



# The European Gas Research Group

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RETROSPECTIVE FROM DAVID SALISBURY

FORMER GERG PRESIDENT, DIRECTOR OF ENGINEERING, BABCOCK



Yuri Gagarin becomes first human in space

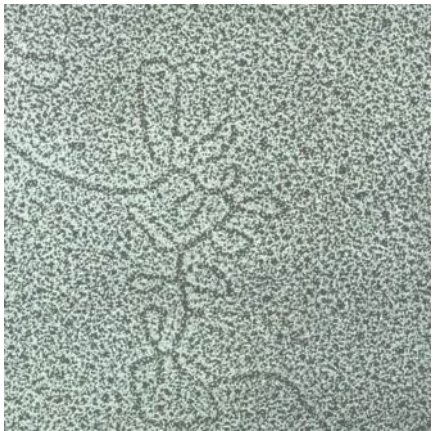
# 1961

## GERG

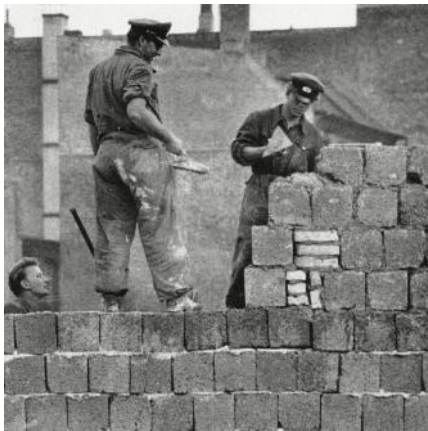
GERG is founded!



