



Practical Approach to KM Maturity Assessment in Nuclear Organisations

risk management and assessment for business

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Contents

- Purpose of a KM self assessment
- The IAEA self assessment model
- Self assessment process
- Practical application

KM Self Assessment

The main purpose of KM self assessment is:

- To understand existing KM strengths & development areas in the organisation
- To help prioritize areas for action
- To support the implementation of an IAEA KM expert mission

The generic self assessment model for NPPs is currently described in IAEA TECDOC 1586.

A separate model for R&D organisations is also available

KM Self Assessment is NOT About -

- Compliance monitoring
- Judging organizational performance



- Each organization is in a different stage of NKM maturity
- Each organization has its own NKM methodologies



IAEA KM Assessment Tool for Nuclear Organizations

Policy/Strategy

Human Resource (HR)
Planning and HR
Processes

Methods, Procedures &
Documentation
Processes

Technical (IT)
Solutions

Approaches to Capturing
Tact Knowledge

KM Culture/Workforce
Culture

Competence
Development

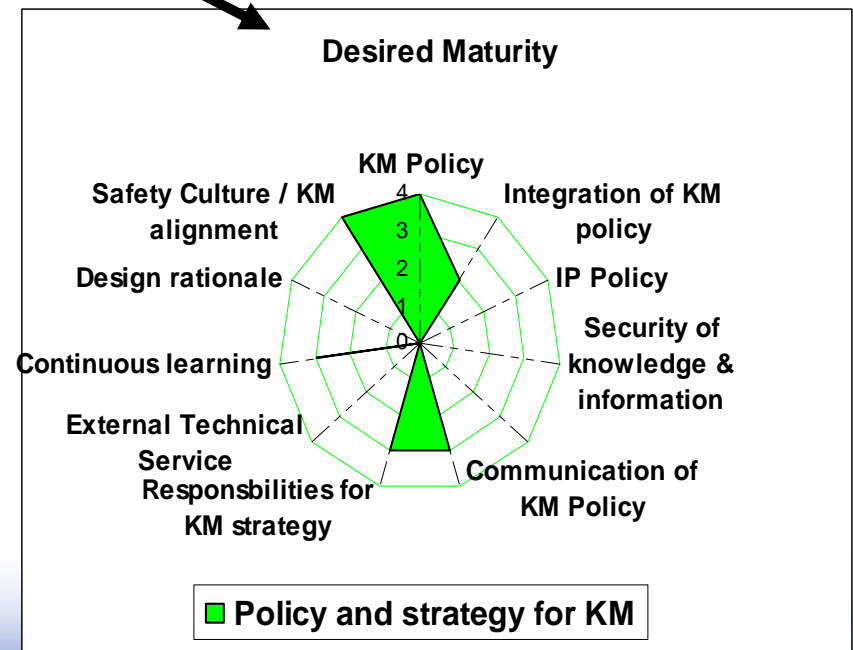
External
Collaboration

IAEA KM Self Assessment Tool

The self assessment model is available as an interactive Excel spreadsheet with graphical output:

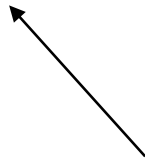
**KM Assessment Basis
= Present Situation**

**KM Assessment Basis
= Desired Situation**



Example of Assessment Questions (for Policy/Strategy)

1	Does the organisation have a written policy for implementing its KM strategy?
2	Is this KM policy integrated into the management system?
3	Do you have an Intellectual Property (IP) policy?



