



**POLITECNICO  
MILANO 1863**

# Nucleare: Europa e Italia

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Milano, Dip. Energia POLIMI  
2026 Aprile 14

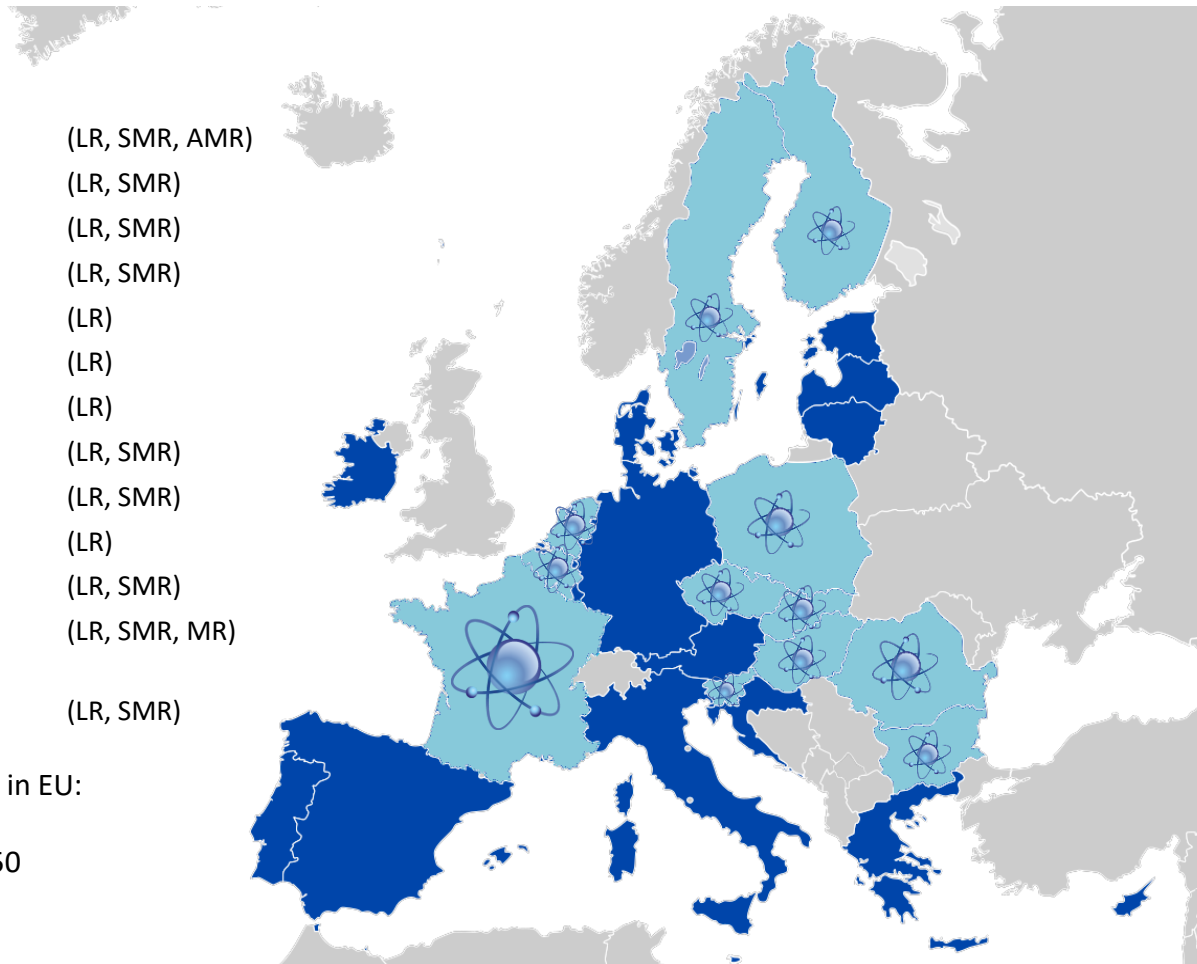
# Nucleare e Europa

LR = Large Reactors;  
SMR = Small Modular Reactors;  
AMR = Advanced Modular Reactors;  
MR = Micro Reactors