John F. Kennedy is inaugurated as US President



Discovery of Messenger RNA by the Institut Pasteur



Start of the Berlin Wall construction



The Beatles are covering old standards in Hamburg



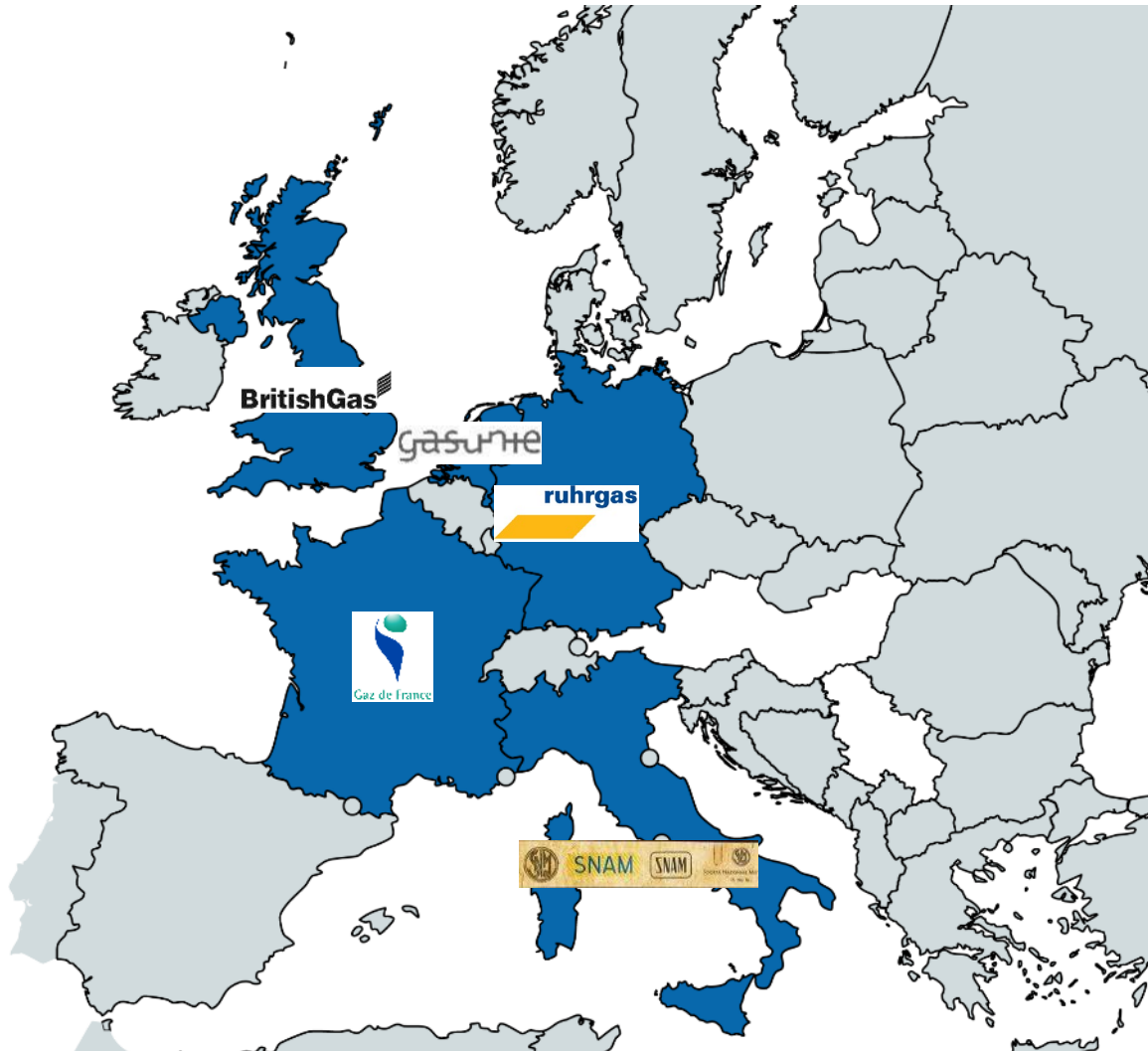
Death of Erwin Schrödinger



The current Secretary General

# 1961

# 2021



**GERG Members and Friends**



# A collaborative vision

GERG was formed during the industry transformation by major gas companies, to ensure that the industry could:

- share costs
- share risks
- share expertise
- be prepared for the new challenges!