Simple questions – unambiguous in meaning



Self Assessment Metrics/Scoring

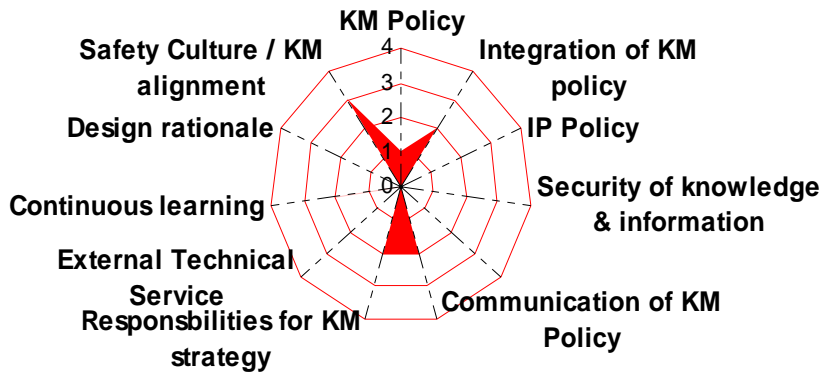
Rating	Extent Currently	Extent Desired
0	Not utilized at all	Not utilized at all
1	To a little extent	To a little extent
2	To some extent	To some extent
3	To a great extent	To a great extent
4	To a very great extent	To a very great extent

1. KM Policies and Strategies

1. Written policies for implementing KM strategy
2. KM policy integrated into management system
3. Written policy for IP
4. Written policy for knowledge and information security
5. Best practice adoption/international standards
6. Communication strategy
7. Identification of KM responsibilities
8. Managers are personally involved in the KM program
9. Processes in place to capture design rationale
10. Organization's strategic focus supports a continuous learning environment

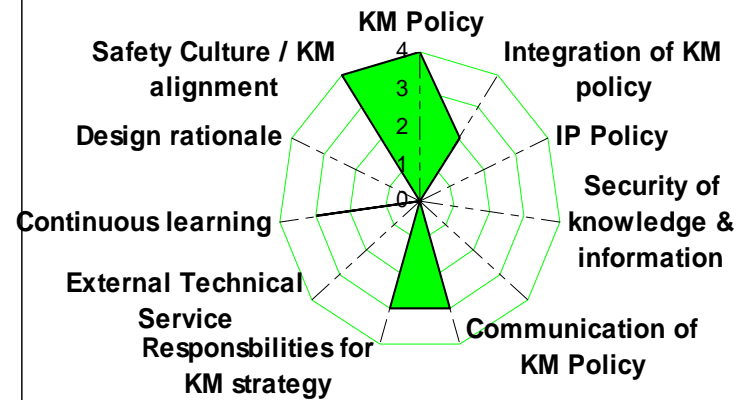
1. KM Policies and Strategies

Current Maturity



■ Policy and strategy for KM

Desired Maturity



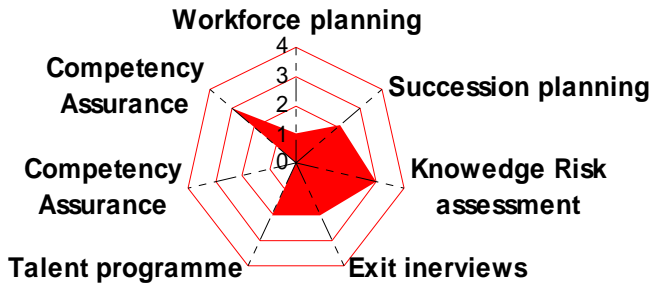
■ Policy and strategy for KM

2. HR Planning and HR Processes

1. Workforce planning – a comprehensive workforce planning methodology
2. Succession planning
3. Risk assessment for critical knowledge loss
4. Exit interviews
5. Talent programme for leadership/technical talent
6. Competence assessment of technicians
7. Competence assessment of Scientists

