



# OVERVIEW OF THE PROJECT

MEAN4SG – Metrology Excellence Academic Network for Smart Grids



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 676042



# Project info

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DURATION

48 months



EU CONTRIBUTION

2.819.753



TOPIC

H2020-MSCA-ITN-2015

Marie Skłodowska-Curie Innovative Training Networks

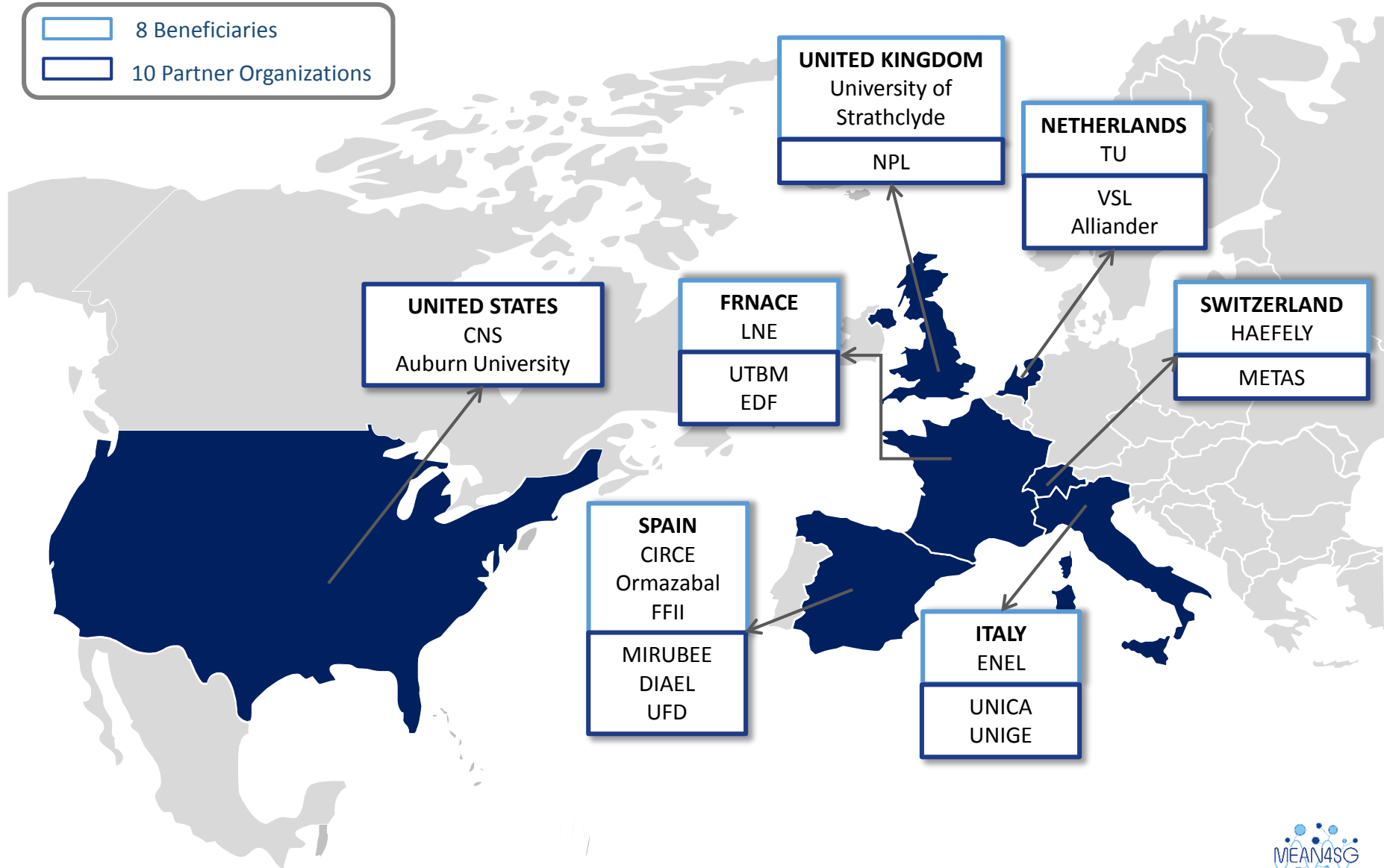
# Project partners



8 Beneficiaries



10 Partner Organizations



# Project beneficiaries



**Technische Universiteit  
Eindhoven**  
[www.tue.nl](http://www.tue.nl)



**University of Strathclyde**  
[www.strath.ac.uk](http://www.strath.ac.uk)



**The Laboratoire National de  
Métrologie et d'Essais**  
[www.lne.fr](http://www.lne.fr)



**Ormazabal**  
[www.ormazabal.com](http://www.ormazabal.com)



**ENEL**  
[www.enel.com](http://www.enel.com)



**The Foundation for Promotion of  
the Industrial Innovation**  
[www.f2i2.net](http://www.f2i2.net)



**CIRCE Foundation**  
[www.fcirce.es](http://www.fcirce.es)



**Haefely Test AG**  
[www.haefely-hipotronics.com](http://www.haefely-hipotronics.com)

Project coordinator



# Objectives

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The main goal of MEAN4SG is to shape a critical mass of new expertise with the fundamental skills required to power the scientific and technological challenges of Smart Grids Metrology

