



Authority for Nuclear Safety and
Radiation Protection

Regulators' involvement in EU SMR pre-partnership

Marco Brugmans

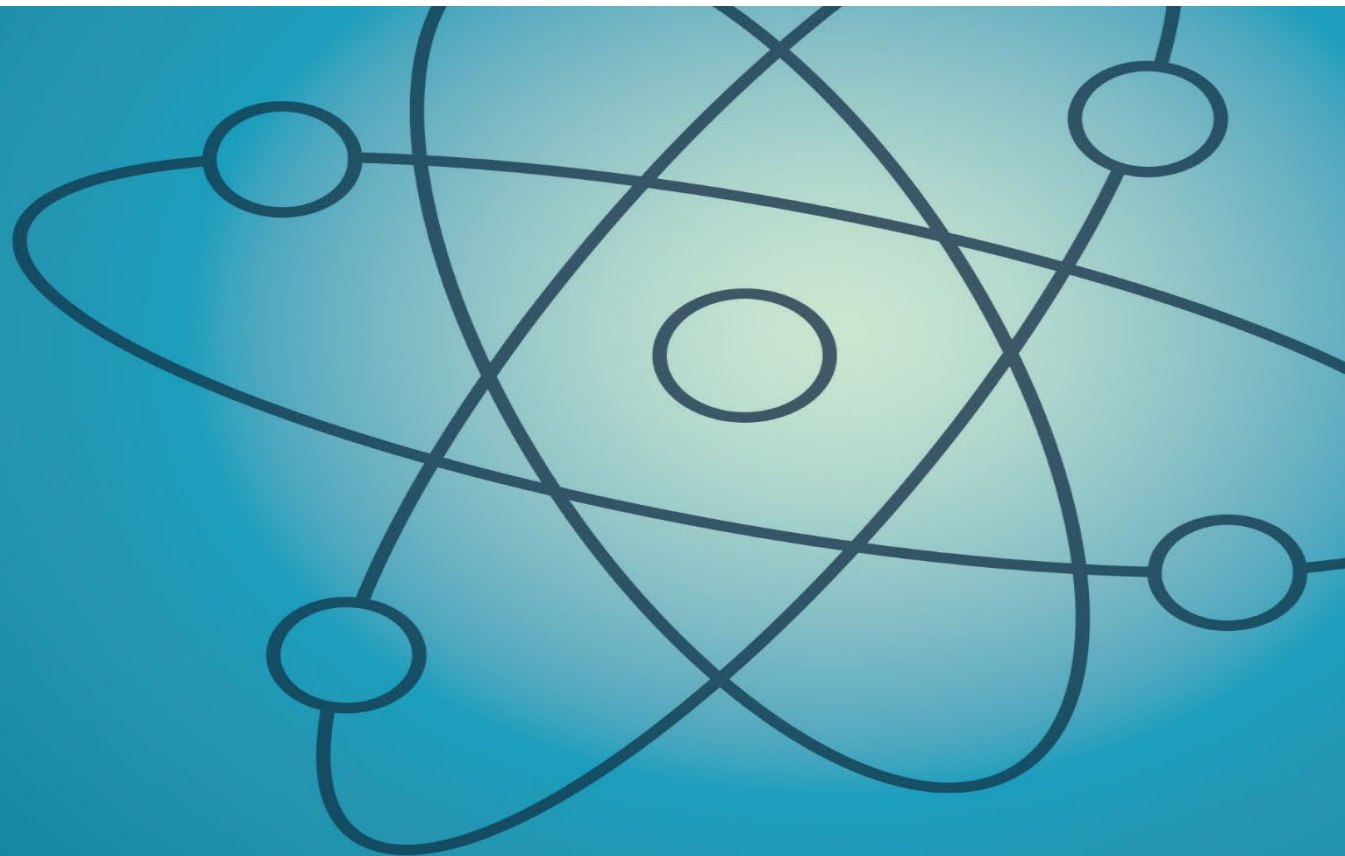
Deputy chair of the board of ANVS

ENSREG representative in
EU SMR pre-partnership

European SMR pre-Partnership



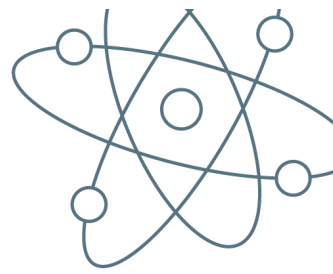
European SMR pre-partnership



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European SMR pre-Partnership



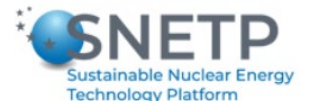
General objectives

- **Identify enabling conditions and constraints, including financial ones**, towards safe design, construction and operation of SMRs in Europe in the next decade and beyond in compliance with the EU legislative framework in general and to the Euratom legislative framework in particular.

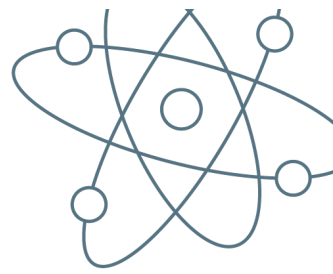
Specific objectives

- Develop the necessary industrial supply chain in Europe
- Encourage the implementation of common (harmonized) licensing process across the EU
- Establish a strategic research agenda :
 - LWR, as a mature technology to be deployed in 2030.
 - Advanced SMR (Gen IV) design have to be matured by 2035 for long term prospect

Steering Committee: nucleareurope (chairing), SNETP, ENSREG, EC + chairs of 5 WS



Work-streams pre-partnership

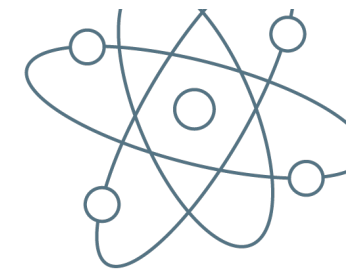


Five work-streams

- WS1: Market analysis (nucleareurope)
- WS2: Licensing (ENSREG)
- WS3: Financing (nucleareurope)
- WS4: Supply chain adaptation (nucleareurope)
- WS5: Innovation, research & development (SNETP)



WS2 – Licensing



Objective:

- Identify the elements for establishing a European pre-licensing process based on commonly accepted safety assessments from different ENSREG members interested in the licensing of the same SMR design

Main ongoing activities:

- Establish a clear state of play of activities in other fora (IAEA - SMR Regulatory Forum/NHSI, NEA Committees, WENRA, ENISS, CORDEL, etc.) in relation to SMR licensing
- Develop a common understanding on NPPs licensing processes in different EU countries interested in SMR licensing (main milestones, etc.)
- Consider ongoing or starting H2020 research projects in the field of SMR safety and licensing

Contributors:

- 16 experts from 14 countries' nuclear safety authorities from: **FR (Chair)**, AT, CZ, DE, ES, FI, HU, IT, LT, NL, PO, RO, SE, SK + industry representative: ENISS





Regulatory issues SMRs (not exhaustive)

- › Application of Defence-in-Depth
- › Verification of passive systems / grace period
- › Protective measures in case of core melt
- › Oversight of modular series production
- › *Effective regulatory collaboration*



Effective regulatory cooperation?

- › A strong shared view on fundamental safety requirements (IAEA standards, WENRA SRL's, DiD, ALARA, continuous improvement, etc.)
- › Differences in national regulations and binding procedures
- › Many different international platforms (industry and regulators)
- › Different interpretations of safety requirements may well lead to significant divergence in the prescriptions how to meet them
- › *Focus on harmonising requirements and procedures? Or on harmonising interpretation and implementation of requirements?*
- › *How to effectively collaborate in national safety assessments?*