

Energiforsk – research in collaboration

- Facilitating research within electricity, heat and gas from idea to communication
- Around 15 employees
- Funding activity by activity with strong involvement from the financiers
 - Network of some 1000 experts at utilities, industry, universities, consultants and industry
- Creating benefits in the form of reports, seminars, education, guidelines, arenas etc.
 - Cost sharing
 - Neutral arena for discussion
 - Networking
 - Knowledge build up for experts
- www.energiforsk.se



Nuclear portfolio programs 2018



Concrete

 Strål
säkerhets
myndigheten
Swedish Radiation Safety Authority



Vibrations



Strategic Monit.



GINO

 Strål
säkerhets
myndigheten
Swedish Radiation Safety Authority



ENSRIC

 Strål
säkerhets
myndigheten
Swedish Radiation Safety Authority



COMRADE

 Strål
säkerhets
myndigheten
Swedish Radiation Safety Authority

Stakeholders:

VATTENFALL



**uni
per**

TVO

fortum



**Strål
säkerhets
myndigheten**

Swedish Radiation Safety Authority



SAFO

Swedish Atomic Forum



ENSRIC – Energiforsk Nuclear Safety Related I&C

- Vision:
 - Safe and robust I&C systems that promotes low Life Cycle Cost
 - Support the decision making process in modernization of I&C systems
- Focus areas 2018:
 - LTO of existing platforms and systems
 - Safety demonstration and licensing
 - Emerging technologies
- Steering group with experts from Swedish and Finnish NPP:s and the Swedish Radiation Safety Authority
- Projects initiated by steering group
- Activities carried out by qualified consultants and researchers usually through procurement

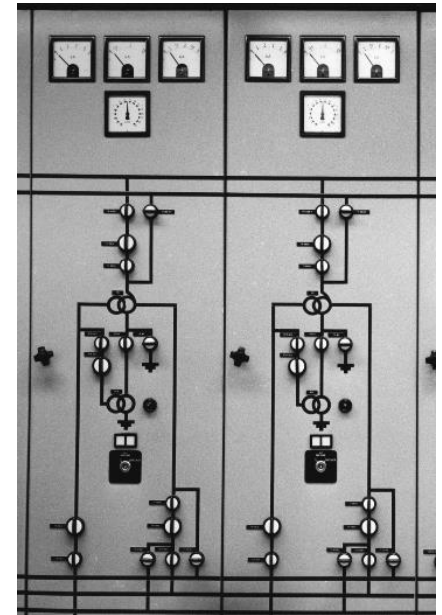


Photo: Vattenfall

ENSRIC Activities

Lifetime extension of nuclear I&C

- Proactive aging management
- [Synthesis, seminar](#)
- Mapping of methods and several market surveys ([USA](#), [Belgium/Germany](#), [France/UK](#))
- [Partial digital replacement](#)
- [Asset management of programmable platforms and systems](#)

Safety demonstration

- [Harmonized Component Level Safety Demonstration](#)
- [Safety Demonstration Plan Guide](#)
- [Safety demonstration planning](#)

Emerging technologies

- Trends [2017](#) and [2015](#)
- FPGAs ([FPGAs in nuclear applications](#), [V&V](#))