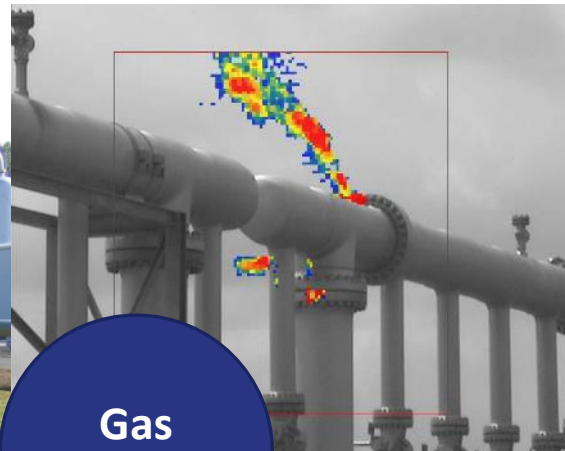
The first GERG projects:

- Catalyst for the production of town gas and methane
- Odourisation
- Burner for the combustion of town gas and natural gas



# Gas Detection

- Objective: Mobile imaging system for detecting methane escapes
- Prototype successfully tested in field trials. Distances up to 200 m were realized with high sensitivity



Gas  
Camera

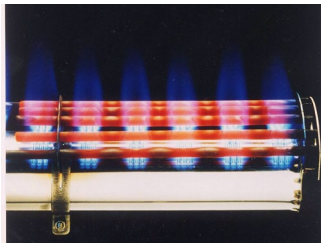


without  
GERG

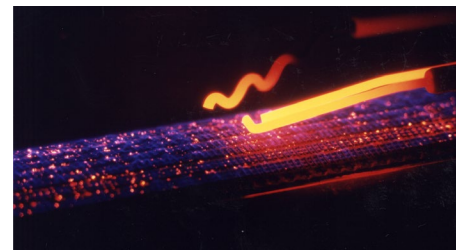
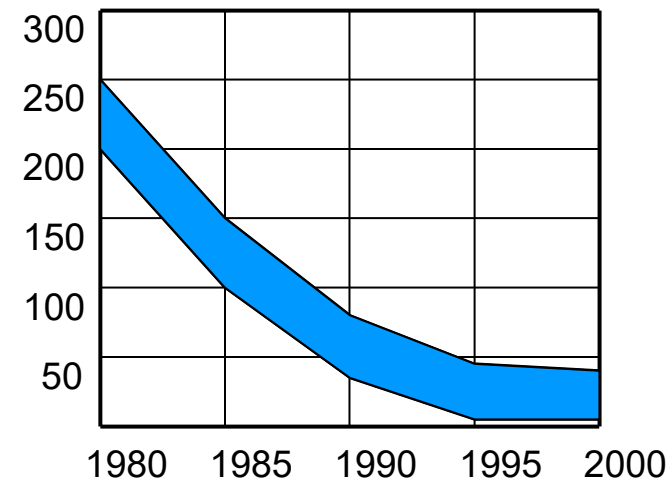


