

The Joint Programme on Nuclear Materials of the European Energy Research Alliance (EERA JPNM)

Coordinating GenIV reactor materials research for a low carbon Europe

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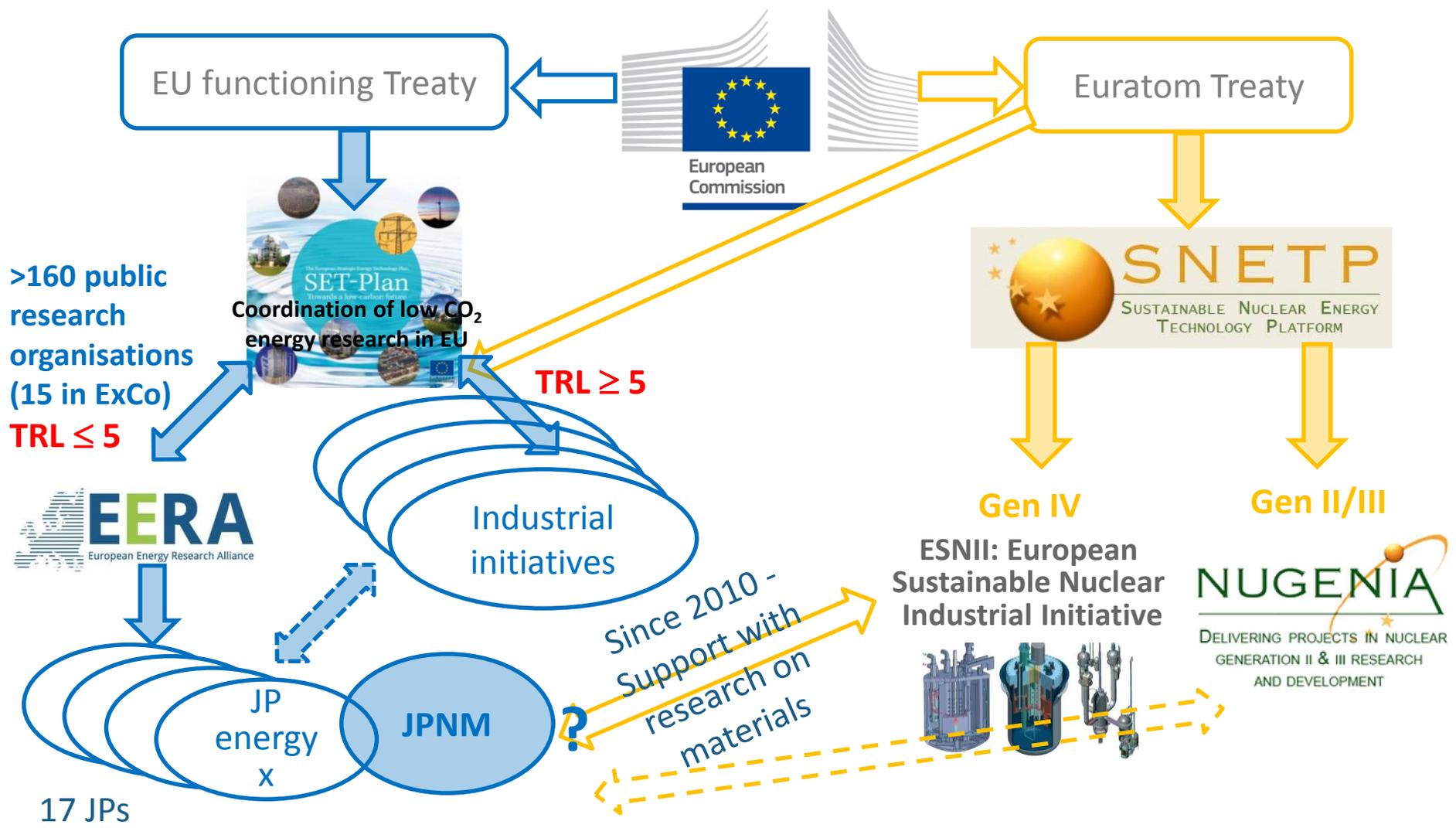
www.eera-set.eu



EERA is an official part of
the EU SET-Plan.