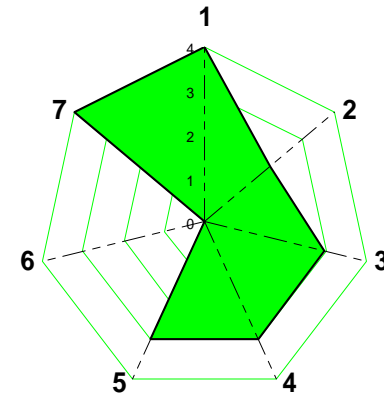
2. HR Planning and HR Processes

Extent Currently



■ HR Planning & processes for KM

Extent Should be



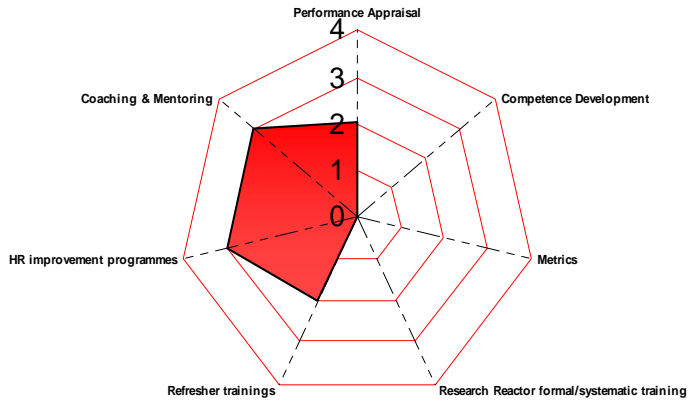
■ Series1

3. Competence Development

1. Performance appraisals
2. Knowledge sharing at conferences, internal seminars, publications
3. Metrics for above
