Empowering Nuclear Workforce: A Workshop on Skills Management in the European Union

Date: *24th of September 2024*

Location: *Permanent Representation of Hungary to the EU, Rue de Treves 92-98*

Introduction

The nuclear industry in the European Union is rapidly evolving, requiring a skilled and knowledgeable workforce to meet the challenges of the future, not only in relation to operating the existing nuclear fleets but also for Member States considering new builds, or decommissioning. The issue of ageing workforce and lack of interest of young professionals in nuclear-related subjects is also a challenge for nuclear safety regulators, public authorities (including at governmental level), radiation protection and emergency preparedness authorities and research organisations. It is therefore of strategic importance to maintain and further develop a high level of expertise and skills required for the nuclear-related sector in the EU (e.g. mechanical and electrical engineers, technicians, etc.). This conference aims to address critical aspects of skills management within the nuclear sector, focusing on developing, retaining, and optimizing talent to ensure a resilient workforce.

Key Objectives

1. Assess the current landscape of nuclear skills and competencies in the European Union.
2. Identify emerging trends, opportunities, and challenges in skills management within the nuclear sector.
3. Increasing attractiveness of the nuclear sector.
4. Explore strategies for recruiting, training, and retaining a skilled workforce in the nuclear industry.
5. Highlight best practices and innovative approaches to skills development and knowledge transfer.

Key Themes

1. Skills gap analysis and future workforce needs.
2. Training and education programs for nuclear and nuclear-related professionals.
3. Knowledge management and transfer in the nuclear sector.
4. Career development opportunities and pathways in the nuclear industry.
5. Collaboration between industry, academia, and government for skills enhancement.

Expected Outcomes

The conference will have provided an opportunity for collaboration, networking, and knowledge-sharing among stakeholders in order to address the skills challenges facing the nuclear industry and to ensure a skilled workforce capable of meeting the demands of the future. By the conclusion of the conference, participants will have gained insights into the latest trends, developments, and best practices in nuclear skills management within the European Union.

Conventional and non-conventional ideas to address the increasing gap in the nuclear workforce in the European Union

1. **Encourage STEM (Science, Technology, Engineering, and Mathematics) education** at the primary and secondary school levels to foster interest in nuclear science and technology among young people. Offer scholarships and grants to support individuals pursuing higher education in nuclear engineering, physics, and related disciplines.

2. Form **partnerships with nuclear industry stakeholders**, research institutions, and governmental agencies to create collaborative initiatives for workforce development. Establish joint projects, mentorship programs, and knowledge-sharing platforms to enhance skill development and knowledge transfer.

3. Facilitate **international cooperation and mobility programs** to attract talent from other countries and promote cross-border exchanges of expertise. Support initiatives such as joint research projects, student exchanges, and professional development programs to address workforce shortages and enhance diversity in the nuclear sector.

4. **Implement diversity and inclusion initiatives** to attract individuals from diverse backgrounds, including women, minorities, and underrepresented groups, to pursue careers in the nuclear industry. Create a supportive and inclusive work environment that values diversity and promotes equal opportunities for all employees.

5. **Develop retention strategies** and career development opportunities to retain skilled professionals within the nuclear workforce. Offer competitive salaries, benefits, and advancement prospects, along with continuing education and professional development programs to enhance employee engagement and job satisfaction.

6. **Launch public awareness campaigns** and outreach efforts to raise awareness about the importance of the nuclear industry and the career opportunities available in this sector. Engage with schools, universities, and community organizations to promote the benefits of working in the nuclear field and dispel myths and misconceptions about nuclear energy.

7. **Implement upskilling and reskilling programs** to retrain existing workers and professionals from related industries for roles in the nuclear sector. Offer specialized training courses, certifications, and on-the-job learning opportunities to equip individuals with the necessary skills for nuclear jobs.

8. **Establish regional centers of excellence** for nuclear education, research, and training to serve as hubs for developing a skilled workforce. These centers can offer specialized training, conduct research projects, and facilitate knowledge exchange among industry, academia, and government stakeholders.

9. **Provide financial incentives, scholarships, and grants** for individuals pursuing education and training in critical skills areas for the nuclear industry, such as nuclear engineering, radiation protection, nuclear physics, and nuclear safety. Encourage young professionals and students to specialize in high-demand fields within the nuclear sector.

