



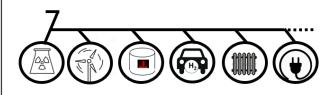
Small Modular Reac<u>T</u>or for a European s<u>A</u>fe a<u>N</u>d <u>D</u>ecarbonized <u>E</u>nergy <u>M</u>ix

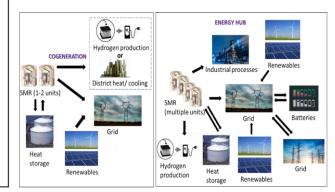
...a project about about the integration of SMRs into carbon-free hybrid energy systems

High-level objectives:

- Assess the safety compliance of SMRs to be integrated in the future European energy mix
- Provide guidance in a deployment perspective for future integration of SMRs and AMRs into wellbalanced hybrid energy systems
- Foster enabling environment for development of hybrid energy systems based on SMRs and AMRs

<u>Ambition of TANDEM:</u> to become a pioneer initiative in gathering efforts and expertise around development of SMRs integration into hybrid systems









- Call topic: NRT01-02 « Safety of advanced and innovative nuclear designs and fuels »
- ☐ Type of funding scheme: RIA (Research and Innovation Action)
- ☐ Duration of the project: 36 months
- ☐ Project start: September 1, 2022
- Budget: 3.6M€ (including EC grant: 3.3M€)
- Organization leading the project initiative: CEA (coordination: claire.vaglio-gaudard@cea.fr)







16 European partners from 8 countries

Belgium: ENGIE-TRACTEBEL, EC-JRC,

FORATOM, ENEN
Czech Republic: UJV
Finland: VTT, FORTUM

France: EDF, IRSN, CEA

Germany: GRS

Italy: CIRTEN (POLIMI, UNIPI), Ansaldo

Nucleare Energia, ENEA

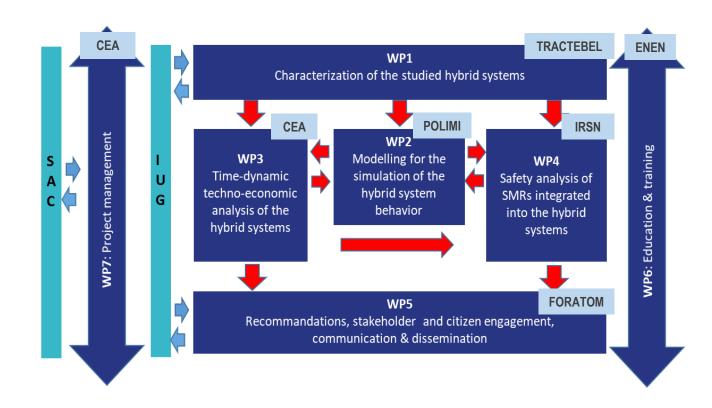
Spain: Empresarios Agrupados Internacional

Ukraine: Energorisk

OVERALL METHODOLOGY IMPLEMENTED IN TANDEM

RELATED WP OUTCOMES **ACTIVITIES PHASE** - Analysis of the European energy PHASE 1 scenarios Characterization of two hybrid energy Identification of hybrid systems WP1 - Configuration of two hybrid systems to study incorparating SMRs to study systems for the selected scenarios - TANDEM model library PHASE 2 Development of new tools, - Hybrid system simulator WP2 Development and implementation modelling in existing tools, - CATHARE/ATHLET safety modelling WP3 of tools for SMR assessment numerical coupling between tools - Coupling for safety /techno-economics PHASE 3 - Safety assessment WP3 Safety and feasibility studies for - Techno-economics and Safety recommandations, technical and WP4 SMR integration into hybrid operatinonality analysis economical guidance, policy briefs, etc. WP5 - Citizen engagement systems - Scientific training - Improved scientific cooperation PHASE 4 WP5 Interaction with SAC and IUG - New project ideas identified Building enabling environment for WP6 - Increased public acceptance **Outreach activities** future projects and initiatives WP7 - Raised awareness of stakeholders - Organisation of workshops







THANK YOU FOR YOUR ATTENTION