



February 26 – March 1, 2012 ♦ Phoenix, Arizona

Knowledge retention strategies

**John A Day: Head of Knowledge Management and intellectual Property,
Sellafield Ltd**



Sellafield Ltd

Knowledge retention strategies

Preventing knowledge loss, enabling knowledge readiness

John Day

Head of Knowledge Management and Intellectual Property

Outline

1. The nature of knowledge
2. The purpose of knowledge retention
3. Transforming records into action
4. Knowledge retention strategies
5. Knowledge mothballing
6. Knowledge maintenance
7. Further areas for research

Knowledge has many dimensions

- Domains – technical, organisational, societal etc.
- States – explicit, implicit, tacit etc.
- Applications – know-how, know-about, know-who etc.
- Representations – documents, models, pictures etc.
- Categories – good practices, lessons, standards etc.
- Artefacts – structures, tools, equipment, etc.

The purpose of knowledge retention

- Purpose of knowledge retention:
 - Warn – Inform – Educate – Enable ?
- The purpose dictates the knowledge retention response
- What is it that we need to retain:
 - What is known?
 - How to perform tasks (access, maintain, inspect, retrieve)?

Knowledge loss

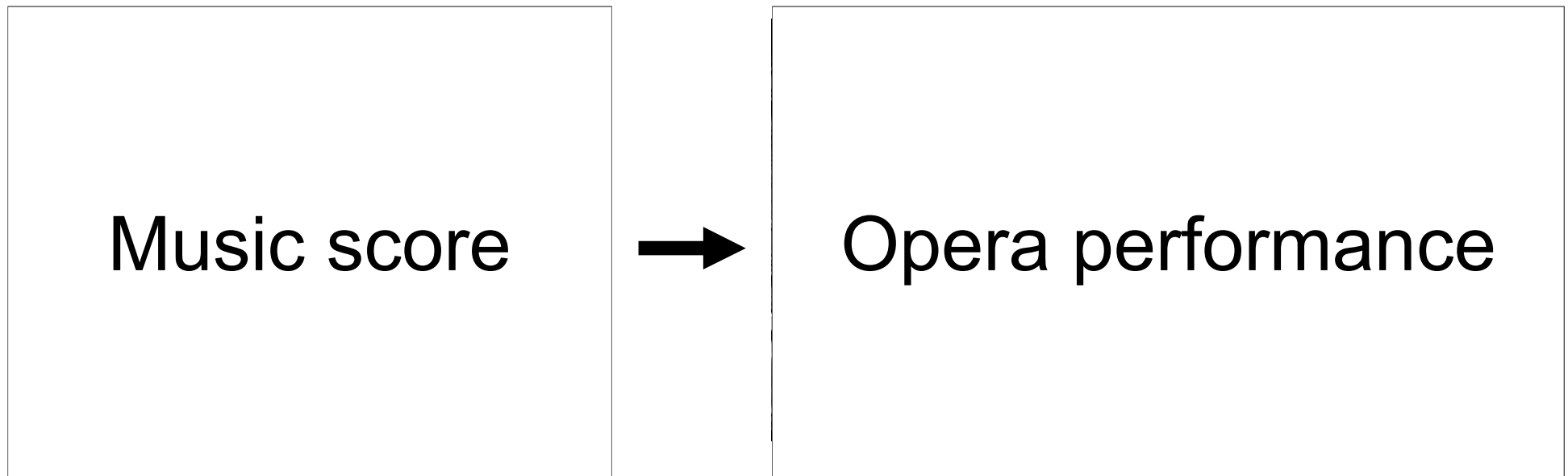
- Knowledge can be lost or incomplete
 - Global examples: glassmaking, languages
 - National examples: shipbuilding, spacetravel
- Knowledge is lost at discontinuities caused by:
 - Changes in working practices
 - Superseded/redundant technologies, innovations
 - Social and economic change
 - Resource depletion
- Some of these discontinuities are likely to occur during the facility's lifetime

Retaining the ability to take intelligent action

- In order to create meaning from records we need:
 - intelligence, context, additional information not included in the record.
- In order to take action we need:
 - resources, experience, prerequisite knowledge
- When preserving information for future use, we also need a plan for retaining knowledge.

