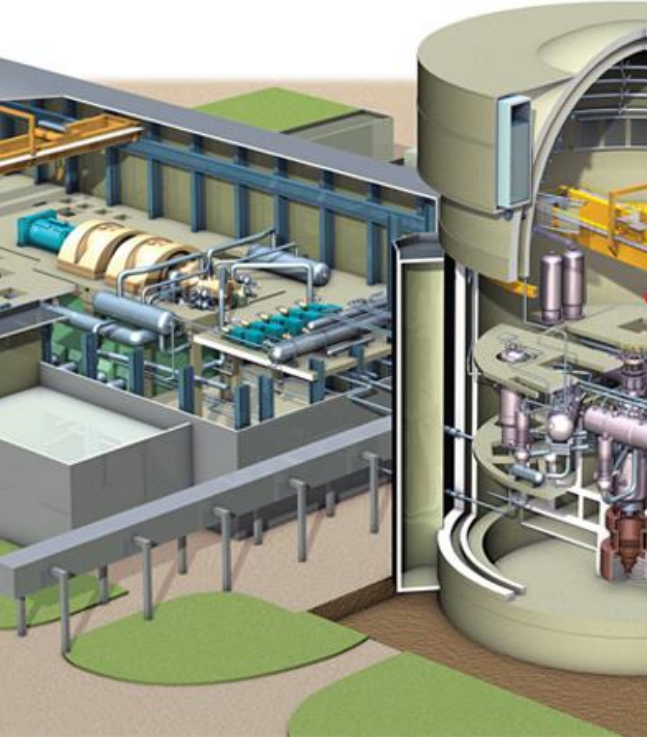


FENNOVOIMA

**Information management during
engineering and construction phase
of green field NPP project**

Mikko Virtanen
30.5.2016

Hanhikivi 1



- Plant supplier is RAOS Project Oy, which is the subsidiary of Rosatom Overseas
- Chosen technology: Rosatom's AES-2006 pressurized water reactor
- Electric power of the plant is approx **1200 MW** and thermal power approx **3200 MW**
- Commercial operation for **60** years

9 TWh

Annual energy production of Hanhikivi 1 is 9 TWh. The net import of electricity in Finland was nearly 18 TWh in 2014.

A decade of construction

Preparation phase

- Rosatom chosen as the plant supplier
- Environmental Impact Assessment EIA
- Supplement to the Decision-in-Principle DIP
- Preparatory works at the site begin

2013-2014

Infrastructure and licencing

- Construction License Application
- Extensive construction work of infrastructure and auxiliary buildings
- Development of the organization

2015-2017

Construction phase

- Construction License
- Construction of the nuclear power plant begins
- Development of the organization
- Installation works
- Fuel loading
- Operating License

2018-2023

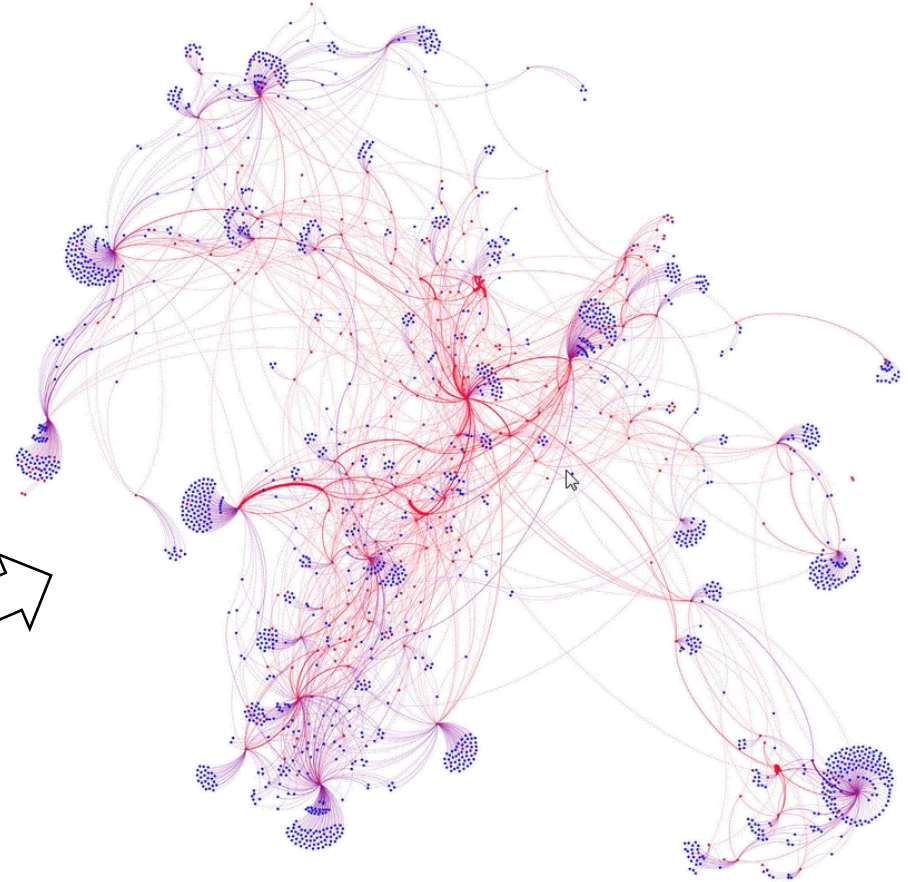
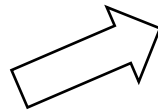
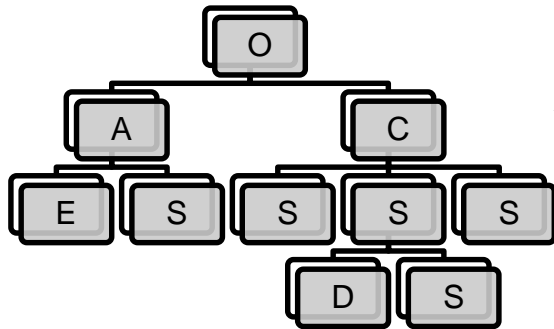
Commissioning