4. Formal training for nuclear facility operators
5. Refresher training
6. Formal human performance programme
7. Coaching & mentoring approach

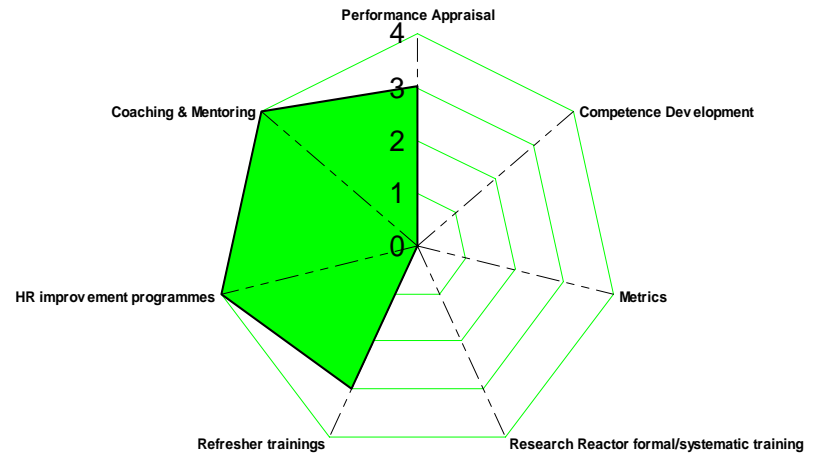
3. Competence Development

Extent Currently



■ Training elements of KM

Extent Should be

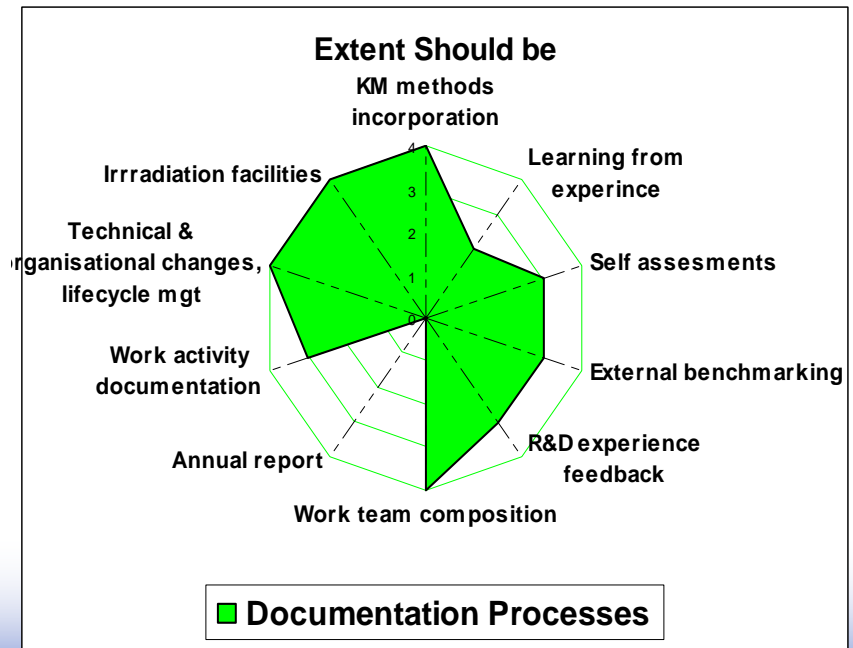
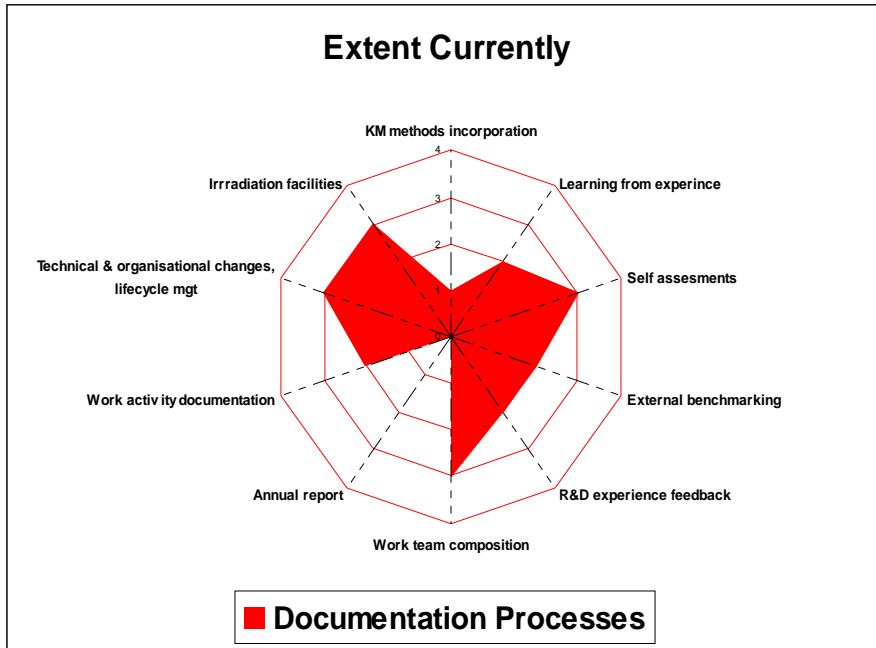


