

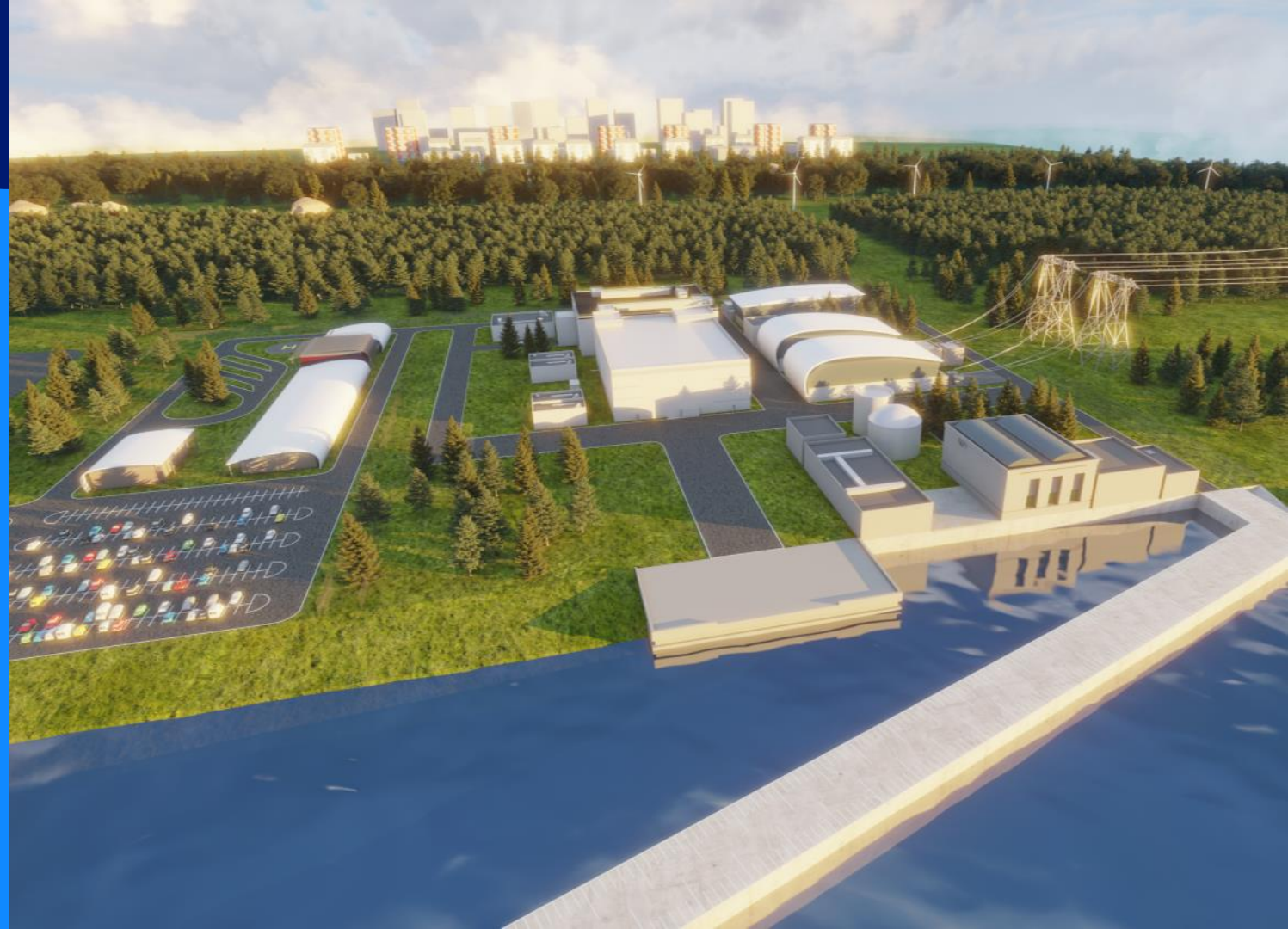


Nuclear Energy Ecosystems – Open Business Day 2022

NUWARD™

Debbie Francis
Design Export and
International Safety
Officer

04 / 05 / 2022



NUWARD™
Experience Based Technology

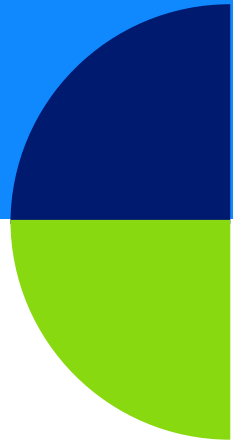


EDF reserves all rights to this document and the information it contains.