- Electricity production begins

2024-

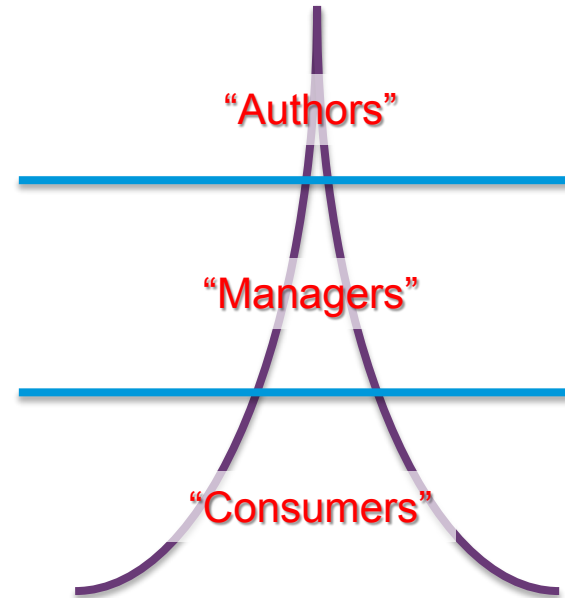
Change in information management

- From hierarchies to relationships
- Product and process information
- Access relevant information where and when needed easily



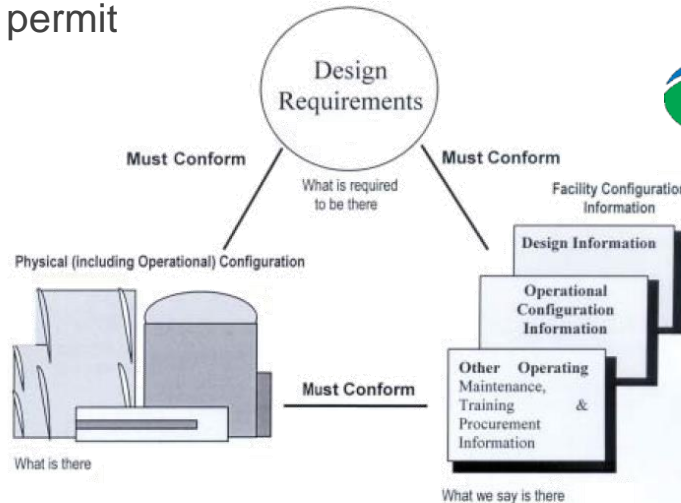
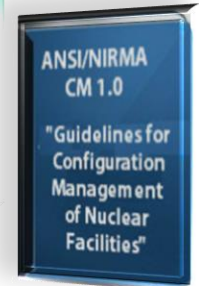
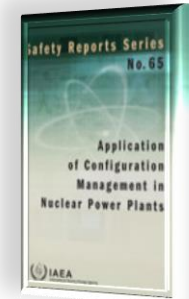
Different user types

- Authoring
 - 2D & 3D design
- Information management
 - Organizing data, Adding meta data
 - Feedback to Authors
 - Process management
- Information consumption
 - Using actual & up to date data
 - Casual user; no IT or 3D knowledge required
 - Mobile devices & integration to workflow tools
 - Feedback to process



