Nuclear Knowledge Management in the Agency

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Outline:

• The challenges for IAEA in managing nuclear knowledge
• The recent developments
• The strategic framework for future development
• The peaceful use of nuclear technology relies heavily on the accumulation of specialized nuclear knowledge, skills and expertise.
If nuclear technology is to play an important role in the future we need:

- Public interest
- Responsible use
- Sustainable nuclear knowledge
Nuclear knowledge...

• **(Nuclear)** Knowledge extends beyond “information” in that knowledge also includes the value added, that is, expertise required to turn raw *(nuclear)* information into an understanding of *(nuclear)* issues or, in other words, to give the information a meaning.
Nuclear knowledge...

• Today nuclear knowledge resides in governments, academia, industry and society.
• The IAEA is a source of unique information and knowledge in all areas of the nuclear field.
"Knowledge Management caters to the critical issues of organizational adaptation, survival and competence in face of increasingly discontinuous environmental change."

Discontinuity is a threat..
The case of nuclear power

Historical Development

IEA Projection

IPCC SRES (median of 40 scenarios)

Capacity Gap

GWe installed

NUCLEAR TECHNOLOGY LEARNING: COSTS AND BENEFITS

- Learning costs
- Learning benefits

Specific investment costs in nuclear science vs. Cumulative investments vs. Cumulative experience vs. Time
Nuclear knowledge may easily be lost due to insufficient knowledge transfer...
For the Agency today...

Nuclear Knowledge is the critical resource, strategically important for the Agency’s capacity for effective action.
A strategic objective for the Agency today…

“To maintain and further enhance its role as an authoritative independent source of quality information, knowledge, and expertise in support of peaceful uses of nuclear science and technology.”
The Internal Challenge - “Managing Organizational Knowledge”

• Establish and promote the “Knowledge Management Objective”

• Develop a Specific “Knowledge Management Goal” for all Agency’s activities.
The External Challenge – “Preserving and Enhancing Nuclear Knowledge”

• Current threat to nuclear knowledge is declining interest in the wide scale use of nuclear energy.

• Loss of nuclear expertise could also negatively affect future potential to apply nuclear techniques and methods in important areas such as medicine, agriculture, hydrology, and food preservation, especially in developing countries.
Elements of “Nuclear Knowledge Management” in the Agency…

• Enhancing Nuclear Education and Training
• Preserving and Maintaining Nuclear Knowledge
• Pooling and Analyzing Nuclear Knowledge
• Promoting Policy and Guidance for Nuclear KM
Recent Developments…

• Agency wide cooperation in addressing the crosscutting issues of Nuclear Knowledge Management.

• Re-engineering programmatic activities to strengthen Nuclear Knowledge Management,

• Addressing the knowledge management needs of Member States.
Recent Developments...

• Introducing dedicated KM activities in all Major Programmes,

• Redefining INIS and Library

• Establishing Knowledge Preservation projects in critical areas.
The Knowledge Management Programme

Internal KM Activities
- Knowledge Management Liaison Group
  - Exchange of information on activities and best practices in the Agency and helps avoid duplication
  - Development of Guidance Documents
- Knowledge Preservation
  - Digitizing and Archiving Agency Information
  - Preserving Knowledge and Internal Expertise
- Knowledge Management
  - Nuclear Information and Nuclear Knowledge Int. Conference (Paris)
  - NKM Seminar in ICTP (Trieste)

KM with Member States
- Knowledge Preservation
  - FR Knowledge Preservation Initiative
  - NPP Knowledge Preservation
  - KP in Underground Labs
  - KM for GCR
- Education and Training
  - Support to WNU
  - Asian Nuclear Education Network
  - ENEN
  - ESANS at Uni-Pavia

International Atomic Energy Agency
Requirements, Methodology and Guidance for Nuclear Knowledge management

I

Nuclear knowledge management requirements

Describing the Fundamental Objectives

II

Nuclear Knowledge Management Methodology

Describing the principles and processes

III

Nuclear Knowledge Management Guidelines

Describing the recommendations and guidance

Knowledge Management Practices
A Key “Institutional Cluster”
Currently Implemented with Agency’s assistance:

ANENT

(Asian Network for Education in Nuclear Technology)
Conclusions...

Knowledge management at the IAEA has been maturing to the point where it needs:

• Long term vision
• Medium term strategy
• Coherent methodology
The Vision…

“IAEA is the authoritative independent source of quality information, knowledge, and expertise in support of peaceful uses of nuclear science and technology.”
Strategic Directions…

• Develop the methodology and guidance for nuclear knowledge management,
• Integrate Agency’s nuclear information resources: (INIS, Library, Databases and other resources,)
• Develop new models and systems for information access and knowledge transfer.
• Promote Nuclear knowledge life-cycle management
Agency’s Objectives at this conference..

• "… to reach a clear and common understanding of issues related to nuclear knowledge management for sustaining knowledge and expertise in nuclear science and technology"

• Results to be used for development of Agency strategy in nuclear knowledge management
thank you for your attention