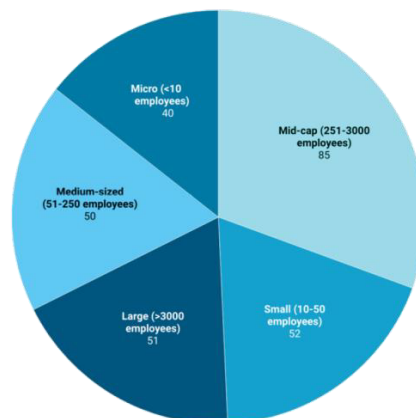
<b>Francia</b>	(LR, SMR, AMR)
<b>Svezia</b>	(LR, SMR)
<b>Belgio</b>	(LR, SMR)
<b>Finlandia</b>	(LR, SMR)
<b>Ungheria</b>	(LR)
<b>Bulgaria</b>	(LR)
<b>Rep. Ceca</b>	(LR)
<b>Romania</b>	(LR, SMR)
<b>Slovacchia</b>	(LR, SMR)
<b>Slovenia</b>	(LR)
<b>Olanda</b>	(LR, SMR)
<b>Polonia</b>	(LR, SMR, MR)
<b>Svizzera</b>	(LR, SMR)

Potenziale mercato SMR in EU:

- 10 unità al 2035
- 10+ unità/anno al 2050



- Key goal: to support the **deployment** of the first SMR in EU **by 2030** / beginning of 2030's



**5 Technologies**



LW-SMR, AMR



- 24 different designs proposed: 7 large LWR SMRs, 3 LWR for district heating, 14 AMRs – Lead / Sodium / Molten Salts / HTG, several start-ups
- 8 **Technical Working Groups** (cross-cutting activities)
- Selection process of the priority SMR/AMR projects by the end of 2024 (**Project-based Working Groups**)

## TWG1: Industrial Applications

Chair: N.Regá (CEFIC)  
Vice Chair: A.Georgescu (Eurometaux)



## TWG2: Technology and R&D&I

Chair: P.Baeten (SCK-CEN)  
Vice Chair: M.Pasquet (Framatome)



## TWG3: Supply Chain

Chair: V. Ramany (EDF)  
Vice Chair: M.Tacconelli (Walter Tosto)



## TWG4: Skills

Chair: M.E. Ricotti (POLIMI, CIRTEN)  
Vice chair: O. Bard (GIFEN).



June 2024  
October 2024



## TWG5: Public Engagement

Chair: M. Martell (GMF)  
Vice Chair: TBD



## TWG6: Nuclear Safety & Safeguard

Chair: O.Kymäläinen (FORTUM)  
Vice Chair: R.Urjan (Nuclearelectrica)



## TWG7: Fuel cycle & waste management

Chair: H.Baars (URENCO)  
Vice Chair: T.Louvet (ORANO)