10. **Offer flexible work arrangements**, remote work options, and part-time positions to attract and retain skilled professionals who may prefer alternative work setups. Embrace digital technologies and virtual collaboration tools to enable remote work opportunities for nuclear workforce members.
11. **Introduce gamification elements into nuclear training programs** to make learning more engaging and interactive. Develop nuclear-themed simulations, challenges, and virtual reality experiences that allow individuals to acquire and practice skills in a fun and immersive way.

12. **Organize intensive nuclear industry bootcamps or crash courses** that provide condensed training on essential nuclear concepts, technologies, and safety practices. Offer hands-on workshops, site visits, and networking opportunities to immerse participants in the world of nuclear energy.

13. **Host hackathons or innovation challenges** focused on solving real-world problems in the nuclear sector. Invite students, professionals, and enthusiasts from diverse backgrounds to collaborate on creative solutions, new technologies, and process improvements for nuclear workforce development.

14. **Create virtual internship exchange programs** that allow students and professionals to gain international experience and exposure to different aspects of the nuclear industry. Partner with nuclear organizations across EU countries to offer remote internships and cross-border learning opportunities.

15. **Establish entrepreneurship incubators or accelerators** specifically tailored to support startups and ventures in the nuclear sector. Provide resources, mentorship, funding opportunities, and networking platforms for aspiring entrepreneurs to develop and launch innovative nuclear solutions.

16. **Implement artificial intelligence (AI) algorithms and machine learning tools** to assess individual skills, competencies, and aptitudes for roles in the nuclear workforce. Use AI-powered platforms to match candidates with job opportunities based on their unique profiles and potential for success in the nuclear industry.

17. **Develop immersive virtual reality (VR) training modules** that simulate hazardous scenarios and safety procedures in nuclear facilities. Use VR technology to train workforce members on emergency response protocols, radiation protection measures, and critical decision-making skills in a controlled and realistic environment.

Agenda

09:00 – 09:30 Registration and welcome coffee

09:30 – 10:00 Keynote speech by Minister Csaba Lantos and Commissioner Simson

10:00 – 10:15 Presentation of the Nuclear Ecosystem study by Yves Desbazeille
General Director, Nucleareurope

10:15 – 11:15 Academic panel

Building on the workshop held on the 20-21st of March in Brussels organized by the University of Caen Normandy. This section should explore, in the presence of the European Commission, Universities and higher education institutions the creation of a skills ecosystem to address the issue. Options such as deepening the cooperation under the Erasmus+ program could also be discussed.

Moderator: Ms Ulla Engelmann, Director for Nuclear Safety and Security, Joint Research Centre
(The moderator gives a brief overview, 10-15 minutes of the current state of play)

Panellists:

- Mr Brian Eriksen, Coordinator of EHRO-N
- Mr Francisco Javier Elorza, President of ENEN
- Mr Stefano Monti, President of ENS
- Mr Felix Rohn, Policy Officer, B.2 Skills Agenda, DG EMPL
- Mr Lamri Adoui, President, University of Caen Normandie

11:15 – 11:30 Q&A

11:30 – 11:45 Coffee break

11:45 – 12:45 Industry panel

Building on the first-hand experience of nuclear power plant operators, companies involved in the nuclear value chain the panellists should explore ways in which they could address the challenge in recruiting, training and retaining skilled workforce.

Moderator: Callum Thomas, CEO, Thomas Thor
(The moderator gives a brief overview, 10-15 minutes of the current state of play)

Panellists:

- Mr Domenico Rossetti di Valdalbero, Deputy Head of Unit at the European Commission, Research and Innovation
- Mr Csaba Kiss, deputy CEO responsible for production, MVM
- Mr Endre Ascsillán, Global Head of Business Development and Chief Strategic Affairs Officer, GE Vernova | Steam Power |Nuclear New Unit
- Mr Bernard Fontana, CEO Framatome (TBC)
- Mr Cosmin Ghita, CEO Nuclearelectrica

12:45 – 13:00 Q&A

13:00 Closing remarks by Ambassador Katalin Molnár