The main European actors from this sector have already identified the key aspects to address these challenges:

- *“Begin now with smart grids research, innovation, development and deployment”*  
The SmartGrids Strategic Research Agenda 2035
- *“Attract students into the sector to meet the skills shortfall”*  
Strategic Deployment Document for Europe’s Electricity Networks of the Future
- *“Creation of networks of universities and other relevant higher education institutions, to address knowledge, skills and competences needs and gaps”*  
Roadmap on Education and Training of the SET Plan

# The challenges

The fellows will be trained while performing R&D projects, aiming to optimize the metrology of smart grids by means of an integrated research program focused in **FOUR SCIENTIFIC DOMAINS**, which are the main research challenges in the smart grids metrology field identified by the European R&D community:

1

## **Power quality analysis.**

Determination and further analysis of those Power Quality (PQ) parameters affecting active customers

## **Smart grids modelling and management.**

Metrology for smart grids modeling and monitoring aiming to an accurate energy forecasting at low voltage levels

2

3

## **Advanced monitoring through Phasor Measurement Units applications.**

Cost-effective use of PMUs for advanced monitoring

## **Smart cable diagnosis.**

Development of smart diagnosis tools for providing information about the state of the distribution grid infrastructure and its components

4

# HHRR & Ethics

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These main goals have been divided into **ELEVEN SPECIFIC OBJECTIVES**, which will be assigned to the fellows, for them to focus their R&D project, PhD Thesis and professional career.

**PERSONAL DEVELOPMENT CAREER PLANS** will be tuned up for every fellow, being their accomplishment controlled by a Personal Supervisory Team.

The project beneficiaries and partner organizations are fully committed with the principles of **EQUALITY, TRANSPARENCY, QUALITY, EFFICIENCY AND EFFECTIVENESS.**

The main ethical codes related to research, education, training and people management will be a beacon of light for MEAN4SG network, as it is expected from the “**HR EXCELLENCE IN RESEARCH**” strategy.

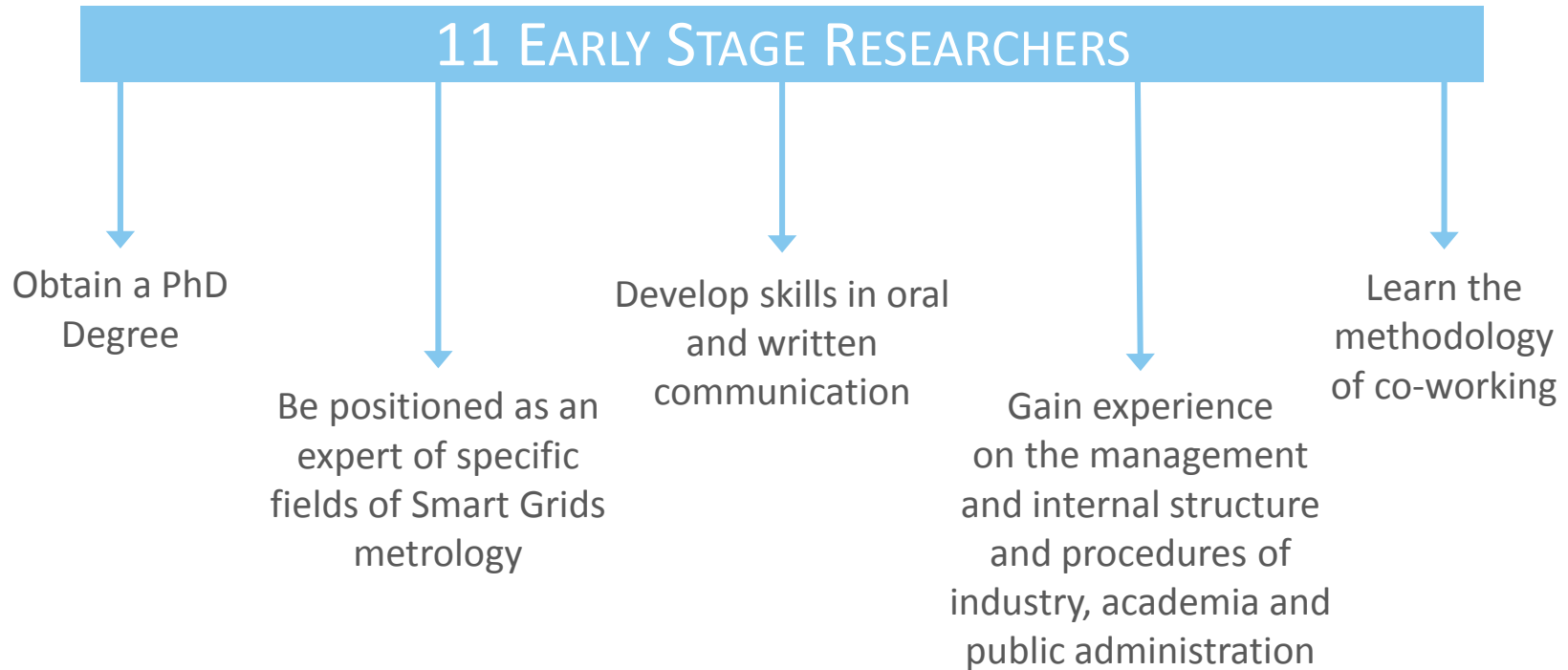


HR EXCELLENCE IN RESEARCH

# Impact

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MEAN4SG network aims to educate 11 young researchers in the smart grids metrology field by constructing a sustainable training network gathering the whole innovation value chain