Configuration management

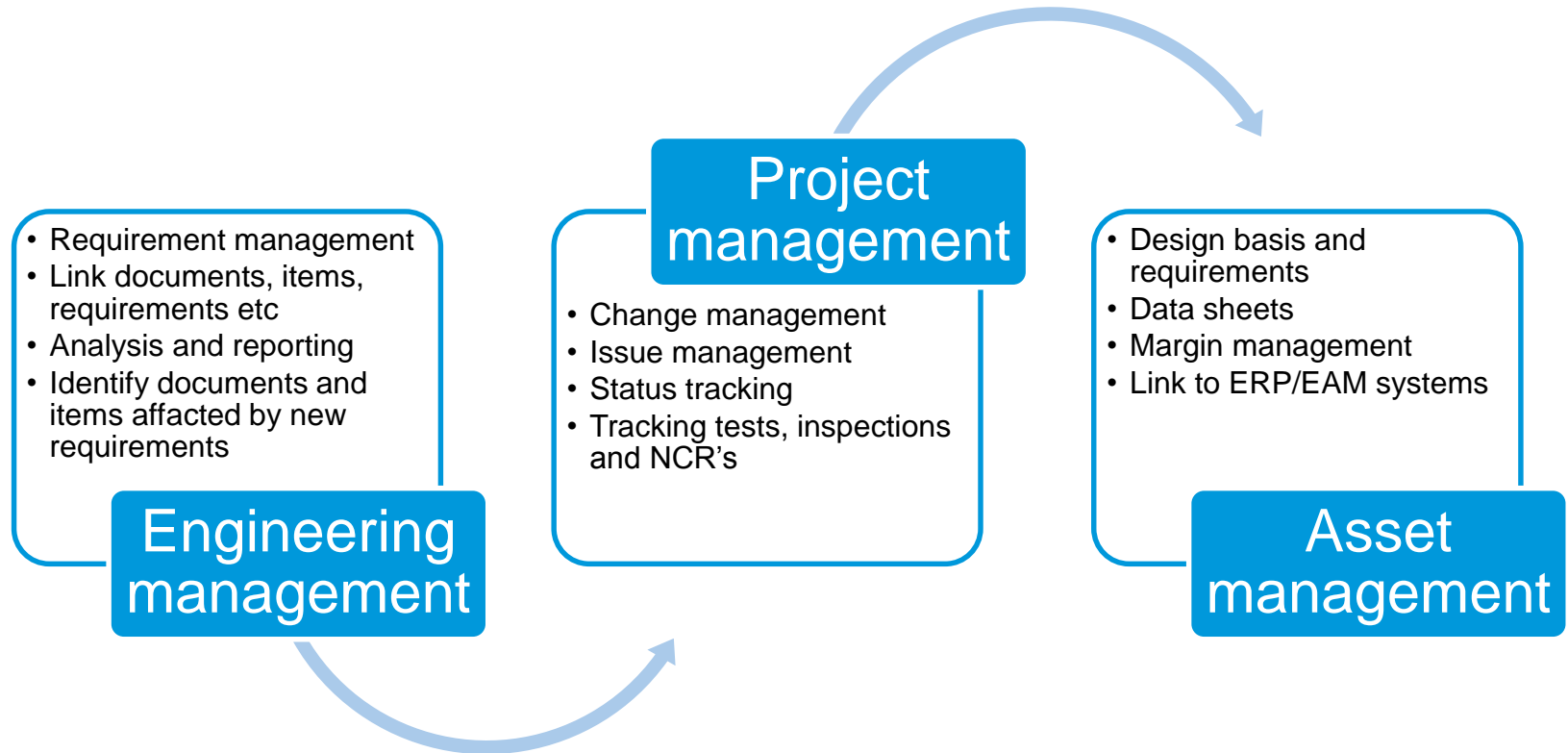
- Configuration Management is a set of processes, practices, and tools necessary to effectively manage all the obligations regarding the design, construction, operation, maintenance, and decommissioning of a NNPP
- In many countries, required by regulatory authorities to obtain an operating permit



Work Processes must assure that:

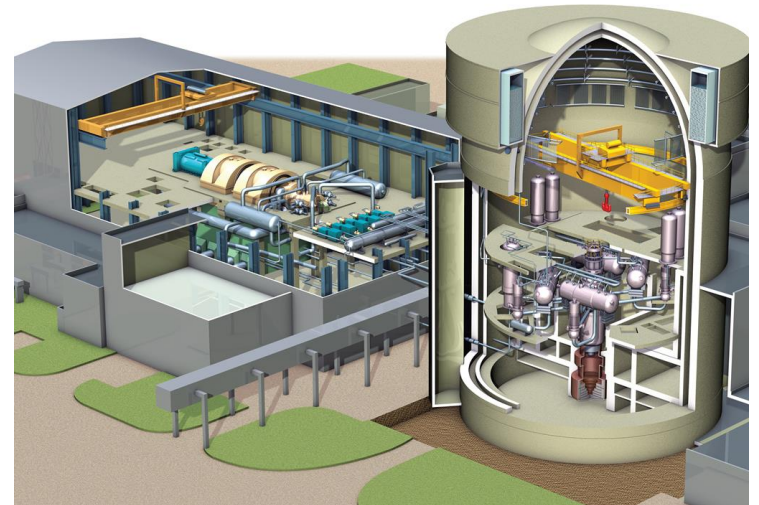
- Elements conform all of the time
- All changes are authorized
- Conformance can be verified