Transforming records into action

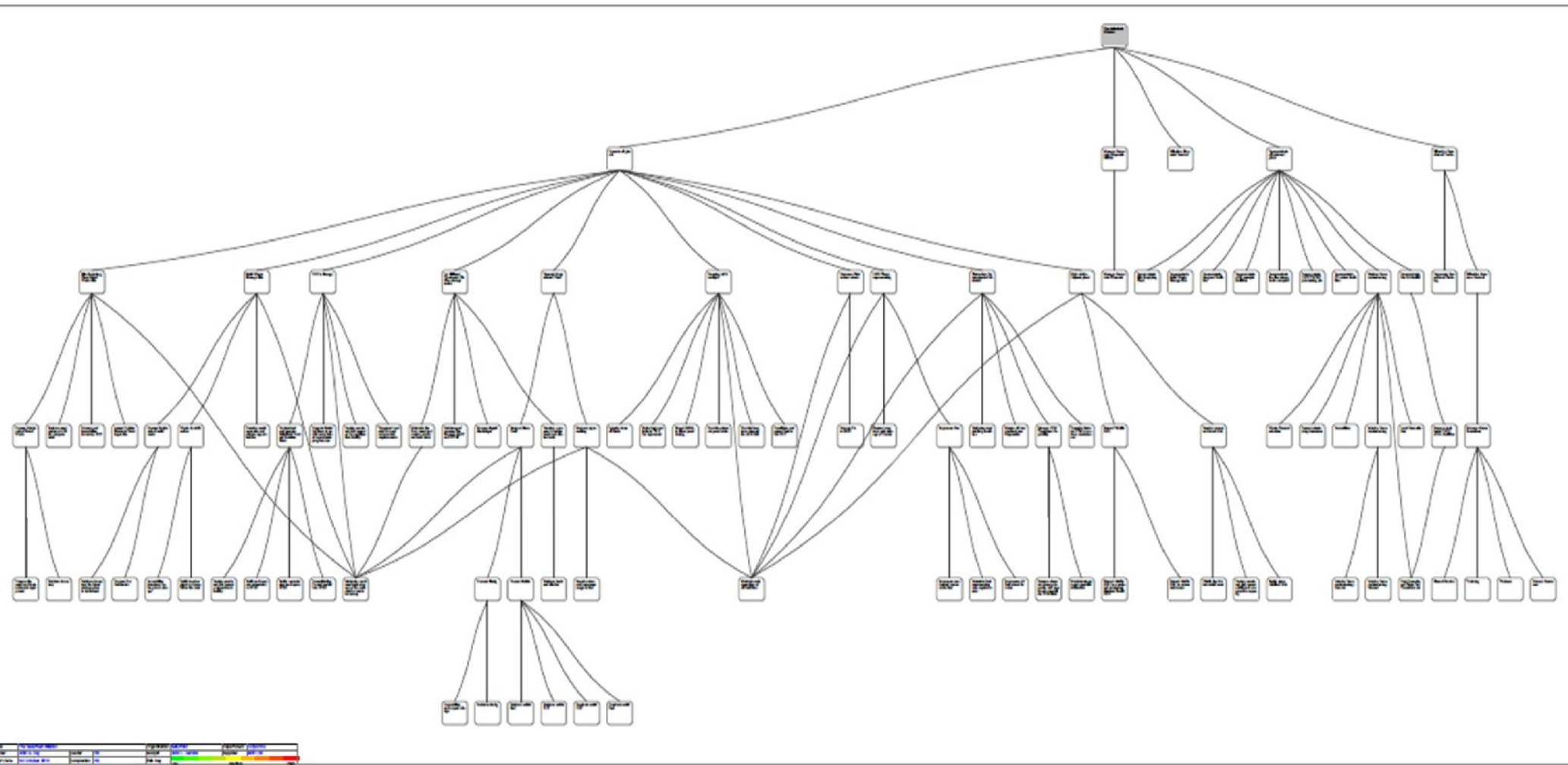
- Record – Store – Find – Interpret -
Make informed decisions - Take Action
- An example:



Experience with knowledge retention

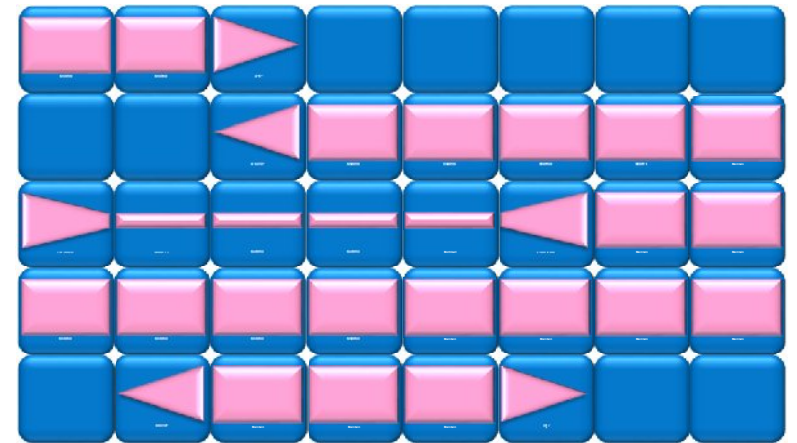
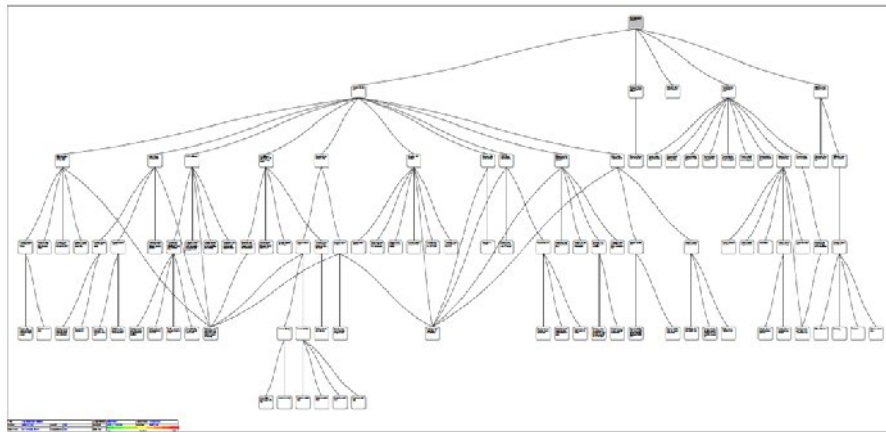
- Experience in the nuclear industry demonstrates that knowledge can be retained and ready for use if both tacit and explicit knowledge are managed.

Maps identify what needs to be known

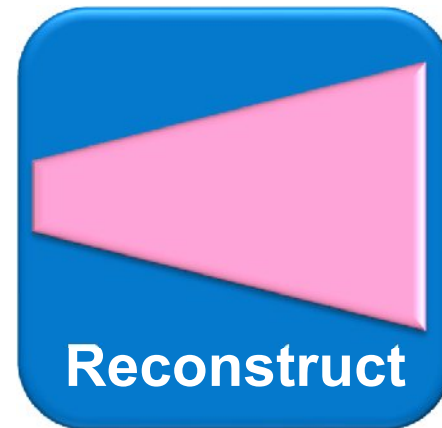


From knowledge map to knowledge plan

- Once you know what you need to know and when, you need a plan to make that knowledge available