with  
GERG

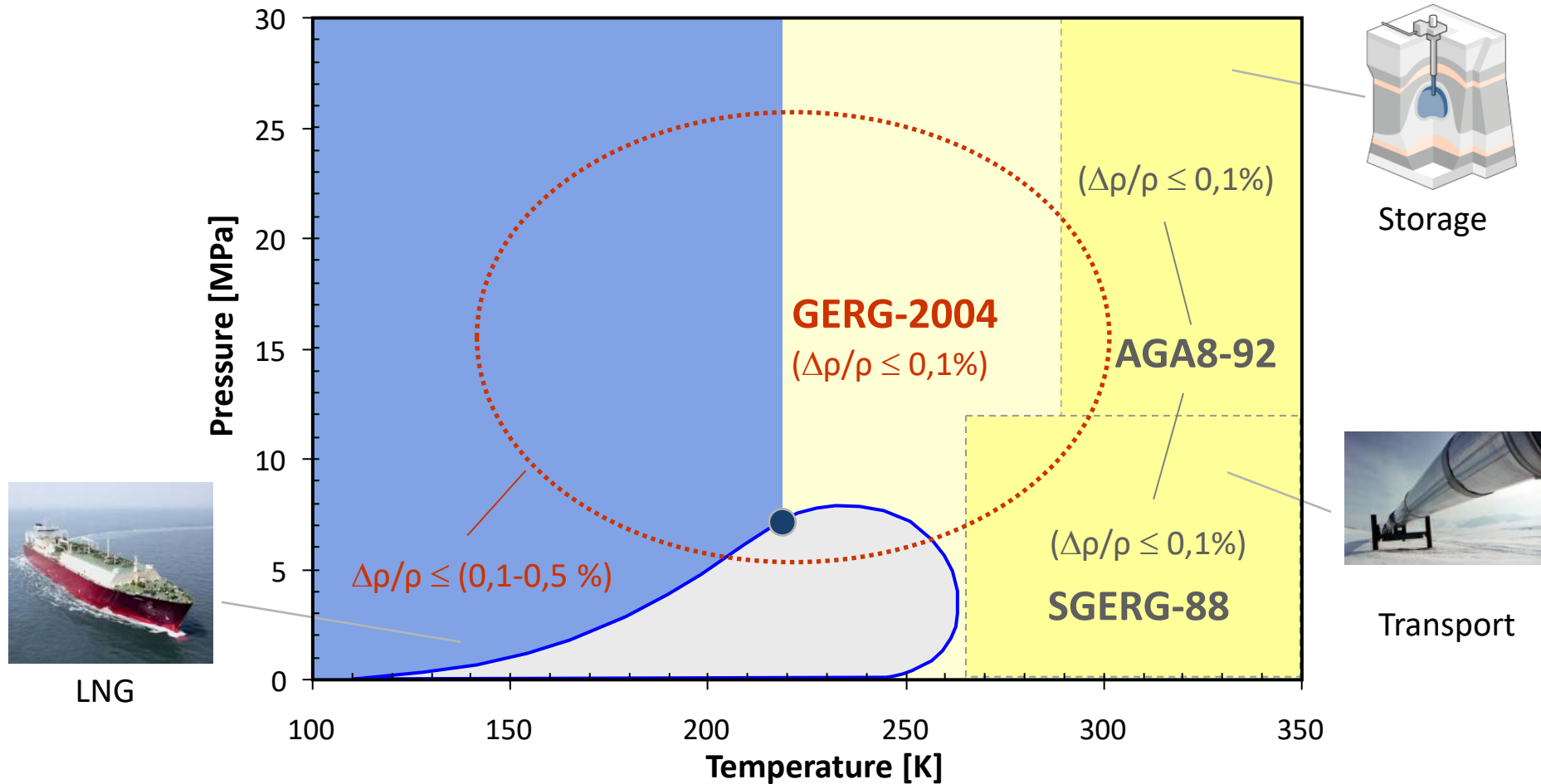
# Low NO<sub>x</sub> Gas Burner Development