# Quality of the supervision

## Academic excellence

Each ESR will benefit from state of the art research training **provided by their academic mentors**, while following a specific PhD programme leading to a **European Doctorate**.

Moreover, the ESRs will benefit from academic secondments and a close and dynamic research networking offered in the ITN, particularly through the scientific courses envisaged in the training programme.

## Representative industrial environment

The non-academic secondment and the mentoring by a senior researcher from the industry, will provide the fellows the practical application **point of view of private companies**, making them face real Smart Grids Metrology challenges.

Four DSOs and three equipment developers within the consortium, will provide to the fellows a close contact with the views, priorities, tools, strategies, know-how and **organizational procedures of the private sector**.

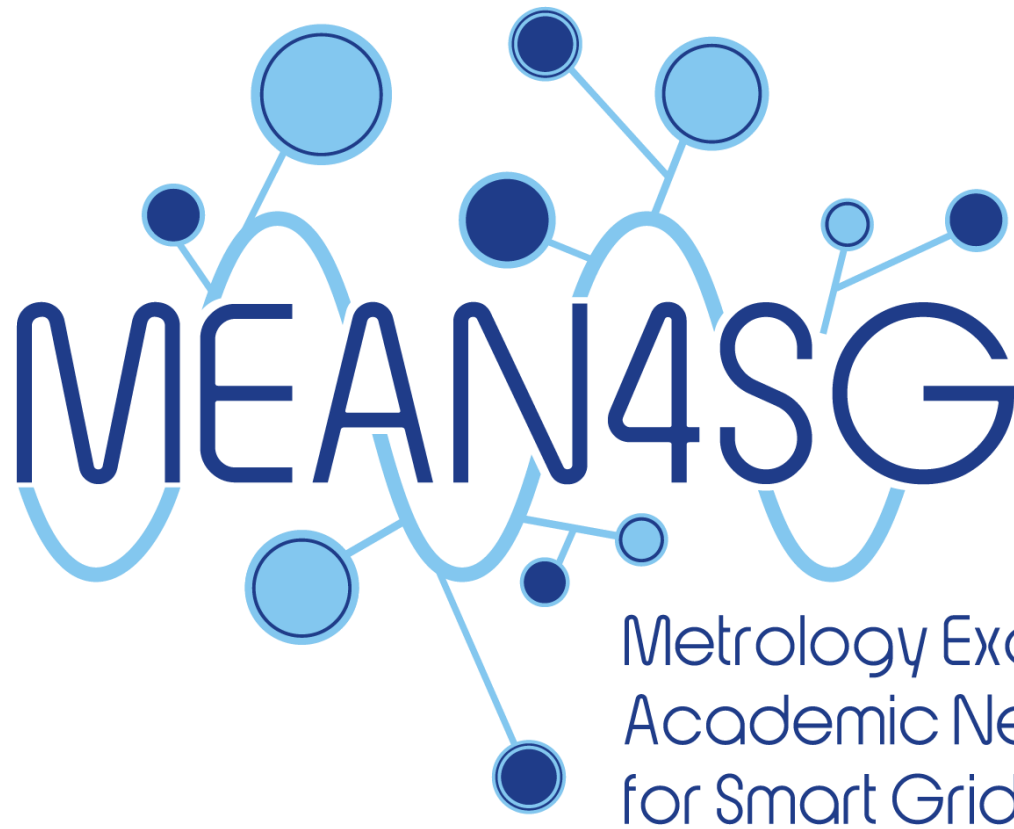
## NMIs, EURAMET and IEC

The collaboration of four NMIs and one designated institute, as well as the connection with the European NMIs Association (EURAMET), and the support of the IEC/CIGRÉ/CIRED and other entities (PTB, REE, UKIM, FESB, UNIZG and COFRAC) will provide the fellows the sectorial point of view in **regulation, policy, standardization and public awareness** issues.

They will be able to understand **how the EU policies and standards are** generated and coordinated with the member states.

# Quality of the training programme

	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Fellows enrollement window			PhD													
Specific Courses			SC1		SC2					SC3						
1st window for secondements					Ac - Sec											
2nd window for secondements									In - Sec							
PhD Sem. coord. with EURAMET								PhD S					PhD S			
Summer School				SS					SS					SS		



Metrology Excellence  
Academic Network  
for Smart Grids

THANK YOU VERY MUCH FOR YOUR ATTENTION

[www.mean4sg-itn.eu](http://www.mean4sg-itn.eu)