

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 GEMINI 4.0 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 decarbonised 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

framatome

BriVaTech

CVŘ | Research Centre Rez

edf

Hit Tech Relay



ASNR Autorité de sûreté nucléaire et de radioprotection



NATIONAL CENTRE FOR NUCLEAR RESEARCH ŚWIERK

United Kingdom
National Nuclear
Laboratory



synthos
green energy

TRACTEBEL
ENGIE



ULTRA SAFE NUCLEAR

VTT



LGi
sustainable innovation

TÜVRheinland
Precisely Right.