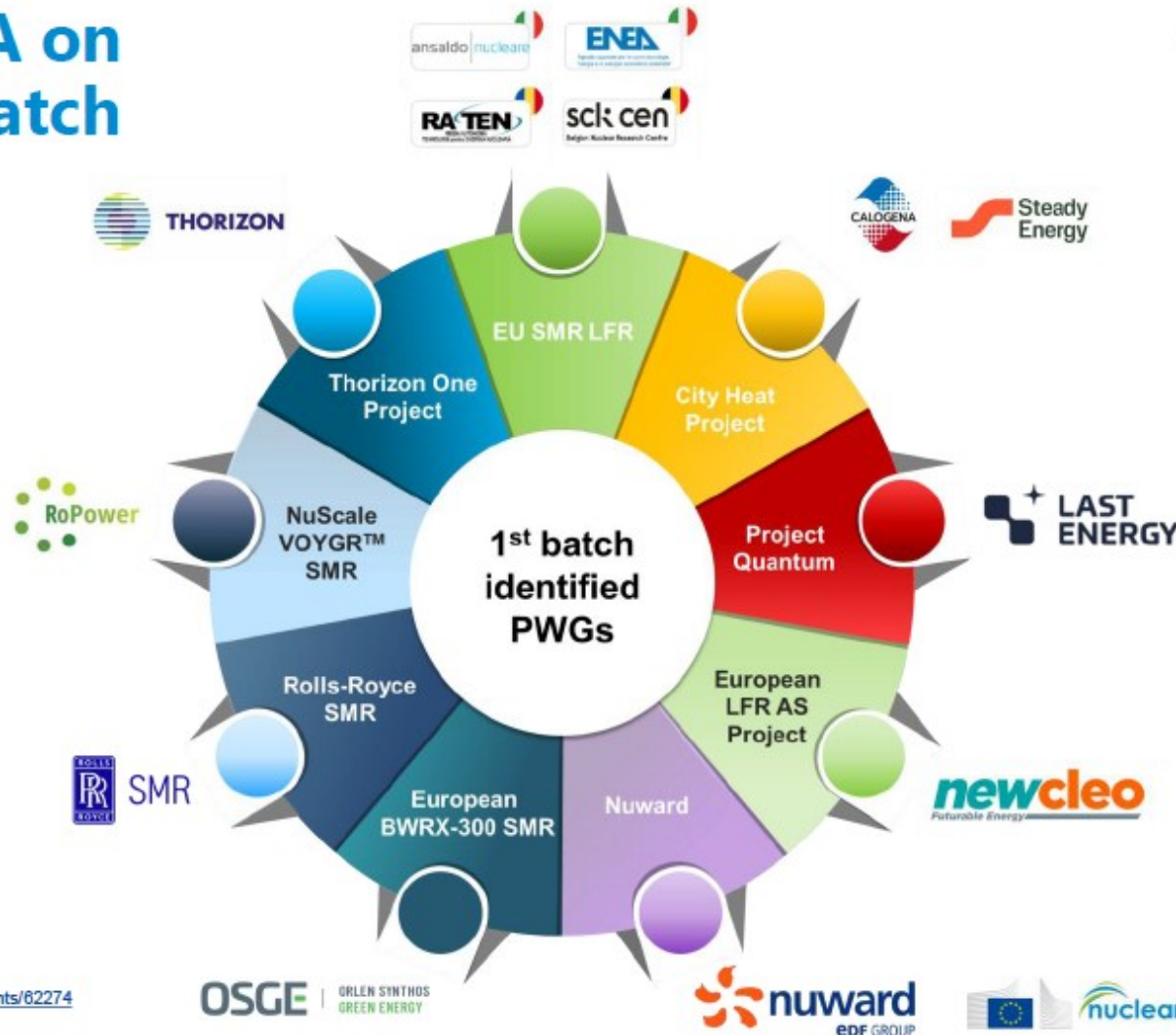
## TWG8: Financing

Chair: M.Jedlička (ČEZ)  
Vice Chair: C.Töpfer (Vattenfall)



