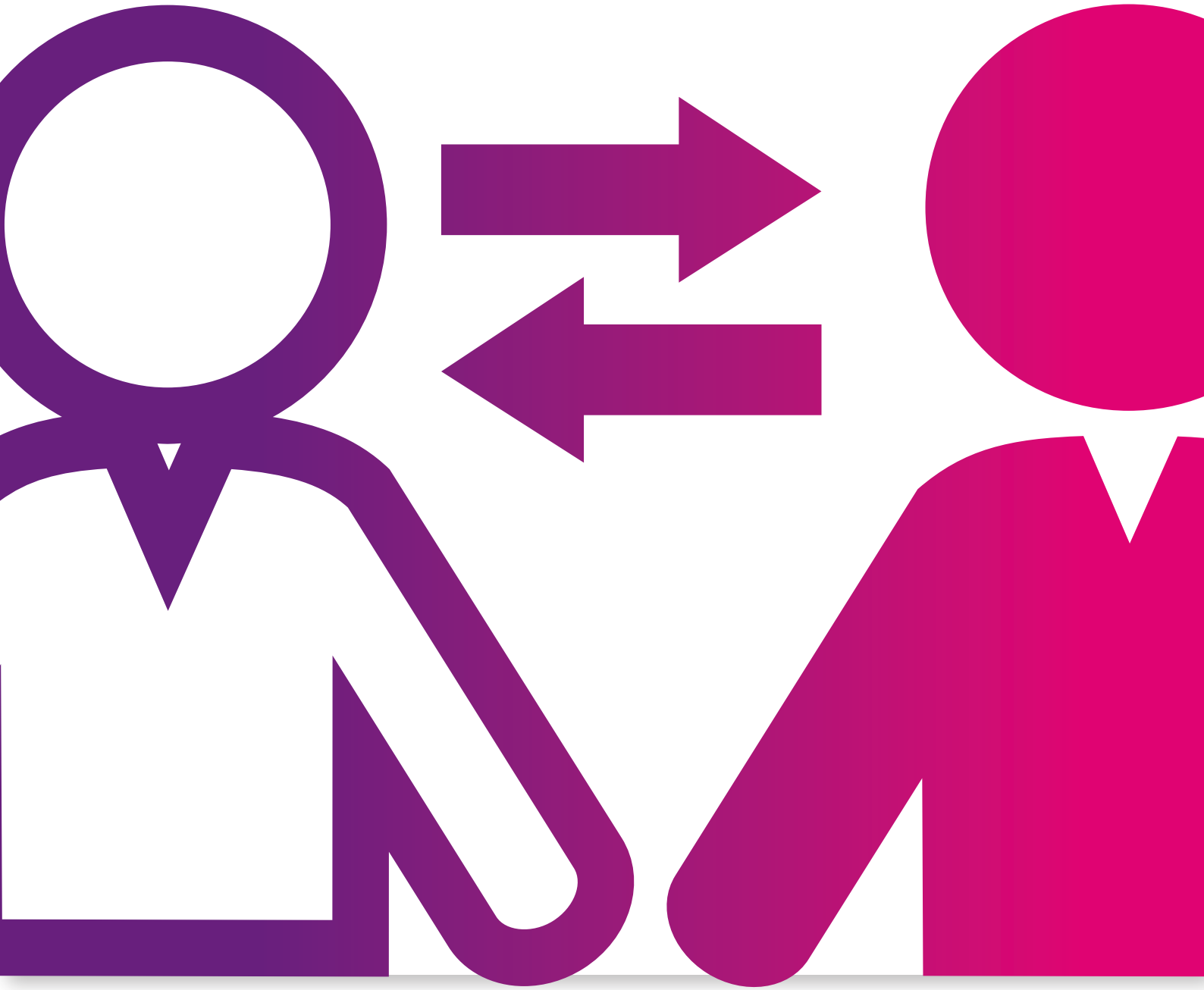
KM
KNOWLEDGE MANAGEMENT

KNOWLEDGE MANAGEMENT BENCHMARKING

Conducted by **National Nuclear Laboratory**
and participating organisations in 2019



NATIONAL NUCLEAR LABORATORY

INTRODUCTION

In 2019, the National Nuclear Laboratory (NNL) completed a benchmarking exercise to explore the Knowledge Management (KM) activities and approaches of organisations from across the UK and internationally.