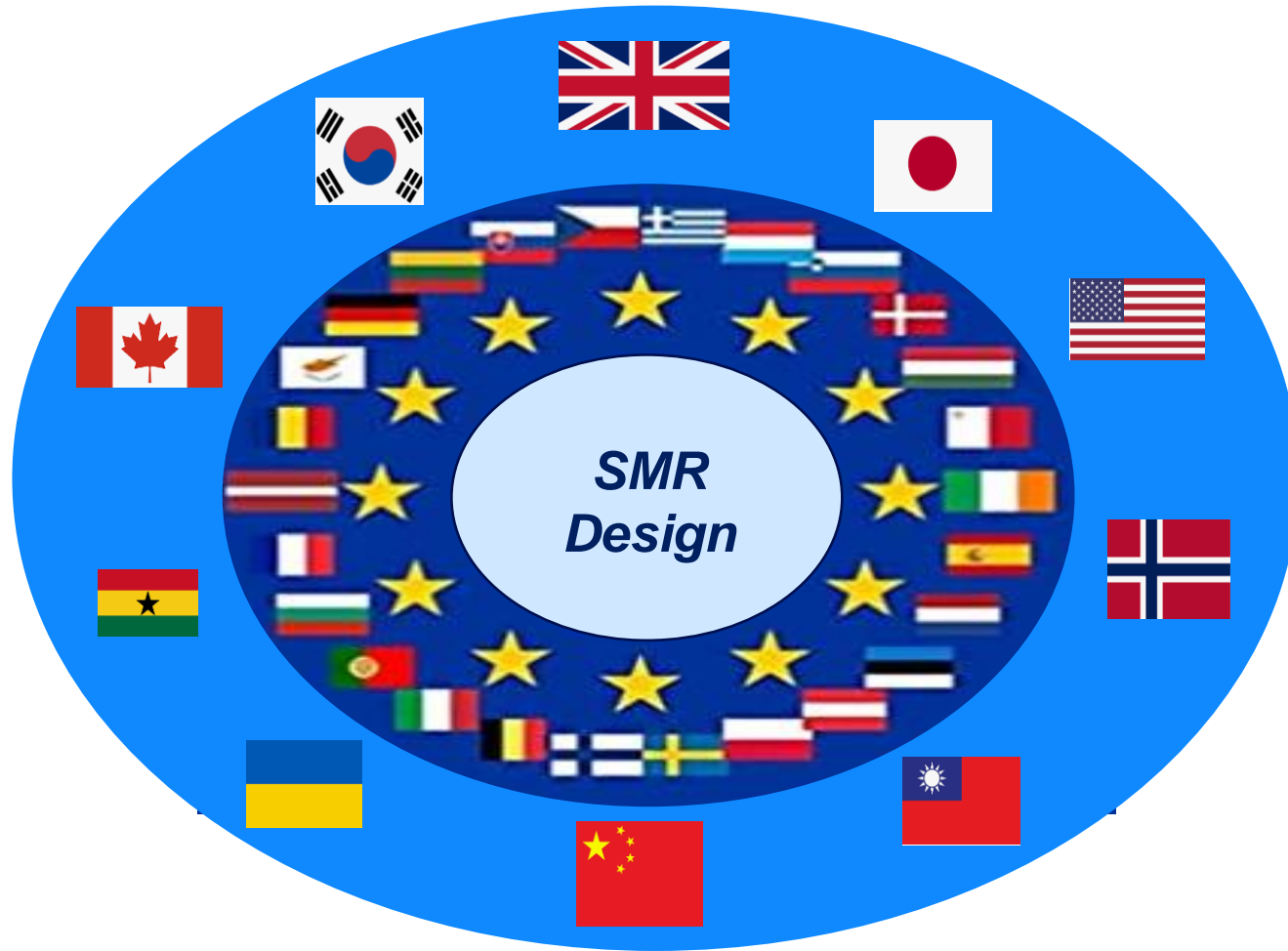
Any reproduction, use or disclosure to third parties without express permission is strictly prohibited.



An International View on SMR Safety Approach and Licensing



International SMR Safety Practices Adaptation?



Analysis of the various regulatory regimes and expectations suggests there are many differences in the licensing process and safety approach between countries

What's the difference?