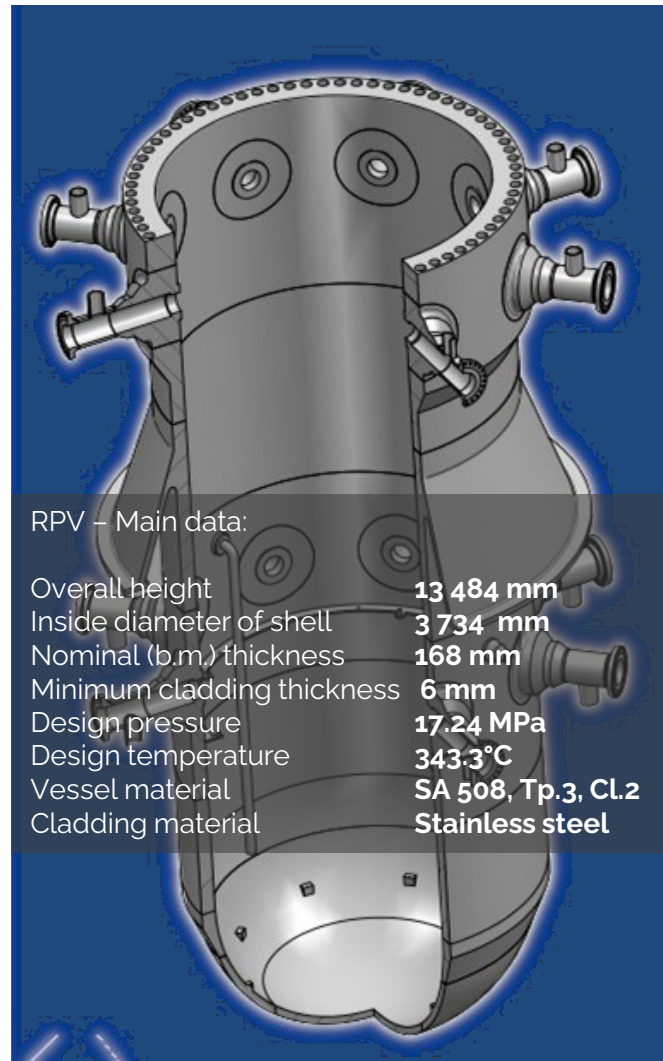
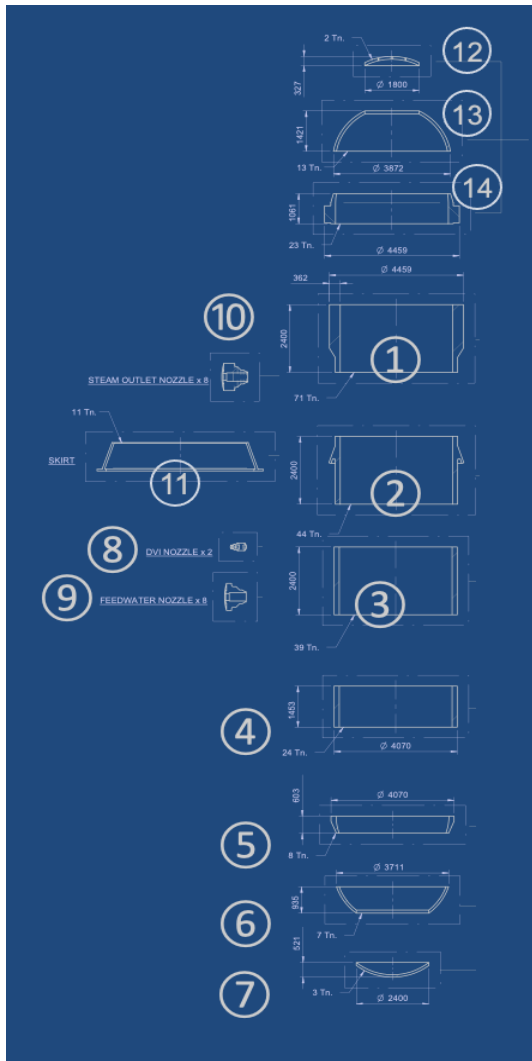
## European IA on SMRs 1<sup>st</sup> batch PWGs\*

<b>CityHeat project</b> (Calogena, Steady Energy)	<i>PWR for district heating, 50 MWth, FRA + FIN</i>
<b>Nuward</b> (EdF)	<i>PWR, loop type, 400 MWe, FRA</i>
<b>European BWRX-300 SMR</b> (OSGE)	<i>BWR, full natural circulation, USA</i>
<b>Rolls-Royce SMR</b> (Rolls-Royce SMR Ltd)	<i>PWR, 3 loops, around 400 MWe, UK</i>
<b>NuScale VOYGR™ SMR</b> (RoPower Nuclear S.A)	<i>PWR, integral type, 77 MWe, USA</i>
<b>Project Quantum</b> (Last Energy)	<i>PWR, loop type, 20 MWe, USA</i>
<b>EAGLES project</b> (Ansaldo Nucleare, SCK-CEN, ENEA, RATEN)	<i>LFR, pool type, 120 MWe, ITA + ROM + BEL</i>
<b>European LFR AS Project</b> (Newcleo)	<i>LFR, pool type, 200 MWe, FRA/ITA</i>
<b>Thorizon One project</b> (Thorizon)	<i>MSR, cartridge type, 100 MWe, FRA + NED</i>



