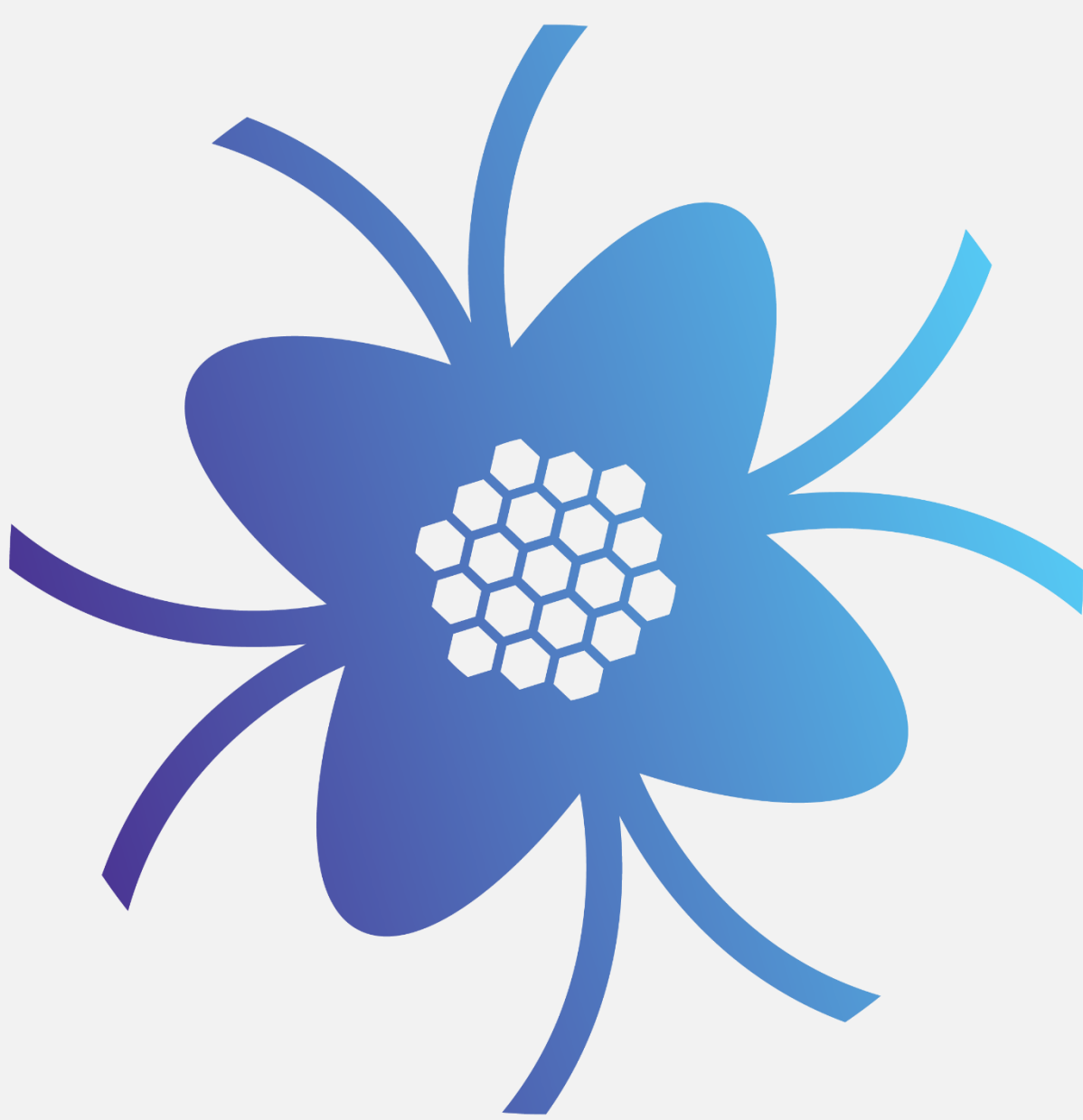




Addressing Strategic Priorities of Slovenia, the EU and the International Nuclear Community

L. Snoj^{1,2}, B. Levpušček^{1,2}, J. Malec^{1,2}, K. Ambrožič^{1,2}, V. Radulović^{1,2}, I. Tiselj^{1,2}, N. Thiollay³, C. Destouches³, R. Jacqmin³, X. Wohleber⁴, A. Lyoussi³, J. F. Villard³, C. Vaglio-Gaudard³ and A. Pungerčič^{1,2}

¹Jožef Stefan Institute, Jamova cesta 39, 1000 Ljubljana, Slovenia

²Faculty of Mathematics and Physics, University of Ljubljana, Jadranska ulica 19, 1000 Ljubljana, Slovenia

³CEA, DES, IRESNE, Cadarache F-13108 Saint-Paul-Lez-Durance, France

⁴CEA, DRF, IRFU, F-91190 Saclay, France

SUMMARY

New Slovenian research reactor: Two reactors in one facility — a zero-power benchmark platform and a 5 MW multipurpose reactor.

Learning effects from a domestic programme **de-risk** multi-billion new-build investment, incl. Slovenia's JEK2.

Conceptual design complete; feasibility study and cost-benefit analysis due in 2026.

VERONICA IN THE EUROPEAN NUCLEAR REACTOR ECOSYSTEM



STRATEGIC ALIGNMENT

5 national strategic documents call for new research reactor

- NRRI 2030 infrastructure plan
- NEPN energy and climate plan
- Resolution on peaceful use of nuclear energy (2024)
- ReJSV nuclear safety 2024-2033
- Nuclear R&D strategy 2025-2035

Research reactors are strategic infrastructure for innovation and competitiveness.

- PINC nuclear programme, 2025
- Draghi Report on European Competitiveness, 2024
- €241B nuclear investment needs by 2050 (EC)
- SNETP Infrastructure Strategy
- Candidate horizontal enabler for the nuclear IPCEI

New experimental and research reactor capacity is needed.

- NEA 2009: need for versatile zero/low-power reactors
- "The DemiNEA Task Force on Zero Power Reactors (2023–)"
- Demise of Zero Power Reactors: From Concern to Action"

Research reactors support health, education, energy and sustainable development.

- IAEA Strategic Planning for Research Reactors methodology
- IAEA Rays of Hope — radioisotope access
- US Versatile Test Reactor precedent (2017–2020 Acts)
- UN SDGs 3, 4, 5, 7, 9, 17

