



# THOTH2 Project

---

## Info day Clean Hydrogen Partnership

Matteo Robino (SNAM)

Roma (Italy)

08/02/2024



Co-funded by  
the European Union

*This project has received funding from the Clean Hydrogen Partnership under Grant Agreement No 101101540. This Partnership receives support from the European Union's Horizon Europe Research and Innovation program, Hydrogen Europe and Hydrogen Europe Research.*

# Agenda

---

1. Introduction

---

2. THOTH2 partners  
and the Stakeholders  
Advisory Board

---

3. Project context  
and objectives

---

4. Project  
methodology and  
activities

---

5. Project website

# THOTH2 project

---

novel meTHOds of Testing for measurement of natural gas and H<sub>2</sub> mixtures

HORIZON-JTI-CLEANH<sub>2</sub>-2022-05-04:

Development of validated test methods and requirements for measuring devices intended for measuring NG/H<sub>2</sub> mixtures

# From THOTH...to THOTH2



*A long time ago, in the in ancient Egypt...*

*THOTH was a Moon god. The Moon not only provides light at night, allowing time to still be measured without the sun, but its phases and prominence gave it a significant importance in early astrology/astronomy. The perceived cycles of the Moon also organized much of Egyptian society's rituals and events, both civil and religious. Consequently, Thoth gradually became seen as a god of wisdom, magic, and the measurement and regulation of events and of time."*

*...nowadays, in Europe*

*THOTH2 consortium focuses on energy measurement value chain and instruments' ability to accurately measure physical parameters of H2NG mixtures with increasing H2percentages, up to 100%, in order to make NG infrastructure resilient to the challenges of tomorrow.*

# THOTH2 Partners



# THOTH2 Stakeholder Advisory Board



# Project context



- **H2 blending** in existing gas infrastructure can play a central role in unlocking the green transition.
- To date, H2 blending is limited also due to **uncertainties on the impact of new mixtures on the already installed devices** in the gas value chain, such as measuring instruments.
- The **normative framework**, including testing methodologies for Hydrogen and Natural Gas (H2NG) mixtures, is still under-construction.
- **Validated protocols** are required to define the H2 limits and tolerances of the measuring devices installed in the NG grids.



# Project objectives

THOTH2 will focus on the **energy measurement value chain and the instruments' ability to accurately measure physical parameters of H2NG mixtures** with increasing H2 percentages, up to 30% in volume, and also pure hydrogen.

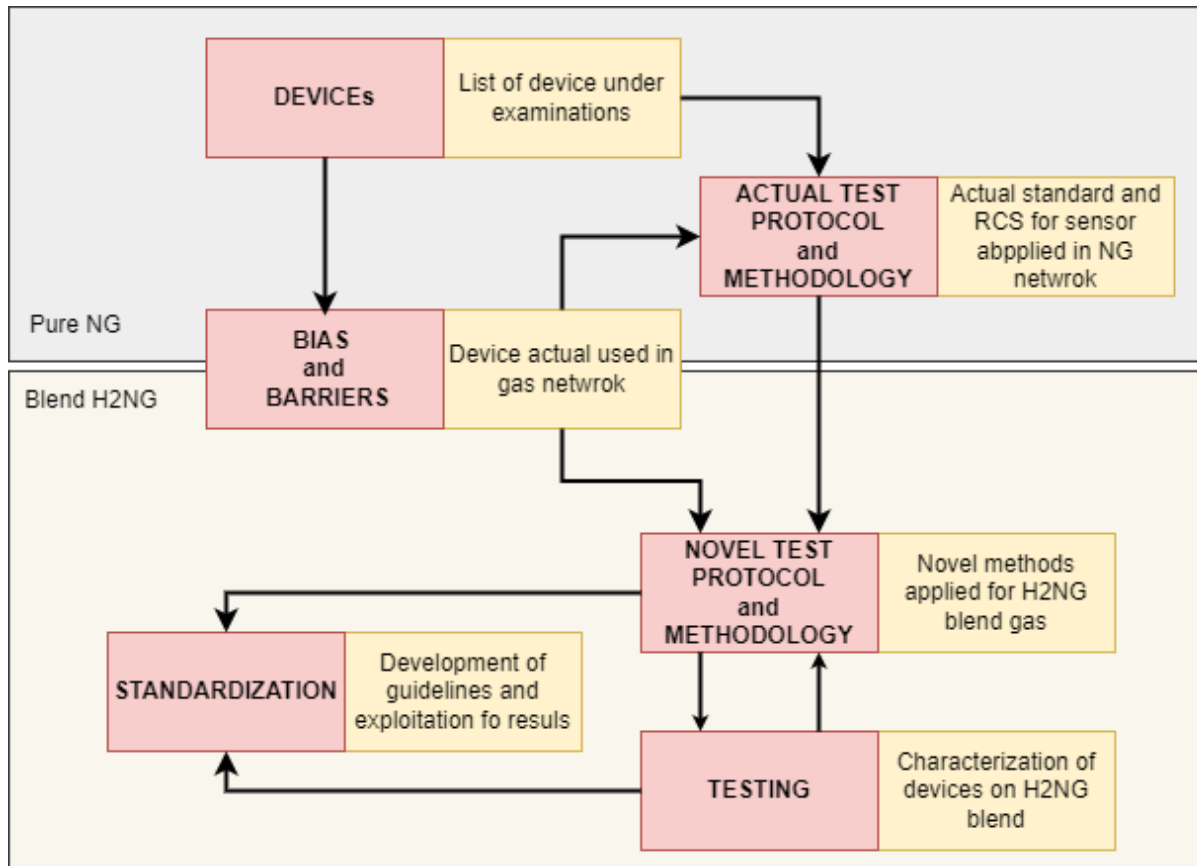
Cover the normative and standards gaps relating to methodologies and protocols for measuring devices with H2NG mixtures or pure H2.