<http://setis.ec.europa.eu/>

What is the EERA JPNM: the complex landscape of energy platforms in Europe



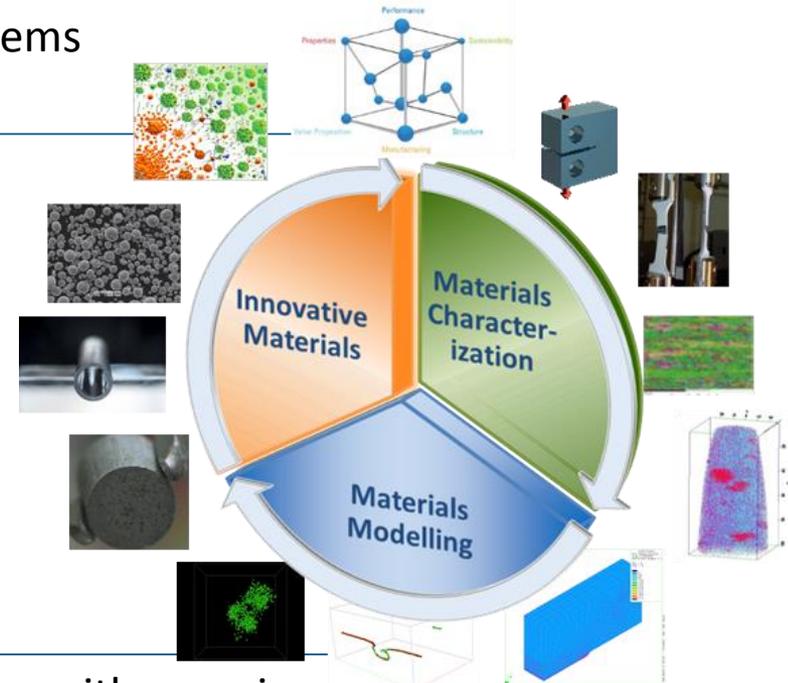
Pursue **better knowledge of materials behaviour** in operation:

- achieve predictive capability (radiation & temperature effects, compatibility with coolants ...)
- select most suited materials for GenIV systems
- support definition of safe design rules

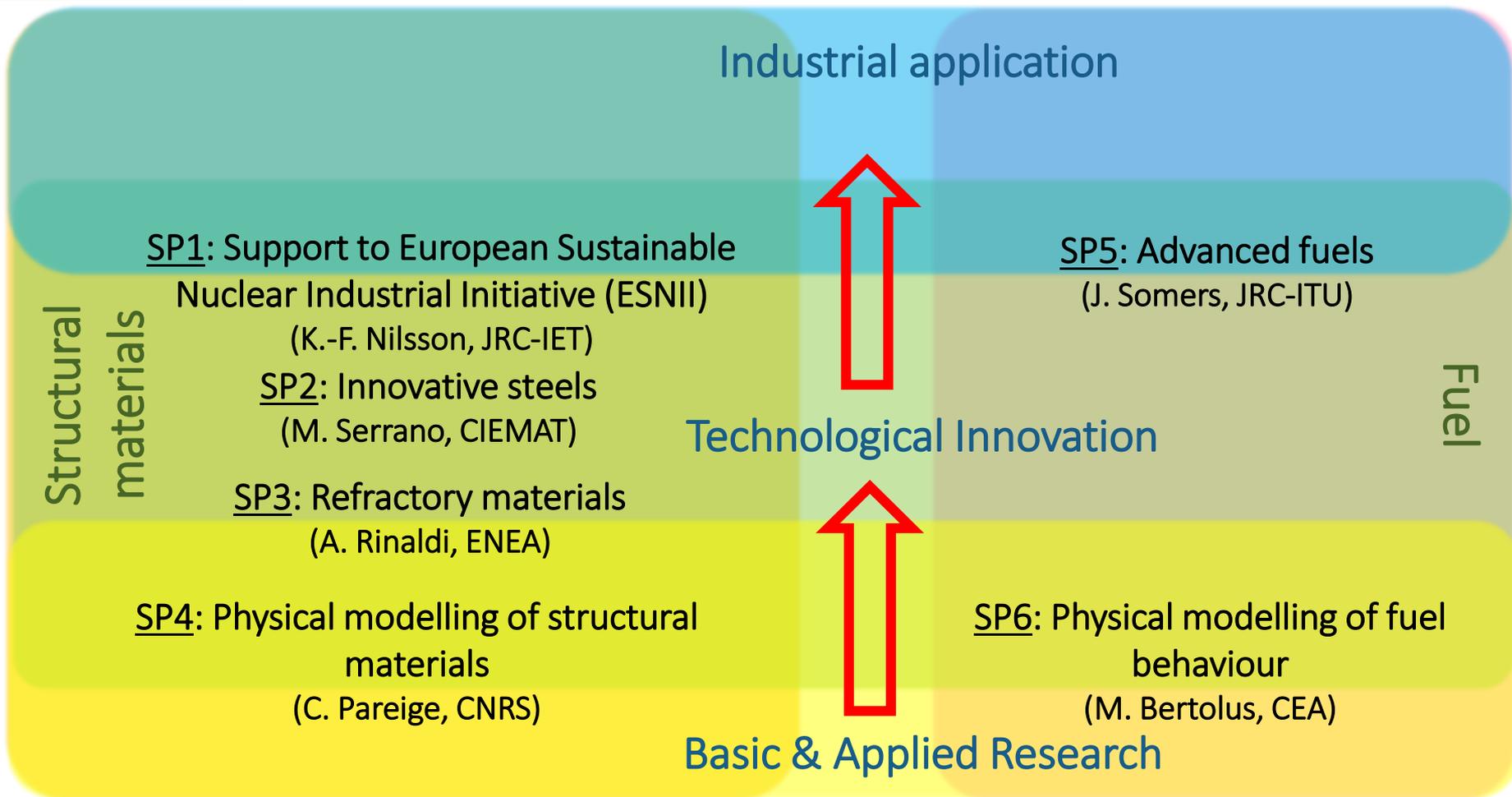
JPNM → improve **safety**
& **sustainability** of
Nuclear Energy, focusing on
materials aspects