■ Training elements of KM

4. Methods, Procedures & Processes for Improvement

1. KM methods incorporated into procedures
2. Learning from experience
3. Use of self assessments
4. Use of external benchmarking for good practice
5. Feedback from R&D experience
6. Work team composition considerations
7. Publication of annual scientific report
8. Documentation of all work activities
9. Prompt update of information to represent technical and organisational change
10. Updated configuration information for nuclear irradiation facilities

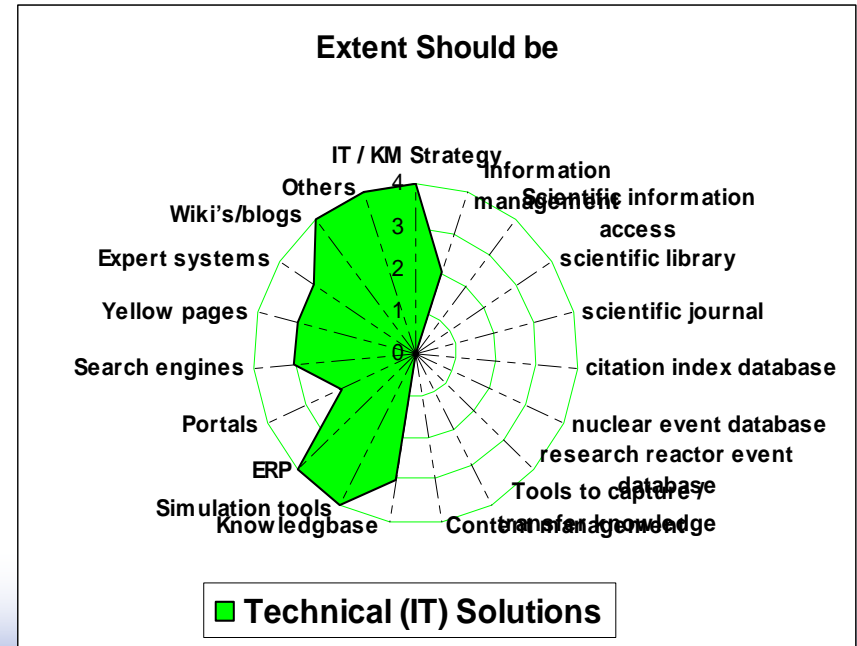
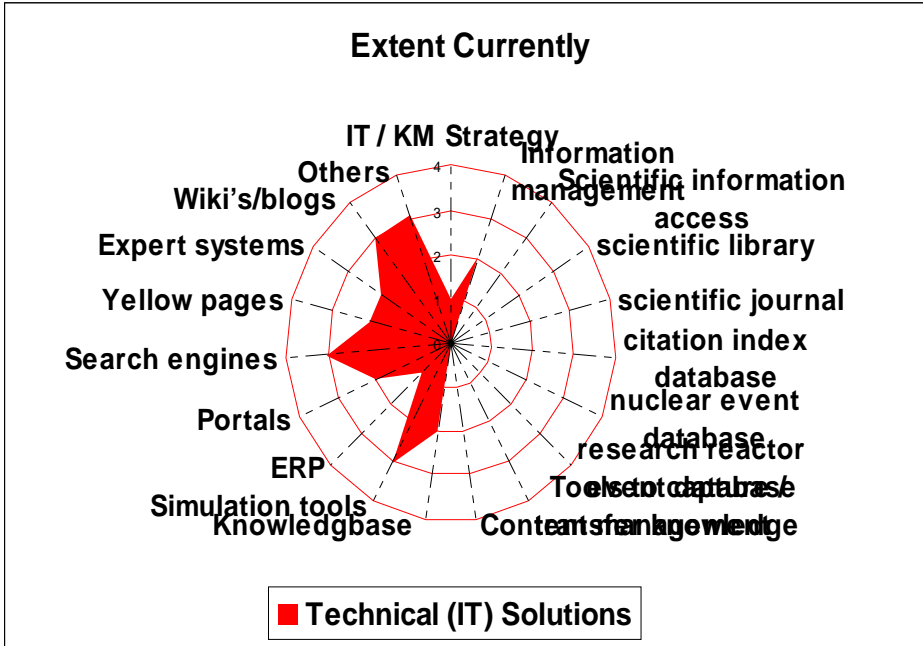
4. Methods, Procedures & Processes for Improvement



5. Technical (IT) Solutions

1. Alignment of IT & KM strategies
2. Integrated approach to information management
3. Utilisation of:
 1. Scientific library
 2. Scientific journal
 3. Citation index database
 4. Nuclear event database
 5. Research reactor event database
4. Use of training programs for simulators, CBT, multimedia simulations etc. to capture transfer knowledge
5. It support tool use, e.g.
 1. Knowledgebase
 2. Simulation tools
 3. Knowledge search engines
 4. Expert yellow pages
 5. Expert systems
 6. Wikis/blogs
 7. Others

