

# NOMAD

Nondestructive Evaluation (NDE) System for  
the Inspection of Operation-Induced Material  
Degradation in Nuclear Power Plants

**Ensuring nuclear safety and reliability  
of Generation II and III reactors in Europe**

[www.nomad-horizon2020.eu](http://www.nomad-horizon2020.eu)

## Aim

NOMAD aims to develop a non-destructive evaluation (NDE) system for nuclear power plants to assess the embrittlement in reactor pressure vessel (RPV) materials



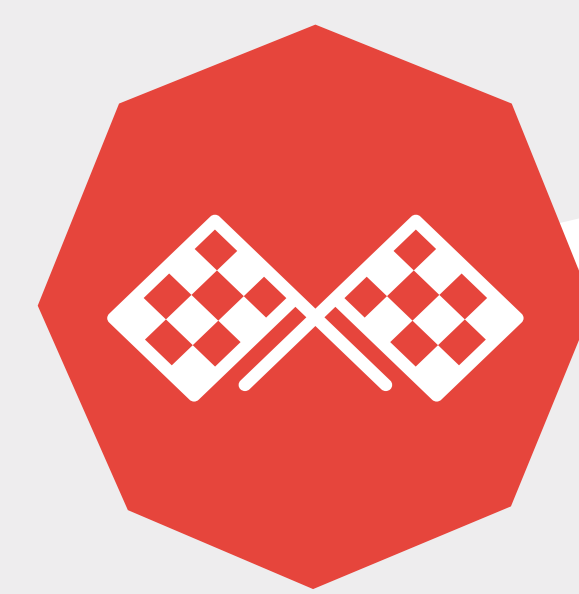
## Methods

NOMAD partners will implement different NDE methods including electrical, ultrasonic, acoustic and micromagnetic techniques



## Vision

NOMAD will contribute to ensuring a secure electricity supply for the societies in Europe in the next decades



## Partners

10 Partners from 7 European Countries

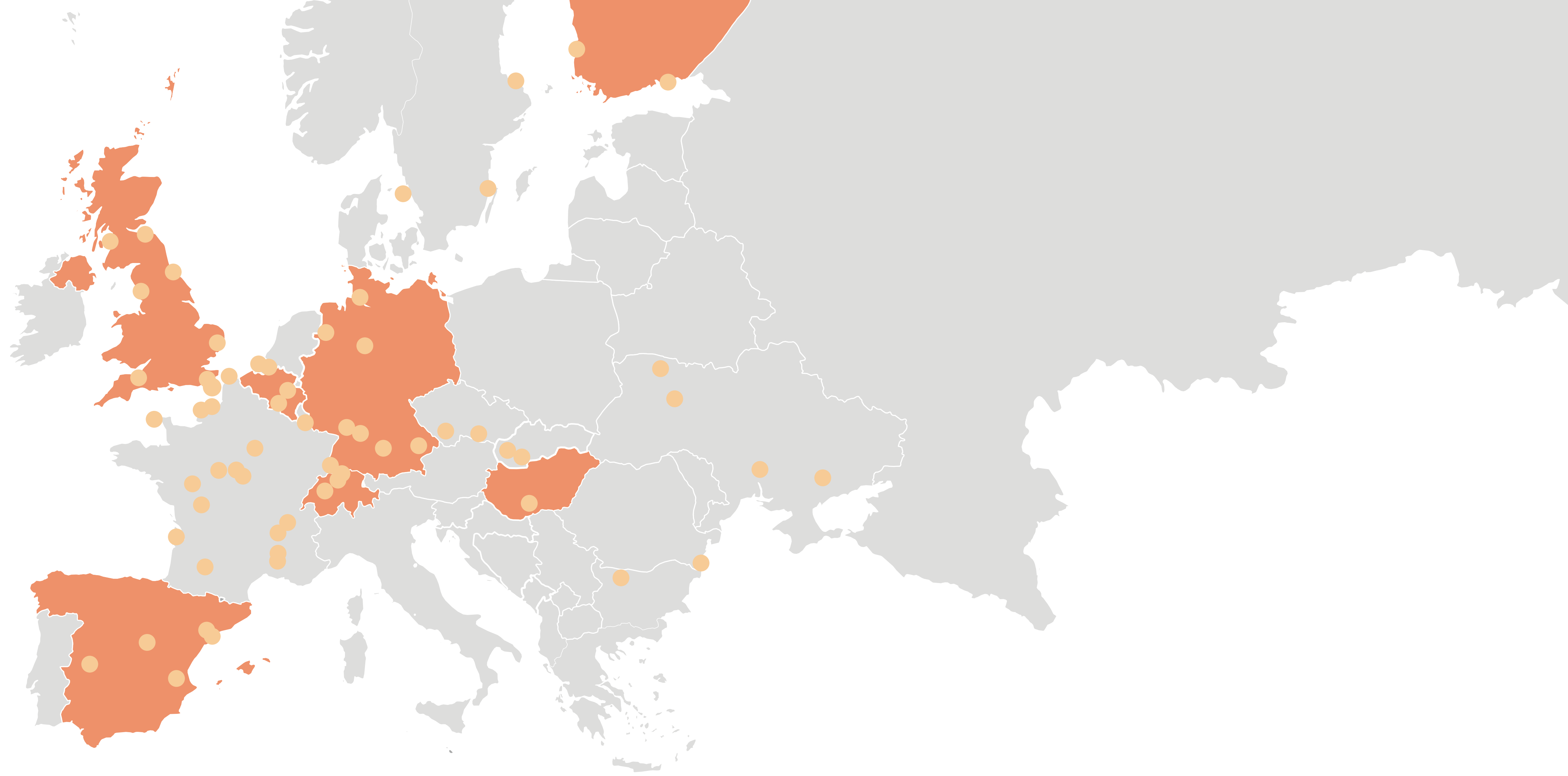
## Duration

01/06/2017–31/05/2021



This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 755330.



