
  - New methodology tested during test sessions
Hearing at the EU Parliament

- In February 2014, ENEN was invited to a public hearing of the Committee on Industry, Research and Energy (ITRE) to present issues related to the “new safety directive”
- A message on the needs of E&T in the nuclear fields and on the ongoing NUSHARE Project was conveyed
2nd phase: Execution of the proposed actions including pilot courses and actual course delivery
6. Link with CORONA II Project
CORONA II Partners

Enhancement of Training Capabilities in VVER Technology through establishment of VVER Training Academy

Participation of members of the ENEN RU II project in the new CORONA II project:

Coordinator: Kozloduy NPP PLC, Bulgaria
1. Institute of Nuclear Research and Nuclear Energy – Bulgarian Academy of Sciences, Bulgaria
2. ESIS GmbH, Germany
3. TECNATOM S.A., Spain
4. CV REZ, Czech Republic
5. NRNU MEPhI, Russian Federation
6. Risk Engineering, Bulgaria
7. Budapesti Muszaki es Gazdasagstudomanyi Egyetem, Hungary
8. ENEN Association, France

• Project approved by the European Commission. Start during 2015
Thanks for your attention!

Pedro Diéguez Porras
Secretary General
Contact: sec.enen@cea.fr

European Nuclear Education Network

Centre CEA de Saclay, INSTN, Bat. 395
F-91191 Gif sur Yvette Cedex, France

Tel: +33 1 69 08 97 57

www.enen-assoc.org