Configuration management system



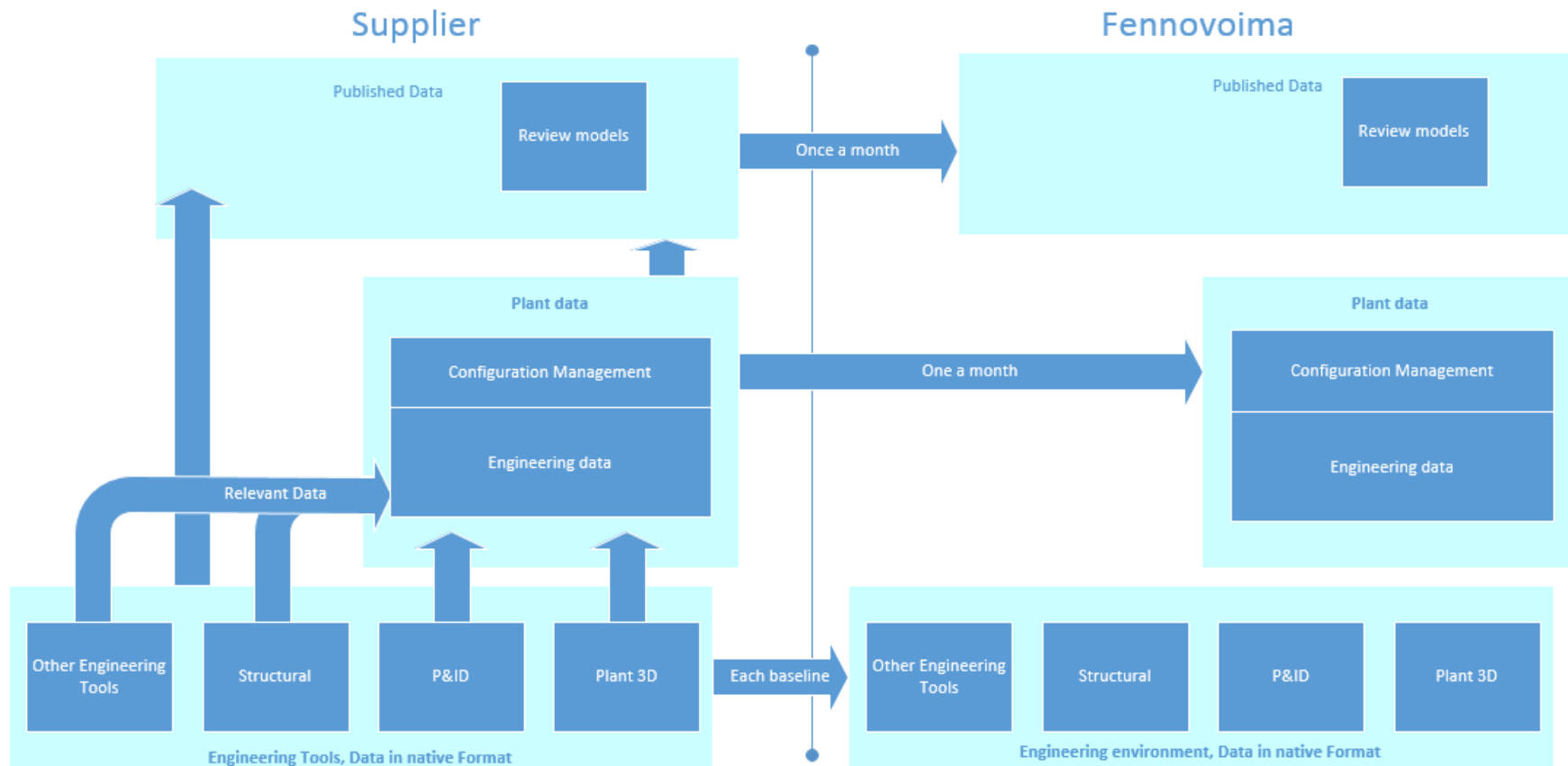
3D models and integrated design

- Contractual and regulatory requirement
- Accelerate and improve review work
- Manage site and underground layout
- Clash checks and other analysis
- Reduce information loss



Data transfer Engineering phase

FENNOVOIMA



Capturing data on construction phase

- Access information where and when needed
- 4D scheduling and progress reporting
- Material management
 - Site receipt management
 - Installation qualifications
 - Operational qualifications
 - Mechanical Completions
 - Commissioning
- As-built information





f /fennovoima

 @Fennovoima

mikko.virtanen@fennovoima.fi