Design dedicated methodologies to test different types of measuring devices installed, at different operative conditions

Provide recommendations to International Standard Bodies, gas TSOs and DSOs, measuring devices' manufacturers, and the R&D community.



# Project methodology



With a focus on **H2NG mixtures**, the THOTH2's pragmatic approach is based on:

- **SoA analysis**: identification of barrier and bias on metering devices
- Development and definition of **test's methodology** and protocol
- **Testing** and characterization
- **Standardization** and exploitation of results

# Project activities

WP1: SoA, Barriers  
and bias on metering  
devices for H2NG  
blend

WP2: Methodology  
and test protocols

WP3: Testing and  
validation

WP4: Standardization  
and market  
implementation

WP5: Dissemination  
& Communication

WP6: Coordination &  
Project management

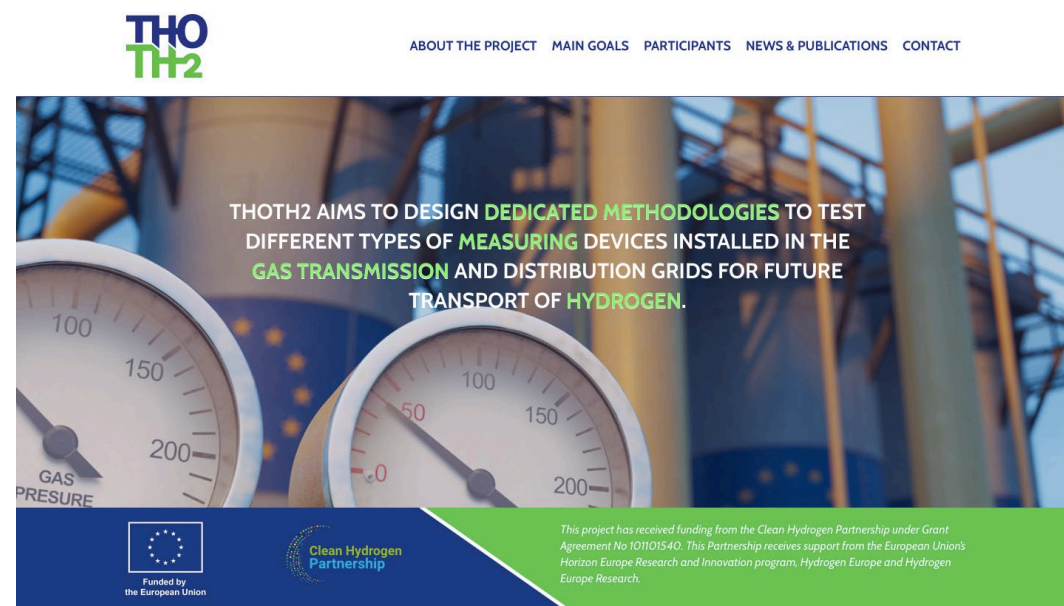


# Project website

The THOTH2 **project website** is part of the communication and dissemination strategy foreseen in WP5.

The site will enable the project to gain greater visibility among insiders as well as among a wider audience. In fact, it is meant to serve as the **primary conduit for communicating with the public** about the project.

The website will have **regular updates** on the many THOTH2 phases, the publication of specific deliverables, and a possibility to explore other project-related contents.



<https://thoth2.eu/>



# Thank you

---

Matteo Robino (SNAM):  
THOTH2 project coordinator  
[matteo.robino@snam.it](mailto:matteo.robino@snam.it)

<https://thoth2.eu/>