The purpose of the exercise was to identify good practice and to share learning across NNL, the organisations involved, and wider.

Twelve organisations were engaged, 13 including NNL, with headcounts ranging from 600 to 90,000. The organisations covered the nuclear, energy and environment sectors and included a number of national laboratories. This report is an anonymised summary of the information collected.

ENGAGEMENT

From a target list of organisations, contacts from within NNL were used to identify someone with KM responsibilities within each. First contact was made by email and then a one-hour teleconference arranged. This approach likely did not cover all KM activities within each organisation, hence these findings are considered to be a reasonable overview of the organisations involved rather than a comprehensive review.

The discussions generally covered:

1. Brief overview of the organisation's KM programme.
    a. How many designated roles are working within it? (Full time/part time).
    b. Rough estimate of annual budget.
    c. What would be the biggest consequences to the organisation if it did not exist?
2. Brief description of tasks led through the allocated budget.
3. How is success measured and how is value demonstrated?
4. How is engagement encouraged or incentivised across the organisation?

Discussions also included: the use of KM consultants; Human Resources (HR) and training involvement; the role of Subject Matter Experts (SMEs); and whether the programme is centralised.

STRUCTURE AND FUNDING

The structure of KM in each organisation varied from a central KM team, to KM as a part time role in each business area, to a small team who develop practices for the business areas to implement. In some organisations the structure has evolved over a number of years, for example starting with a dedicated team and moving to being fully embedded in day-to-day work.

Funding was measured as the number of full-time equivalents (FTE) funded per year and could be dedicated KM staff, SMEs or any supporting role, but did not include any customer funded KM work. Individual organisations were able to decide if time covered by HR and/or training was included in the total for KM.

For the organisations involved, FTE varied from 0 to 40 per year. Due to the broad range in headcount (600 to 90,000), the FTEs have been converted to FTE per 1,000 staff adjusting the range to 0 to 1.43.

	Minimum	Mean	Maximum
Total FTE	**0**	**5.55**	**40**
FTE per 1,000 staff	**0**	**0.56**	**1.43**

When interpreting this table, it should be noted that:

- 0 FTE was reported when customers fund all KM work or costs were covered by training or HR.
- Some organisations reported KM activities being covered by business areas rather than a KM budget, particularly for critical knowledge activities.
- Multiple organisations gave an FTE estimate to cover SMEs across their organisation supporting KM as a small percentage of their day-to-day work.

KM TOOLS

The KM tools specifically asked about were:

Knowledge sharing lectures – presentations or talks available to all members of staff within the organisation.

Mentoring – a formal mentoring programme.

Critical knowledge retention – multiple tools used to capture critical knowledge from an individual, generally before they leave the organisation or change role.

> **Example of Good Practice** – Identifying SMEs with critical knowledge six years in advance of their expected retirement and categorising the risk level. Plans are put in place depending on the perceived level of risk.

Communities of Practice (CoPs) or forums – groups focussed around a specialist topic.

People/skills finder – for example, SharePoint profile pages that can be searched to find individuals with the required knowledge or skill.

> **Example of Good Practice** – A searchable, comprehensive profile, for example on SharePoint, makes SMEs accessible to others.

Smart databases – information management that is easily accessible and searchable, e.g. SharePoint, including historic and/or previously archived information.

Wikis – generally specialist information management for technical information.

The tools listed above are given with a general definition but are interpreted and implemented differently by each organisation so are not always directly comparable. For example, knowledge sharing lectures vary from a structured programme running every two weeks to a few times per year.