NO<sub>x</sub> (mg/kWh)

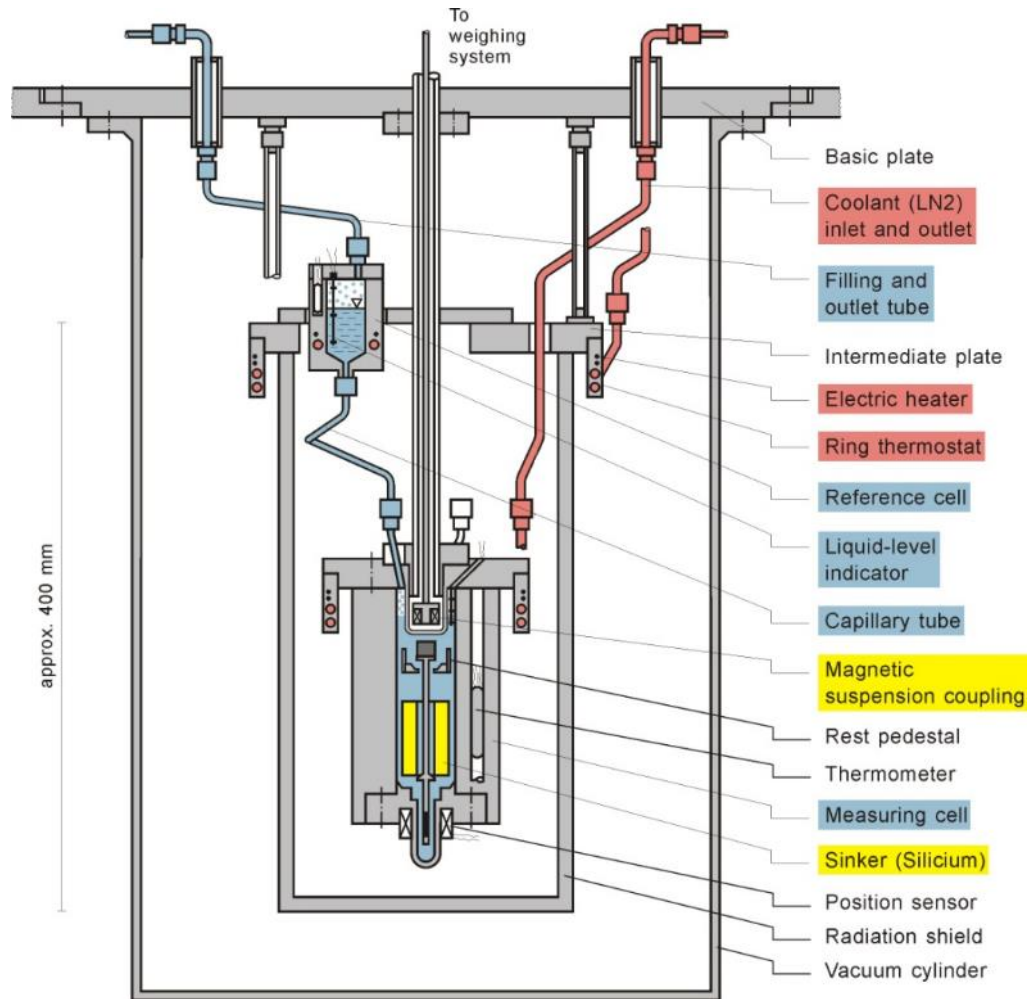


# Equations of State: GERG-2004 “Best in Class”



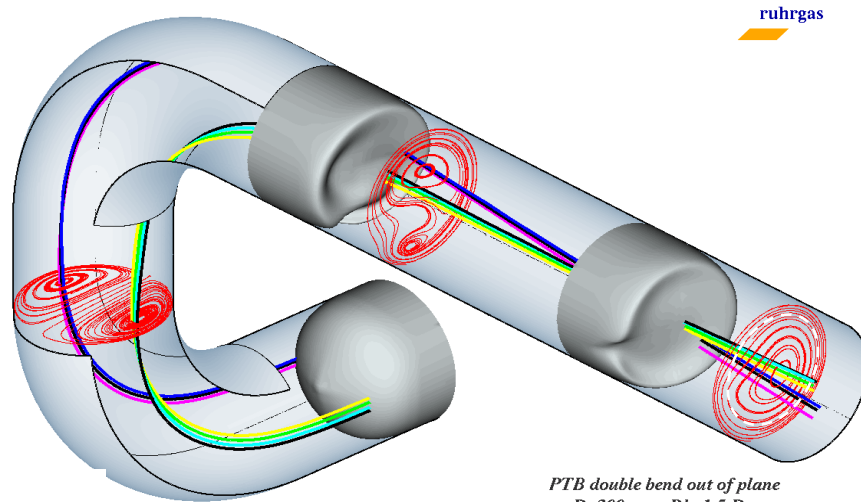


# Development of LNG Densimeter

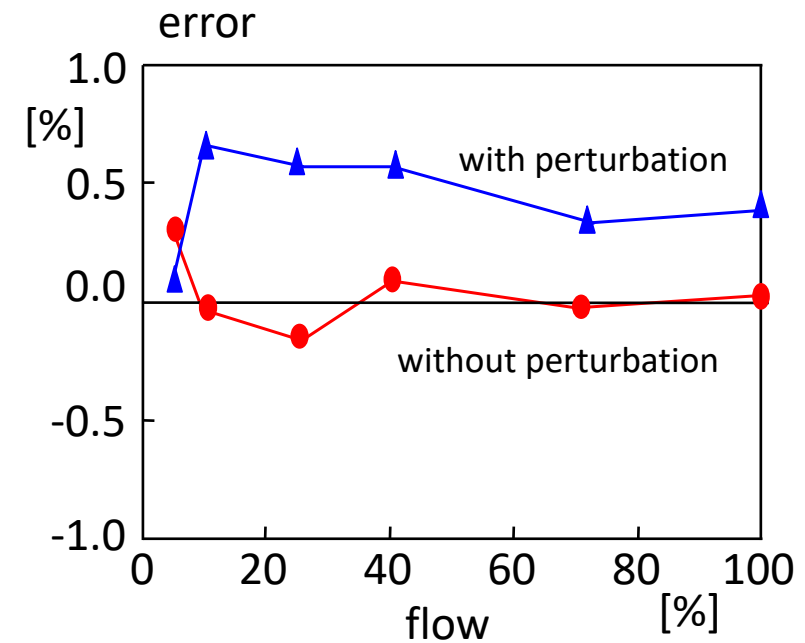







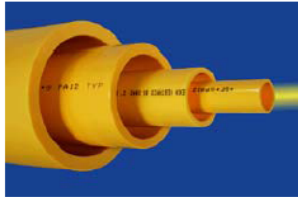







# Perturbation effects of an ultrasonic meter



*PTB double bend out of plane  
D=200 mm;  $Rk=1,5 D$   
588.6 m<sup>3</sup>/h, 1.005 bar,  $Re=65000$   
Turbulence model: RNG  $k \ \epsilon$*