Some areas where the STUK and ASN's traditional safety approach differs

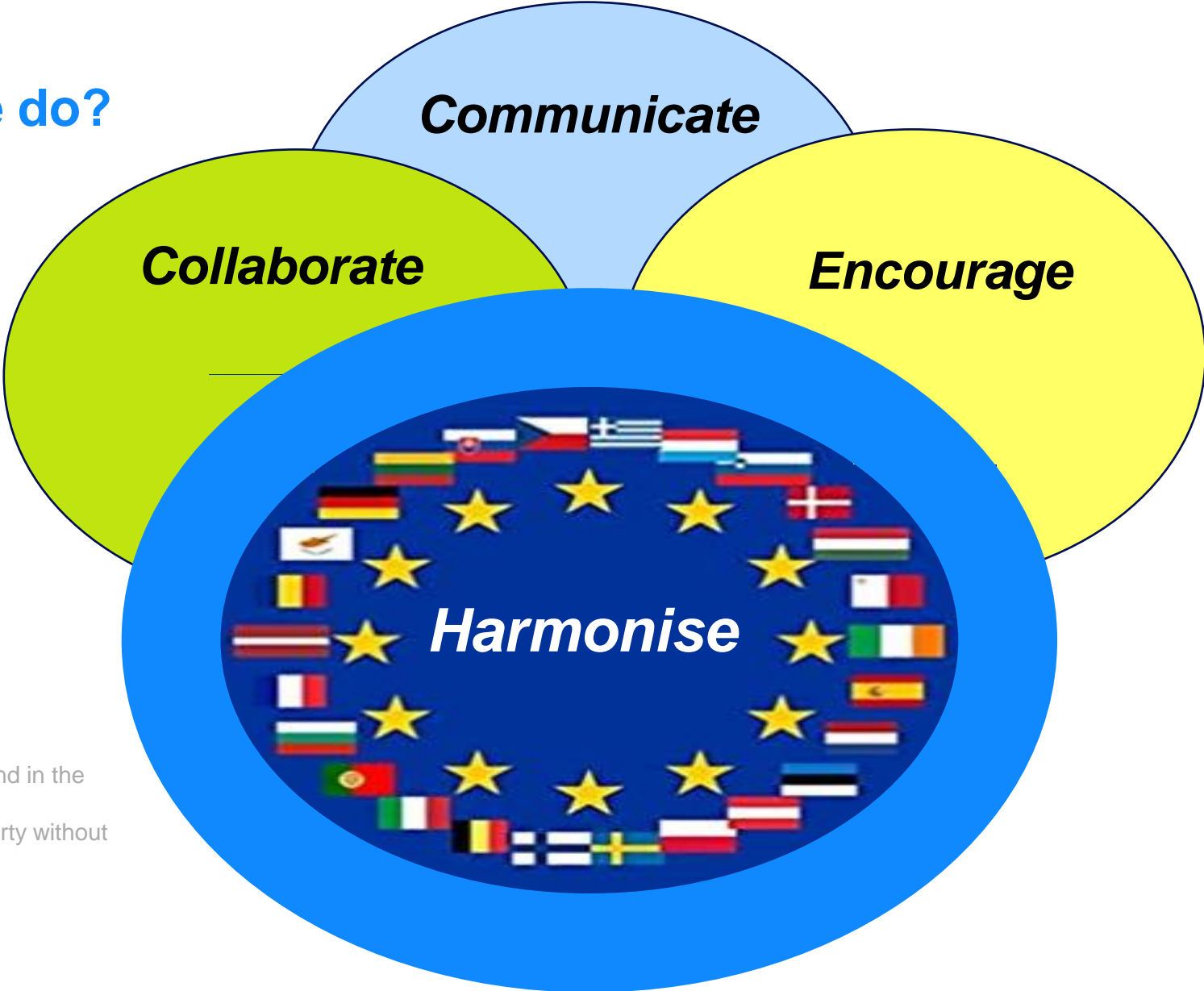
1. *Diversity and reliability evaluation criteria for complex architecture,*
2. *The list of Design Basis Conditions (DBC) or 'Anticipated Operating Occurrences' and Design Extension Conditions (DEC),*
3. *Effective Dose criteria for DBC,*
4. *The single failure criterion in severe accident analysis,*
5. *Accreditation of non- safety grade operating systems,*
6. *Consideration of Common Cause Failure of computerised I&C.*

The 100% Adoption of all requirements is not viable

Multiple licensing and safety approach teams to address all the requirements all running in parallel	=	adds complexity, takes time and resources, loss of simplification
Impact on design and design choice could be significant	=	complexity and loss of simplification
Will be contradictions in expected design choice so potentially multiple different versions of the design	=	loss of standardisation and series effect
Likely render the project not commercially viable	=	loss of finance support
Significant extension to the project delivery timeline	=	failure to meet decarbonisation targets

How can we navigate the Licensing Landscape successfully?

What can we do?



EDF reserves all rights in this document and in the information contained therein. Reproduction, use or disclosure to third party without express authorisation is strictly prohibited

Helping create the conditions for SMR international licensing



- Fostering transnational communication on safety and licensing
- Encouraging collaboration on international licensing conditions
- Early insights on design and safety options for EU market
- Joint early review of design



EDF reserves all rights in this document and in the information contained therein.
Reproduction, use or disclosure to third party without express authorisation is strictly prohibited



What more can we do?



- *Contributing to various European and international working groups and initiatives*
- *Review of key countries of interest laws, decrees, regulatory guides, process and expectations*
- *Draw on own and our partners' design and operational experience*
- *Engage the International NUWARD™ Advisory Board (INAB)*
- *Generating interest and engagement in SMRs and the NUWARD™ Project*
- *Being open to new partners, new insights and sharing and collaborating to get mutually beneficial outcomes*
- *Being here at the Nuclear Energy Ecosystems – Open Business Day 2022 spreading the message*

Kiitos!
Thank you!
Merci !