Of the above, all the organisations who participated in the benchmarking exercise were using at least three tools, and four were using all seven tools. Table 1 shows the breakdown for each organisation.

Table 1: KM tools breakdown by organisation – pink shows an organisation uses this tool and grey shows that they do not.

	Anonymised Participating Organisations													
KM tools	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**Total**
Knowledge sharing lectures	●	●	●	●	●	●	●	●	●	●	●	●	●	13
Mentoring		●	●	●	●	●	●	●	●	●	●		●	11
Critical knowledge retention	●		●		●	●	●	●	●	●	●	●	●	11
CoPs	●	●		●	●	●	●	●	●	●	●			10
People/ skills finder			●	●		●	●	●	●	●	●	●		9
Smart databases	●		●	●	●	●	●	●	●					8
Wikis			●			●	●	●	●					5

Other KM tools discussed were:

Discussion boards – accessible to all to ask technical questions.

> **Example of Good Practice** – People to people engagement. Discussion boards or forums organised by business/technical area, each led by a technical expert and supported by SMEs. Responses expected within 24 hours as either a direct answer or a relevant contact. The technical experts have targets to meet for their discussion board and, on average, employees spend 20 minutes per week on their discussion board.

Learning from Experience (LfE) tools – depending on the organisation these focussed on different aspects, e.g. pre- and post-job briefs, environment, health, safety, security and quality (EHSS&Q).

> **Example of Good Practice** – A tool for sharing knowledge and experience via lessons learned. The tool is also used to store pre-job briefs, project reviews and plans, and is fully searchable for similar future projects.

SQEP levels – SQEP (suitably qualified and experienced person) levels set across the organisation to identify world leading experts.

> **Example of Good Practice** – SQEP levels ranging from 1 as a new starter to 4 as a world leading expert. The SQEP levels can help identify successors for critical knowledge transfer using a "ready in x steps" transfer plan.

Professional Institutes – encourage membership and chartership with a technical institute with the organisation paying for yearly membership fees.

Journal access – organisation-wide subscriptions, or the ability to access/purchase journal papers, for maintaining and growing knowledge base.

IT capabilities are important for nearly all of the above tools. Also, communication across the business is key to shared learning, demonstrating value and keeping staff engaged in KM activities.

OTHER IMPORTANT FACTORS

Subject Matter Experts (SMEs)

Most of the organisations involved had practices in place for capturing SME knowledge, e.g. critical knowledge retention activities. However, some phase the most critical SMEs out of commercial work up to six years before their expected retirement date and focus them completely on training multiple successors. Other organisations allow a percentage of all SMEs' time to be spent on KM as most appropriate for their role.

> **Example of Good Practice** – 2 to 5% of SMEs' time is expected to be spent on KM related activities, e.g. responding to discussion board questions. If a Technical Expert is not fulfilling this KM responsibility, their title can be retracted.

Allowing this time for SMEs to focus on KM activities is seen as crucial for training the next generation of SMEs and keeping the critical knowledge within the organisation.

HR and training

For some of the organisations involved in this review, KM and HR and/or training have strong links. This is to ensure SMEs' knowledge is not lost and new staff are adequately trained into their roles, for example through the activities described above for SMEs.

Table 2 shows the breakdown by organisation.

> **Example of Good Practice** – Including KM in performance appraisals that must be backed up with evidence, e.g. mentoring employees, activity on discussion boards and sharing learning.

The benefit of this is that KM activities are seen as a priority across the organisation and are more likely to be completed.

Centralised programme

A centralised KM programme gives a single point of contact for KM and ensures consistency across the organisation. However, some organisations focus more on a KM culture where KM activities form part of job role descriptions and performance reviews.

Table 2 shows the breakdown by organisation.

> **Example of Good Practice** – A KM culture is most effectively implemented using a top-down approach with mandatory engagement from mid and advanced career experts.

The advantage of this is that it forms part of day-to-day work and is not seen as something extra they need to do on top of their role.