5. Technical (IT) Solutions



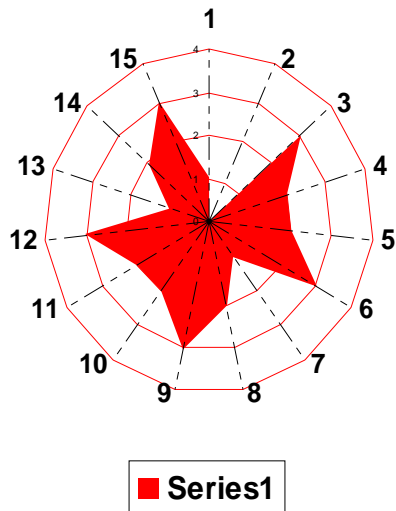


6. Approaches to Capture/Use Tacit Knowledge

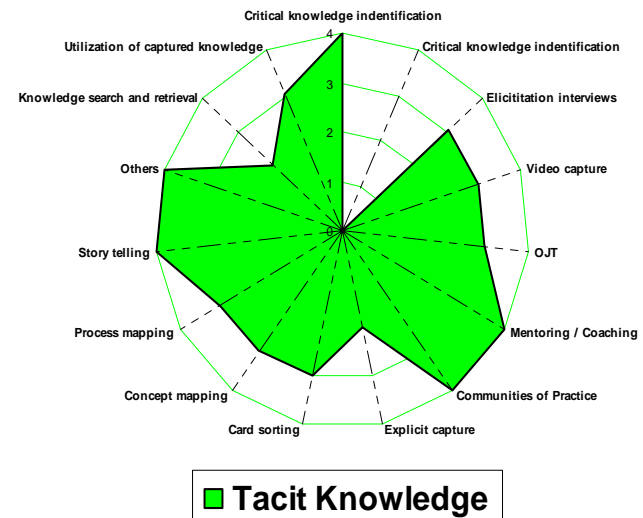
1. Taxonomy development
2. Process for critical knowledge ID
3. Processes for knowledge elicitation/harvesting, eg.
 1. Interviews
 2. Video capture
 3. OJT dialogue
 4. Mentoring/coaching
 5. Communities of Practice (CoPs)
 6. Explicit capture (narrative documentation)
 7. Card sorting
 8. Concept mapping
 9. Process mapping
 10. Story telling
 11. Others
4. Knowledge retention to facilitate search/retrieval
5. Processes for utilization of captured knowledge

6. Approaches to Capture/Use Tacit Knowledge

Extent Currently



Extent Should be



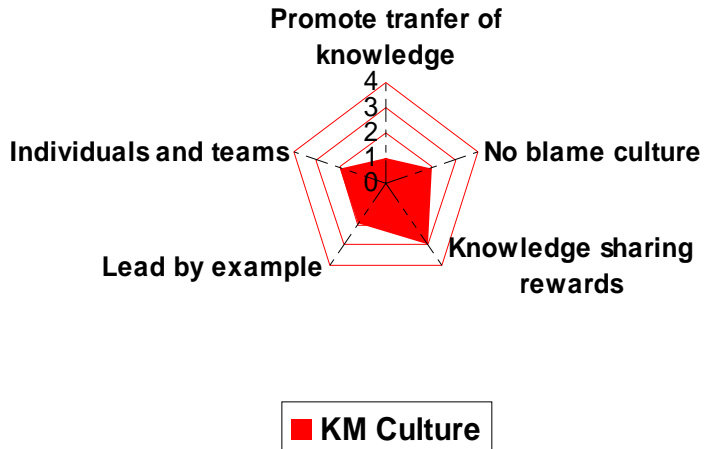


7. KM Culture/Workforce Culture Supporting KM

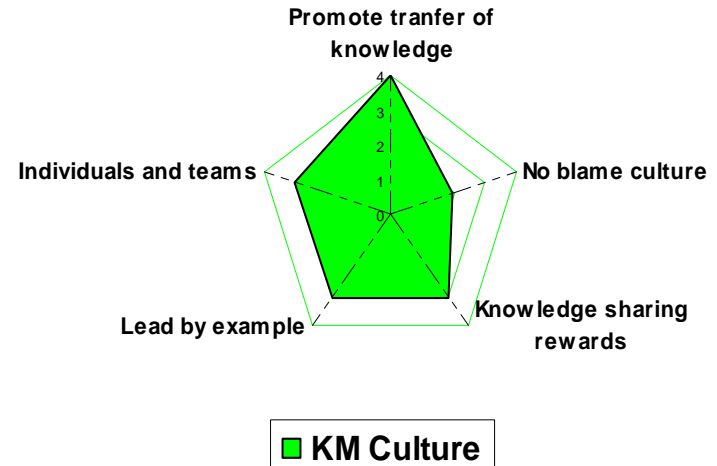
1. Culture to promote transfer of knowledge
2. No blame environment – reporting incidents/events and sharing from lessons learned
3. Rewarding of knowledge sharing
4. Leadership/commitment
5. Encouragement of trust, ethics, cooperation, collaboration amongst teams

