


Discover our labelled projects

# GEMINI 4.0

 More information  
@GEMINI4.0

 Coordinator contact  
Michel Pasquet  
contact@gemini-initiative.com



## OBJECTIVE

**Support the industrial demonstration of a cogeneration High Temperature Gas Cooled Reactor (HTGR) for Electricity, process heat and Hydrogen Production.**

In H2020, an Euratom funded project, GEMINI+, developed the design of a high temperature helium-cooled reactor meant at cogeneration of high temperature steam (550°C) and electricity for decarbonizing industry. Then the GEMINI4.0 project enhances the potential of the GEMINI+ reactor by aiming at fulfilling the following objectives:

- As many industrial processes require in addition hydrogen for full decarbonisation, the main objective is to show that the GEMINI+ reactor can **at the same time** supply **hydrogen**, synthetic fuels, and chemicals (ammoniac, methanol...) in a decarbonized way - going from cogeneration to poly-generation in a cost-effective way.
- Consolidate the GEMINI+ poly-generation system safety demonstration and ensure that its licensing readiness is assessed by regulators and TSOs.
- Plan for the development of a consistent fuel cycle for high temperature reactors with respect to fissile resources as well as a safe, and an acceptable back-end.
- Implement an ambitious communication plan aimed towards political and industry stakeholders, as well as the public, to remove obstacles to nuclear solutions for the decarbonisation of industry.

## PARTNERS













































This project has received funding from Horizon Europe – Euratom programme under grant agreement No 101060008.