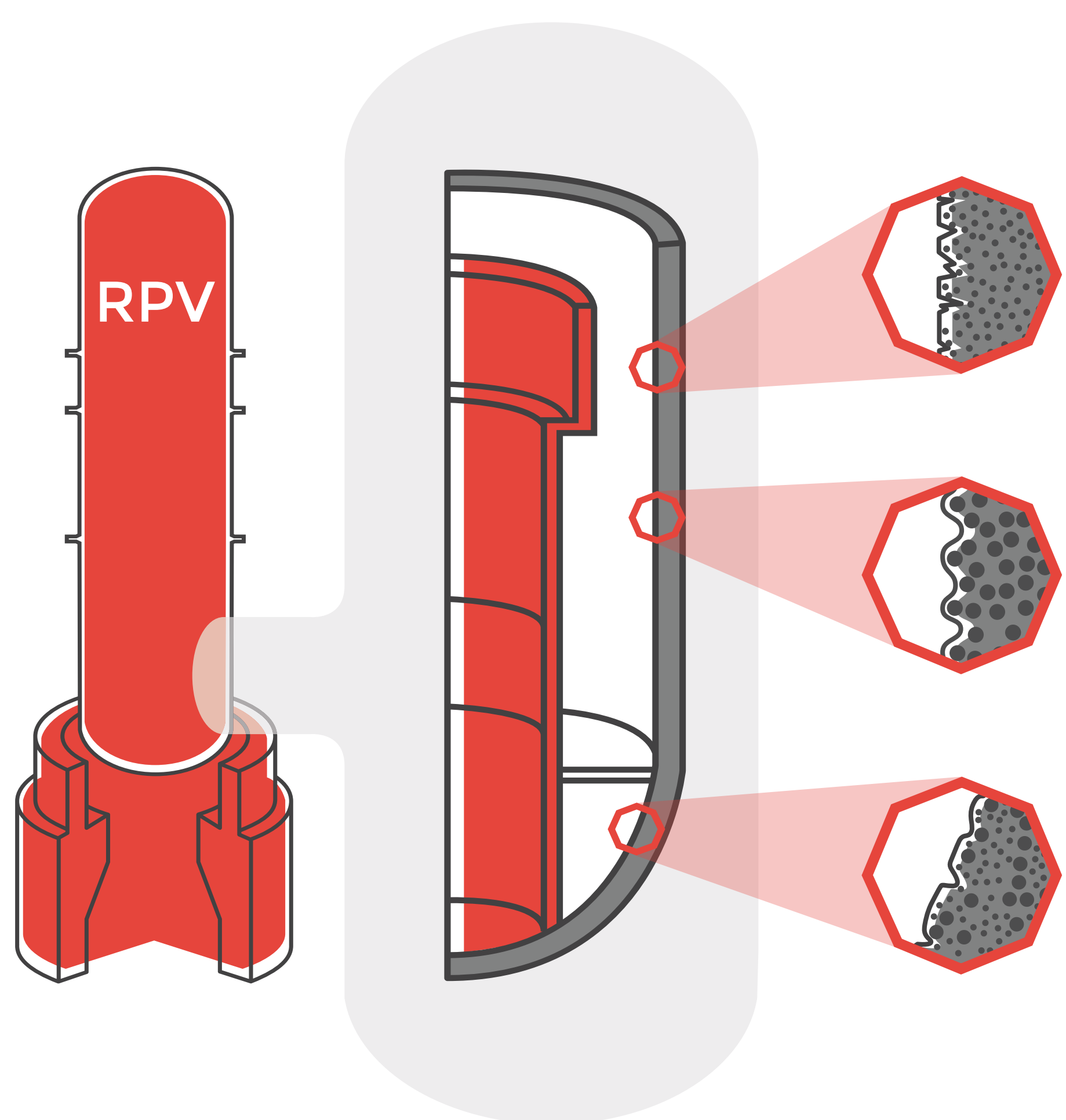


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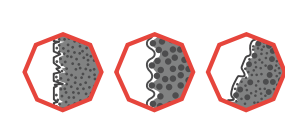
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The embrittlement of RPVs differs in each nuclear power plant depending on material parameters. To identify the degradation of RPV materials by neutrons, a synergetic combination of NDE methods is required.

The development of a multi-parametric NDE tool for the in-situ inspection of clad RPV material shall allow detecting microstructure heterogeneities in the RPV wall.



microstructure  
heterogeneities

- NOMAD contributes to ensuring a secure electricity supply for the societies in Europe in the next decades.
- NOMAD researchers develop a non-destructive evaluation system (NDE) for nuclear power plants to assess material degradation in the reactor pressure vessel (RPV).
- NOMAD plans to use the NDE tool for periodic safety reviews of the irreplaceable RPV that protects the environment from radioactive radiation.
- To identify the material degradation, NOMAD researchers combine NDE methods including electrical, ultrasonic, acoustic and micromagnetic techniques.
- NOMAD aims to adjust laboratory conditions to imitate inspections under real field conditions.



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