KM consultants

Four of the organisations have used or are still using KM consultants. Generally, consultants were brought in to build a KM programme and to help embed it within the teams for a set period, e.g. 18 months. Alternatively, consultants can be used less frequently for guidance over much longer time periods. Both of these routes have their benefits and depend on the maturity of the KM programme within the organisation.

Table 2 shows the breakdown by organisation.

Table 2: Other important factors breakdown for each organisation – pink shows an organisation uses this tool and grey shows that they do not.

	Anonymised Participating Organisations													
Other factors	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**Total**
KM integrated into HR	○	○	●	○	●	●	○	●	○	○	○	○	○	4
KM integrated into training	○	●	●	●	●	●	●	●	○	●	●	○	○	9
Centralised KM programme	●	●	○	●	○	●	●	●	●	○	●	○	○	8
KM consultants	○	○	●	○	○	●	○	●	●	○	○	○	○	4

MEASURING VALUE

Few of the organisations could say explicitly how they measure the value of KM, as it is easier to see when KM has not been done, i.e. a SME leaves with no successor. Numerical metrics are used where possible, i.e. views on the KM webpages or percentage of people completing their people finder profile, but this often shows awareness rather than active engagement with the KM tools.

In some cases, it is possible to assign a monetary value, for example a question answered on a discussion board avoided a lengthy shut down that would have cost millions, but generally this is difficult for most of the tools.

Even though a number, percentage or cost saving can not always be assigned to the KM activities undertaken, the organisations involved were clear on the value they see in KM and, from their voluntary involvement in this review, are looking to share their experiences and learn from others to improve, where possible, the management of their organisation's knowledge.

SUMMARY

Informal discussions were carried out with KM responsible people at 12 organisations comparable to NNL to gauge good practices within the wider industry.

Of the 12 organisations involved in this review, all engage in some KM activities and understand the benefit they provide. A number of KM tools were identified, some of which are common across all or most of the organisations. Table 1 and Table 2 show anonymous breakdowns for each organisation for the main tools and other factors discussed.

It was found that:

- Organisations that have introduced KM features most effectively have consciously implemented a top down approach for engagement.
- It is important that key knowledge holders are visible and actively engaging with KM.
- A number of organisations reported having ongoing contracts with KM consultants or having engaged with consultants to develop their KM activities.
- Generally, organisations have chosen their current structure and tools based on what works well for them, within their available budget.
- It is difficult to measure the value of KM activities when there is no tangible financial benefit. However, the continued levels of interest and investment within these organisations illustrate a shared vision that long-term benefits are being realised from managing and sharing knowledge.

Of the 12 organisations involved in this review, all engage in some KM activities and understand the benefit they provide.

Examples of good practice are collated below:

- Identifying SMEs with critical knowledge six years in advance of their expected retirement and categorising the risk level. Plans are put in place depending on the perceived level of risk.
- A searchable, comprehensive profile, for example on SharePoint, makes SMEs accessible to others.
- People to people engagement. Discussion boards or forums organised by business/technical area, each led by a technical expert and supported by SMEs. Responses expected within 24 hours as either a direct answer or a relevant contact. The technical experts have targets to meet for their discussion board and, on average, employees spend 20 minutes per week on their discussion board.
- A tool for sharing knowledge and experience via lessons learned. The tool is also used to store pre-job briefs, project reviews and plans, and is fully searchable for similar future projects.
- SQEP levels ranging from 1 as a new starter to 4 as a world leading expert. The SQEP levels can help identify successors for critical knowledge transfer using a “ready in x steps” transfer plan.
- 2 to 5% of SMEs time is expected to be spent on KM related activities, e.g. responding to discussion board questions. If a Technical Expert is not fulfilling this KM responsibility, their title can be retracted.
- Including KM in performance appraisals that must be backed up with evidence, e.g. mentoring employees, activity on discussion boards and sharing learning.
- A KM culture is most effectively implemented using a top-down approach with mandatory engagement from mid and advanced career experts.

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