Knowledge retention activities

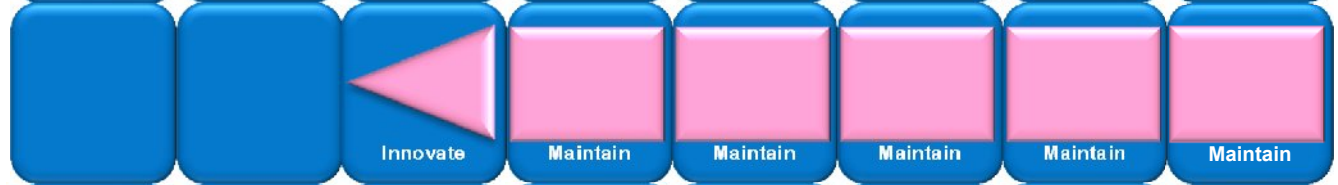


Knowledge retention strategies

Forgetting



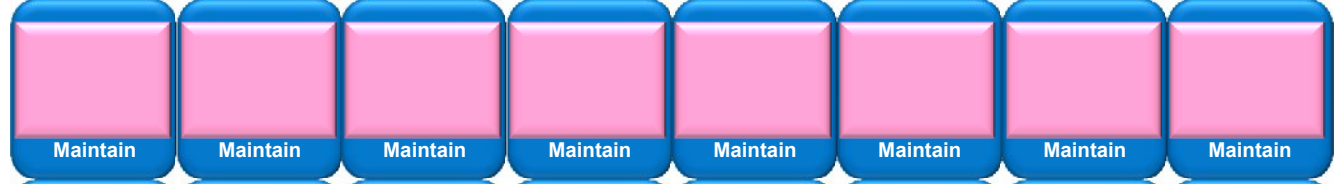
Innovating



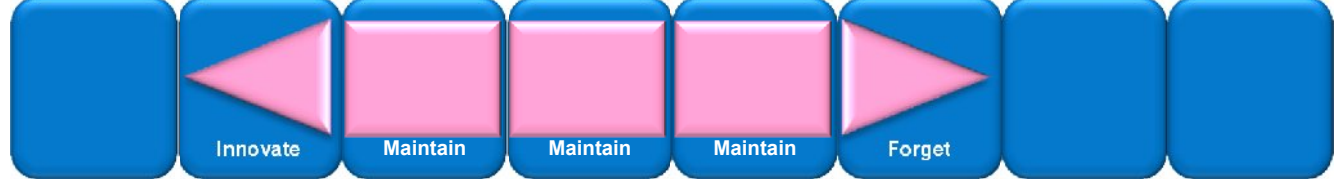
Mothballing



Maintaining



Ad hoc

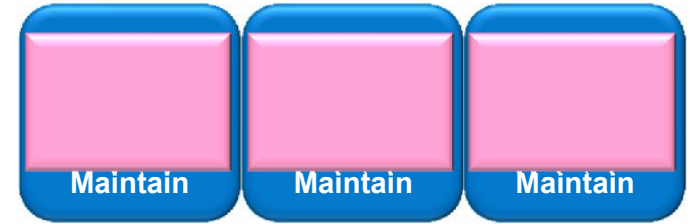


Mothballing knowledge



- Three phases
 - Consolidate – map, capture, store
 - Mothball – preserve, update, maintain vital functions
 - Reconstruct – make ready, repair, transfer
- Requirements for mothballing
 - Artefacts, records
 - Tacit knowledge reservoir (specific)
 - Prerequisite knowledge (generic)

Maintaining knowledge



- Single phase
 - Passing the baton
- Requirements for maintenance
 - Communities, masters, apprentices,
 - Processes: knowledge capture, validation, consolidation, sharing, transferring, finding
 - Infrastructure for storage e.g. archives, books, oral history

Further research

- What is the purpose of knowledge retention?
- What do we need to know and when?
- What does the knowledge retention plan look like?
- What knowledge readiness strategies need to be adopted at what level (sectoral, national, international)?
- What are the commercial, intellectual, moral or regulatory drivers to maintain a knowledge base?

Summary points

- Passive records alone will not equip future generations to deal with long-term stores – knowledge is also required
- Knowledge could be lost or unready unless managed
- Knowing what needs to be known and when is the first step in defining a knowledge retention strategy
- Knowledge retention requires a multi-dimensional approach
- The industry has experience in retaining knowledge