7. KM Culture/Workforce Culture Supporting KM

Extent Currently



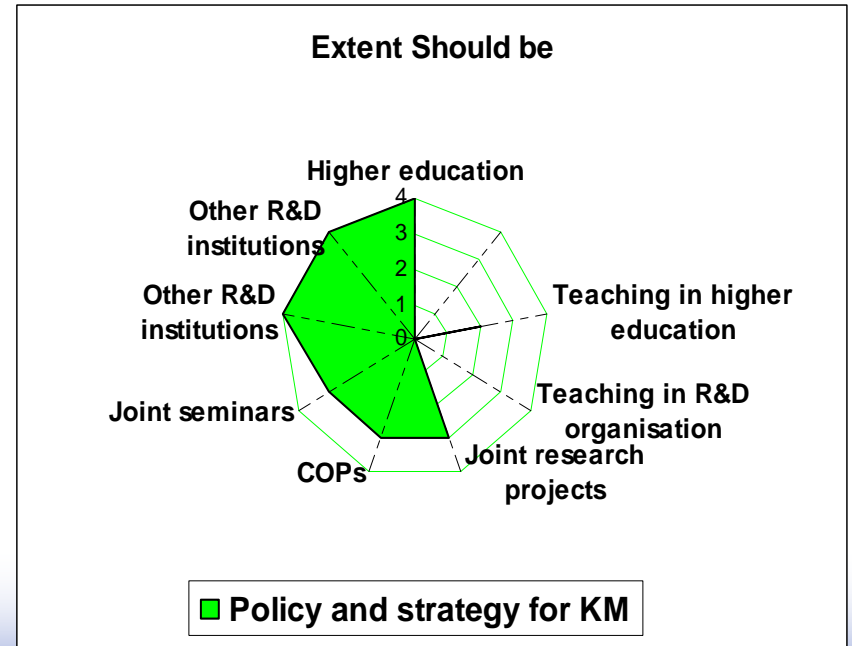
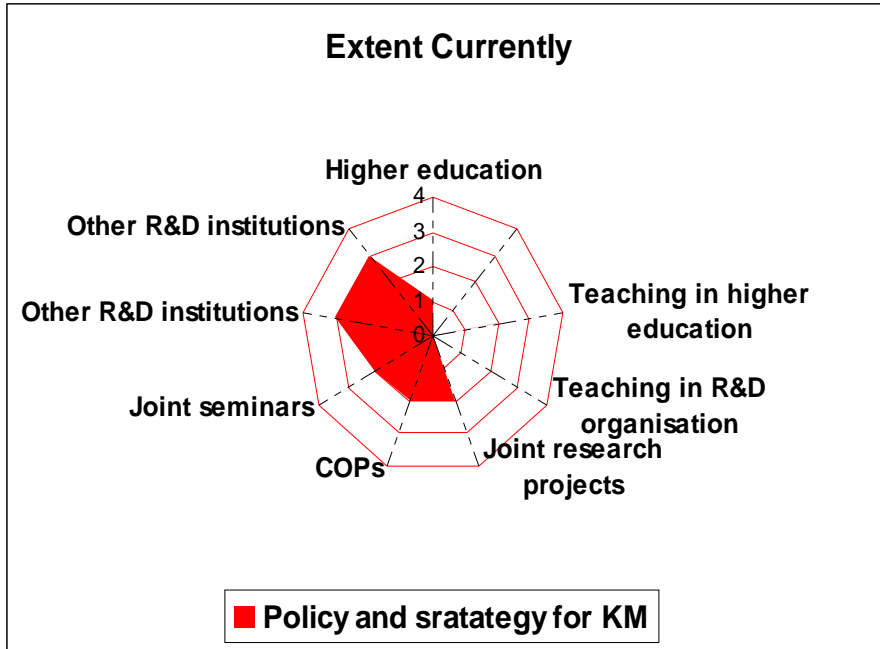
Extent Should be



8. External Collaboration

1. Regular collaboration with higher educational institutes
2. Does this include:
 1. Teaching by research staff (at educational institutes)
 2. Teaching by educational staff (at the R&D organisation)
 3. Participation in joint research projects
 4. Participation in COPs
 5. Participation in joint seminars
3. Regular collaboration with other R&D institutions
4. Regular collaboration with foreign institutions

8. External Collaboration



Self Assessment Process



Discussion With Senior Management



Facilitated Group Discussion



NPP Assessment Tool Experience

The methodology presented in this presentation has been successfully applied during IAEA KM assist missions to the following organizations:

- Krsko NPP of Slovenia
- Paks NPP of Hungary
- Ignalina NPP of Lithuania
- Kozloduy NPP of Bulgaria
- Darlington and Bruce NPPs of Canada
- Zaporozhe NPP of Ukraine
- Bariloche R&D organisations - Argentina

Practical Exercise