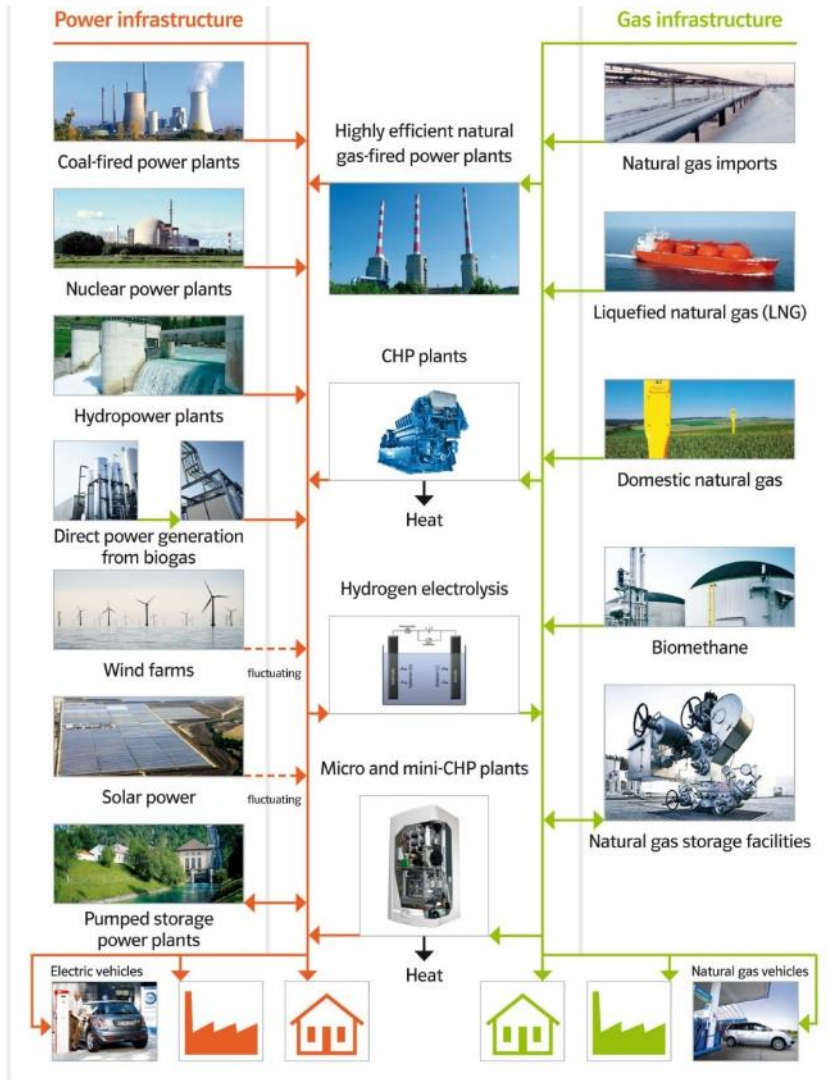
# High Pressure Plastic Pipes

Polyethylen (PE) - Standard		HexelOne® - Egeplast, (PE 100,)	
	PE-Standard: Up to 10 bar		
Vestamid® - Evonik, (PA 12)		Pipelon® 401 - Du Pont, (PA 6.12)	
			
Soluforce light® - Pipelife, (RTP, Aramidfibrè)		Soluforce classic® - Pipelife, (RTP, Aramidfibrè)	
		 Pipe	 Connector

# Satellite Surveillance of the European Gas Transmission System



# Convergence of Power and Gas Infrastructure, Including Biomethane and Hydrogen



## NaturalHy Project (2004)

Preparing for the hydrogen economy by using the existing natural gas system as a catalyst.

About 40 European partners studied how a transition to a hydrogen economy could be facilitated in a short timeframe based on use of the existing gas infrastructure to convey a natural gas/hydrogen mixture.



# GASQUAL- Gas Interchangeability



- ❑ EC-funded project on gas quality harmonisation
- ❑ Survey of appliance classification and population, installation and approvals
- ❑ Appliance testing - to measure efficiency and emissions performance of a range of European appliances against the proposed EASEE-gas Wobbe limits



...plus 10 non-GERG partners

# GERG support to Young Researchers

Established to enlarge and strengthen links between selected universities and the European gas industries research centres

*Key objectives:*

- ☐ *ensure that the academic community is aware of gas industry R&D issues;*
- ☐ *encourage a dialogue between experts in industry and academia;*
- ☐ *show post-graduates that the gas industry offers challenging and rewarding careers.*



**Next edition of the GERG Young Researchers Awards will be held at the EGATEC 2022 (GERG & MARCOGAZ event)!**



# Concluding Remarks

- ❑ R&D is essential to the gas industry to meet our commitments to:
  - customers
  - the society
- ❑ Collaborative R&D is vital, as it enables:
  - shared costs, shared expertise and high acceptance of results
  - industry to prepare together for the future
- ❑ **The GERG model is ready to take the industry to the next phase**