\*Announced on 11 October 2024  
<https://ec.europa.eu/docsroom/documents/62274>

# Nucleare e Italia: Studio POLIMI (2023)

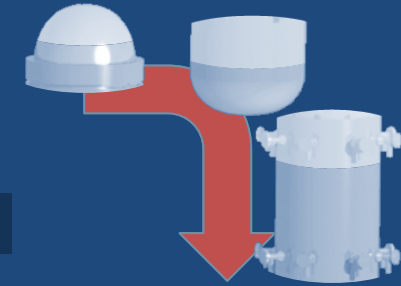


RPV – Main data:

Overall height	<b>13 484 mm</b>
Inside diameter of shell	<b>3 734 mm</b>
Nominal (b.m.) thickness	<b>168 mm</b>
Minimum cladding thickness	<b>6 mm</b>
Design pressure	<b>17.24 MPa</b>
Design temperature	<b>343.3°C</b>
Vessel material	<b>SA 508, Tp.3, Cl.2</b>
Cladding material	<b>Stainless steel</b>



**FORGING COMPANIES**



**MANUFACTURING COMPANIES**



# Nucleare e Italia: cosa è successo



2023, Mag *Due mozioni approvate dal Parlamento*



2023, Set  
2025, Apr *Piattaforma Nazionale per un Nucleare Sostenibile*  
<https://www.mase.gov.it/portale/-/piattaforma-nazionale-per-un-nucleare-sostenibile-pubblicazione-rapporti-conclusivi>



2025, Mag *Nasce Nuclitalia (51% Enel, 39% Ansaldo, 10% Leonardo) – valutazione tecnologie e partnership*



2024, Set  
2025, Lug *Steering Committee di Confindustria sul nucleare (presentazione report: 16 luglio)*



2025, Feb *Confindustria aderisce a EU Business Nuclear Alliance*



2025, Feb *DDL-delega per riordino normativa/struttura nucleare italiano (approvato Conferenza Unificata)*



2025, Giu *Italia aderisce a Alleanza Nucleare Europea*

Altri eventi di rilievo

2024

- **50+ aziende italiane** aderiscono alla **EU SMR IA** (secondo gruppo dopo la Francia)
- EdF-Edison-Ansaldo Nucleare-FederAcciai firmano **MOU** per lo sviluppo di **SMR & PPA** di elettricità da nucleare
- Report Edison-Ansaldo Nucleare-THEA: **117 000 posti di lavoro** con il nucleare + **50 B€ mercato SMR/AMR in Italia**

2025

- Primo **B2B Italia-Francia** tra aziende nucleari

2026

- DDL-delega calendarizzato in Parlamento (Camera) – audizioni completate (96) – 137 pagine di emendamenti

# Nucleare e Italia: filiera

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Attività recenti in ambito regionale sul nucleare:

- **Tavolo Nucleare della Reg. Lomb. (Ass. Guidesi, manager Armando De Crinito)**
  - Riunione con aziende/stakeholders (2025.Gen.31 + 2025.Mar.24) – 70 persone...
  - Evento RL-IAEA (Grossi) (2025.Mag.21)
  - Incontro RL-JRC Ispra (2025.Lug.14)
  - Webinar su «ENERGIA NUCLEARE: LA FORMAZIONE PROFESSIONALE E IL RUOLO DELLE IMPRESE» (2025.ott.28)
- **JRP Nucleare (AIN, FPM) (2025.Mag.05)**

Fondatori: ENEL, ENI, Edison, Ansaldo Nucleare; Advisory Board: MASE, RL, GSE, ANIMP

Attività nazionali:

- **AIN (Pres, Stefano Monti)- membro NuclearEurope, ENS, EU SMR IA**
  - Accordi con: ANIMA, GIFEN (EdF-Ansaldo), ROMATOM, CANADA (CNA), POLONIA, (TURCHIA)