

MAY 2025

The 6th workshop with the stakeholder network of the HARMONISE project took place in Kaunas, Lithuania on 20 May 2025 as a hybrid event. Representatives from research institutions, regulatory authorities, the Ministry of Energy of the Republic of Lithuania, industry as well as the Euratom funded projects EASI-SMR, EUROfusion and HARPERS attended the workshop.

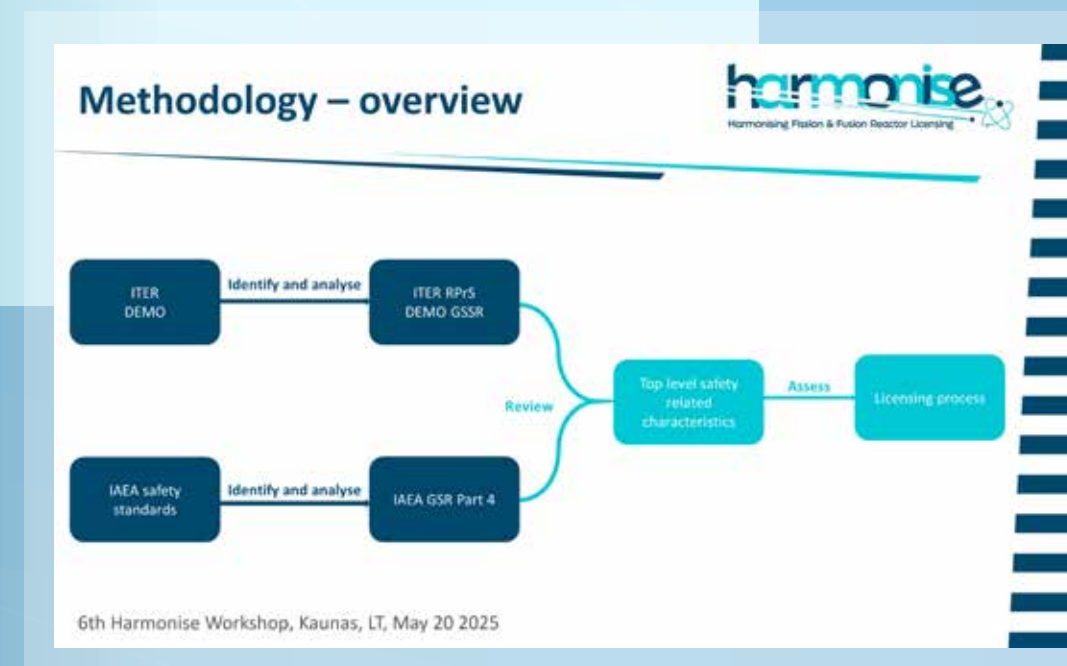
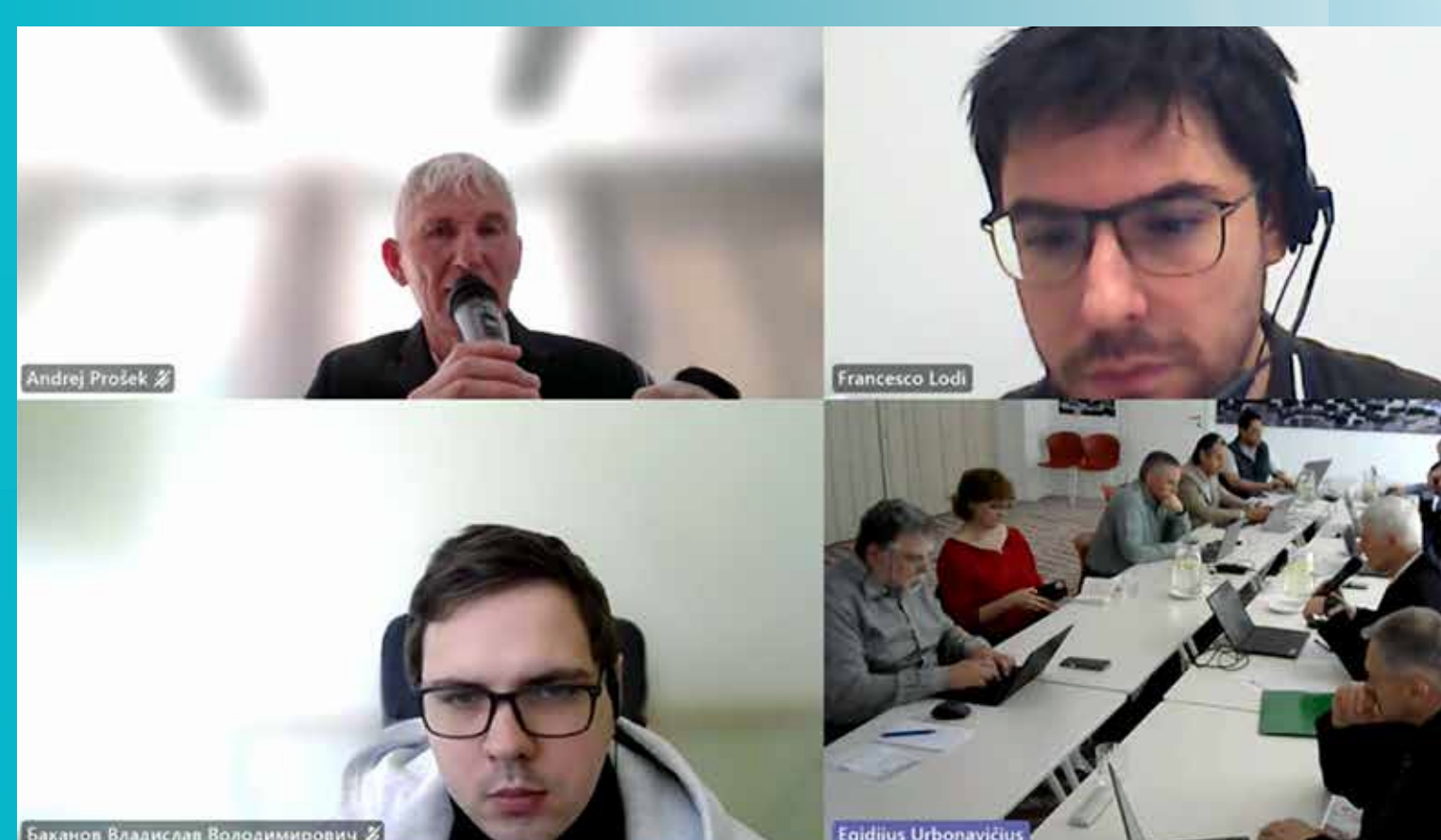
Following the participant's introduction, an overview of the HARMONISE objectives, partnership and progress was given with a focus on work package achievements. **Work Package 1** activities included an overview of the interaction with the stakeholder network. Additional tasks were focused on the assessment of existing applications of the IAEA safety objectives for advanced fission reactors as well as on the assessment of existing safety cases for large fusion facilities.

**Work Package 2** actions investigated the extent of the innovations contained in the novel designs proposed in the European panorama and their impact on the current safety framework. Specific issues in applying the existing licensing frameworks to advanced fission and fusion technologies were analysed and the challenges in applying the current regulations to innovative technologies were identified.

In **Work Package 3** activities the notion of safety architecture integrates in its new interpretation all the provisions that participate in achieving the fundamental safety functions at nuclear installations. Defence in Depth, graded approach and "risk domain" are the foundations of the suggested approach for an innovative risk-informed, performance-based approach.

**Work Package 4** actions aimed to identify the needs to support innovative reactor projects in terms of codes and standards and digital technology with, as a final result, a map of the scope already covered by codes and for unmet needs recommendations to treat them. Depending on the technology maturity level, specific recommendations and developing plans are proposed in the final roadmap.

Invited speakers having experience in international organisations enriched the workshop with their input. To this end, an overview was offered on the OECD-NEA activities related to SMR safety assessment and regulation. In addition, the IAEA Nuclear Harmonization and Standardization Initiative was outlined while, in a non-nuclear domain, potential input from aviation regulations was presented and discussed.



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