

CAPTURE

Nuclear knowledge preservation,
consolidation and dissemination

Background

Since 1990, the EU has been building up its nuclear knowledge base. The accident in Chernobyl in 1986 turned public opinion against this form of power, leading to a gradual phasing out of nuclear energy in several EU Member States. Younger generations' interest in nuclear studies decreased dramatically, and nuclear education was abandoned by many engineering faculties. In the meantime, the first generation of senior nuclear experts started to retire, with a resulting gap between incoming and outgoing flows of experts. This led gradually to a shortage of qualified professionals and an increased risk of loss of valuable knowledge for the nuclear community. However, factors such as security of supply and climate change issues (greenhouse gas mitigation measures) have contributed to a nuclear power renaissance. In order to avoid loss of related EU expertise and knowledge, action should be taken now to preserve and disseminate the acquired knowledge to the new generation of engineers, scientists and other interested parties. The nuclear human resources situation also needs to be monitored.

Contact:

Dr. Ulrik von Estorff
European Commission • JRC • Institute
for Energy and Transport
Tel: +31 (0)224 56 53 25
Fax: +31 (0)224 56 56 27
Email: ulrik.von-estorff@ec.europa.eu



Think big – act small!

The JRC's Institute for Energy and Transport (IET) is 'thinking big': defining a comprehensive plan for nuclear knowledge preservation, while co-operating with other ongoing international activities in order to avoid duplication. It is also 'acting small': defining key areas of JRC-IET nuclear competences so as to focus activities and apply its in-house consolidation methodology for knowledge preservation. The selected areas include Plant Life Management, Nuclear Engineering Materials Testing, Irradiation Embrittlement, Accident Management and GENIV technology..

The nuclear knowledge condensed by the consolidation methodology will be carried over to standard and modern multimedia training and education modules, in collaboration with other key players in the field (mainly the International Atomic Energy Agency (IAEA)).

Consolidation methodology

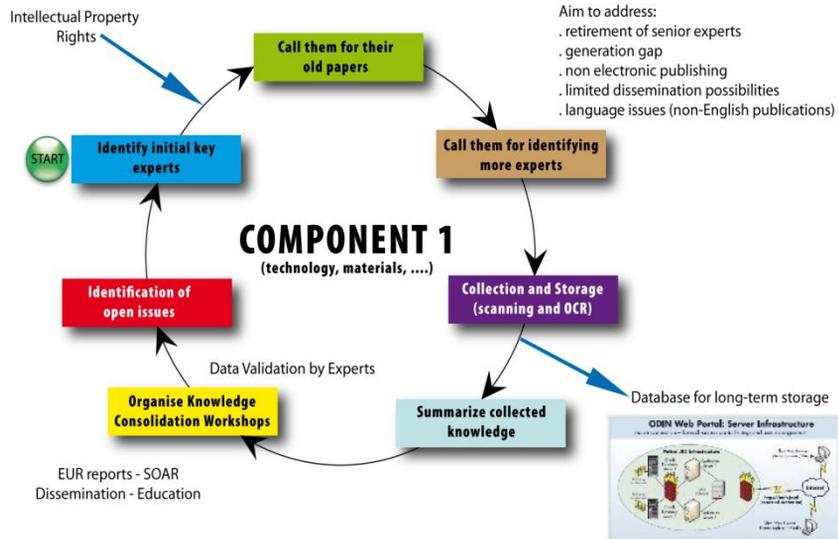
The IET has developed a methodology for consolidation of nuclear knowledge: mobilisation of all identified leading experts in the EU or beyond, re-evaluation of old knowledge, and consolidation of the information necessary to create training and education material for new generations of nuclear engineers.

Preservation and dissemination

The preserved nuclear knowledge is disseminated through the Online Data & Information Network for Energy (ODIN) and CAPTURE web portals:

ODIN: <http://odin.jrc.ec.europa.eu>

CAPTURE: <http://capture.jrc.ec.europa.eu>



The CAPTURE embedded European Human Resources Observatory for the Nuclear Energy Sector (EHRO-N) aims mainly at the following objective:

The Observatory should produce and regularly update a quality-assured data base on the short-, medium and long-term needs of human resources for the different stakeholders in nuclear energy and nuclear safety. The data should be structured according to the required qualifications (i.e. disciplines and specializations, main non-academic and academic levels, need for specific practical skills or theoretical knowledge).

EHRO-N: <http://ehron.jrc.ec.europa.eu>