Develop **innovative materials for industrial use** with superior capabilities:

- resistant to high temperature and irradiation
- resistant to aggressive environments



A subprogramme structure to cover all aspects of NM



Coordinator: L. Malerba, SCK•CEN

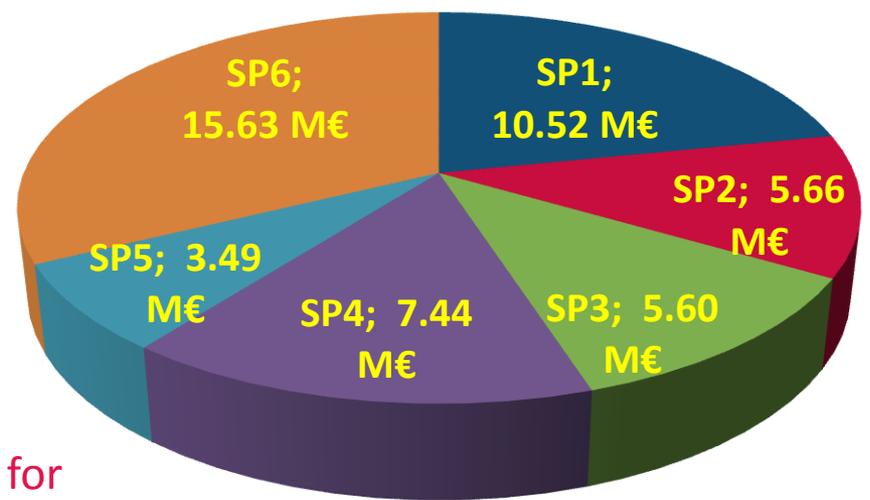
Deputy coordinator: A. Bohnstedt, KIT

Cross-cutting issues: J. Kalivodová, CVR

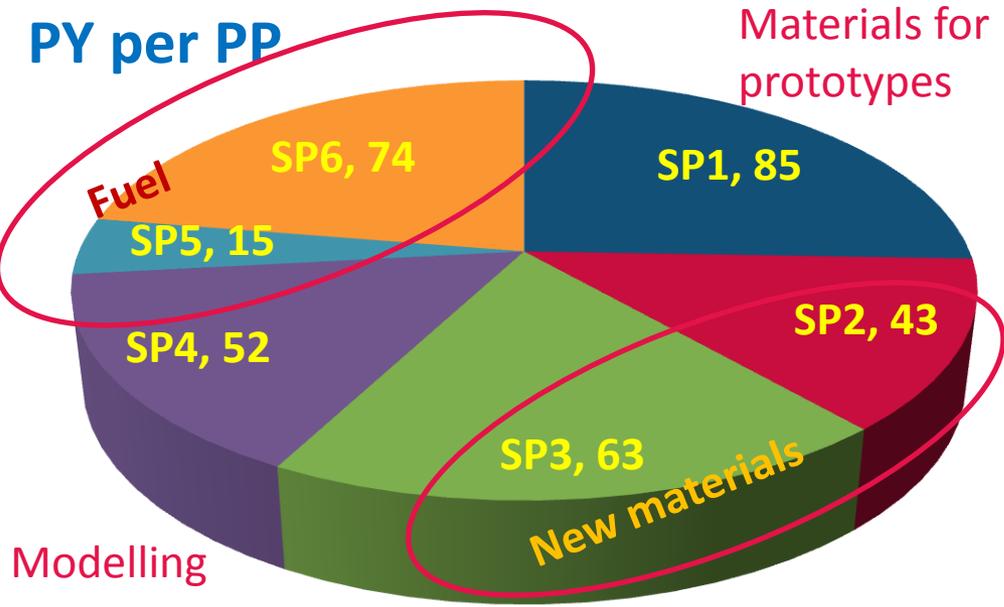
JPNM research portfolio: pilot projects

Total budget ~48 M€
Total PY ~332
Average duration of PP ~3.7 yrs
Average PY/Y ~89
Several PPs involve 2 SPs

Budget per SP



PY per PP



Approved PP are due to start in January 2016
Some will hopefully receive partial EC funding
Next call in the course of 2017

The importance of identifying X-cutting issues

- EERA aims at boosting efficiency in energy technology research in Europe *at low TRL (1-5)*
 - Identification of common issues allows cross-fertilization and better use of resources
 - Minimise duplication
 - Reduce costs
 - Accelerate delivery

- Materials have a role to play in all energy technologies
 - The construction of an “energy materials research front” in Europe will allow us all to have more weight

Success in this depends a lot on us all!

X-cutting issues in the focus

- High temperature steels/alloys

- Behaviour under aggressive environment

- Design codes for mechanical components

Behaviour
under extreme
conditions

- Ceramic, refractory materials and composites

- Advanced steels (new alloys, novel manufacturing technologies, ...)

Innovative
materials

I wish us all a fruitful meeting

