

The IAEA's Nuclear Knowledge Management Section and Support for University Education Programmes

John Roberts 7th September 2021 Nuclear Academics Discussion Meeting University of Cambridge, UK

What is a Knowledge Management?



 Coordinated, integrated, systemic practices and activities, which enable and promote effective knowledge processes and ensure adequate knowledge assets as needed to achieve organizational goals



Information Lifecycle Management





Knowledge Management Assist Visits (KMAVs) help organisations — develop and implement a strategic KM programme — mitigate the loss of critical knowledge of the organization

What is a Knowledge Management?

- The discipline that acknowledges that people are just a temporary part of many processes and projects
 - Particularly relevant for industries such as nuclear



Good University Education Programmes and Outreach Programmes

Knowledge Management Assist Visit Levels



1. Programme Establishment: Nuclear or radiological education and training programmes are relatively few or evolving and an introduction to their implementation is required

2. Programme Support: Active nuclear or radiological education and/or training programmes that need assistance in their general implementation and optimisation

 3. Programme Appraisal: Specific high-level assistance to optimise and enhance nuclear or radiological education and training programmes to ensure their sustainability.
 They are also used to collect best practices.



Level 3 – Programme Appraisal



- A two-way knowledge sharing process
 - Capture and share good practices and lessons learned from which other providers can benefit
 - Provide an opportunity for suggestions to enhance educational and training programmes
- Some providers with well-established programmes may be primarily visited to capture and disseminate their successful and innovative programme approaches
 - create a catalogue of best practices to support the level 1 KMAVs

Level 3 – Programme Appraisal



- Possible Issues
 - Student recruitment
 - Staff retention
 - Implementation of distance learning
 - Access to facilities
 - International opportunities
 - Access to outreach materials
- Learn from good practices from around the world that give opportunities for continuous improvement
- First level 3 mission at the Budapest University of Technology and Economics – December 2021





Olkiluoto 3, Finland





Construction Started 12th August 2005, Grid Connection 2022?

Flamanville 3, France





Construction Started 3rd December 2007, Grid Connection 2023?

Average Annual Construction Times





Sources: WNISR, with IAEA-PRIS, 2020

International Nuclear Management Academy (INMA)



- A collaboration between the IAEA and leading universities to develop and deliver master's programmes in **nuclear technology management**
 - Nuclear and radiological technology
 - Facility design and operation, nuclear fuel cycle, radiological protection
 - Management
 - Finance, project management, human performance, safety management
 - Leadership
 - Communication, ethics, change management, safety culture
- Establishment of the NTM programme is supported by assist and assessment missions to the university

Aim: 'T Shaped' Leaders



Breadth of Knowledge Nuclear Technology Management

Depth of Knowledge Technical Specialists

INMA Deliverables



- Strengthen depth and breadth of managerial competencies
- Avoid serious gaps in nuclear managerial competencies
- Reduced time-lines to managerial competency
- Ensure high quality management education for nuclear managers available & accessible – full-time or part-time

Better educated and informed managers = better decision-making



IAEA International Nuclear Management Academy Initial Assist Visit 2018.1.22-25

Current Status - INMA Universities

Members

- The University of Manchester, United Kingdom
- National Research Nuclear University MEPhI, Moscow, Russia
- The University of Tokyo, Japan
- Texas A&M University, United States of America
- North-West University, South Africa
- University of the Witwatersrand, South Africa
- Budapest University of Technology and Economics, Hungary

Candidates in the endorsement process

- National Polytechnic University, Armenia
- Harbin Engineering University, China
- Tsinghua University, China
- University of Ontario Institute of Technology, Canada
- University of Idaho, United States of America
- University of West Bohemia, Czech Republic
- University of Sharjah, United Arab Emirates
- Sofia University St. Kliment Ohridski











UNIVERSITY OF THE WITWATERSRAND, Johannesburg







Initial INMA Cycle



Initial expression of interest from the University to the IAEA

University receives an INMA assessment mission following a second selfassessment based on actual programme in place University receives an INMA assist mission from the IAEA following a selfassessment based on current capability

If requested, follow on support missions to provide advice and guidance University implements a nuclear technology management programme

Review after 4 years, full assessment after 8 years

What are the benefits?



- For the student
 - Opens up career opportunities across the nuclear sector
 - Transferable skills help the student become job-ready faster
- For the University
 - Options for attracting broader range of vocational focused students, early career (full-time) and mid-career (part time)
 - Enhanced international recognition via links to the International IAEA educational programmes
 - Potential to attract a broader range of international students
- For the Industry
 - Improved safety and economic performance
 - Better return on investment

INMA Publication

IAEA

- International Nuclear Management Academy Master's Programmes in Nuclear Technology Management
- Available from IAEA
 website





Thank you!

