



SMAGRINET
POWERING SMART GRID
EXPERTISE IN EUROPE

Short-term programmes

General Introduction

November 24, 2020



1. Introduction
2. Structure
3. Implementation



Introduction





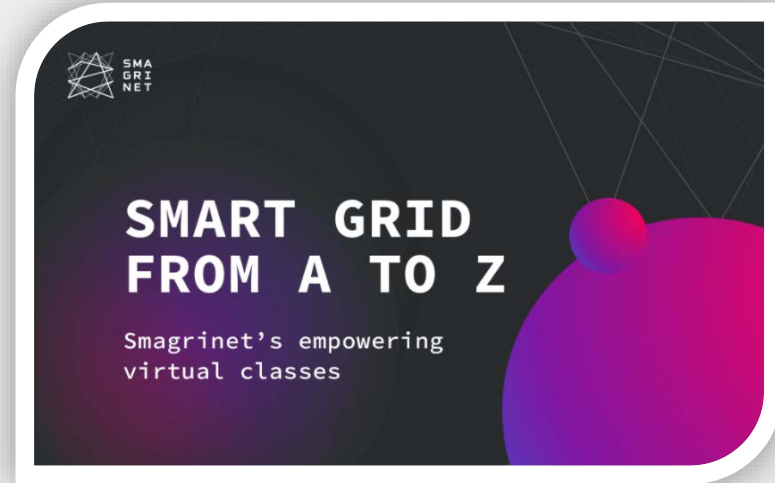
Short-term programmes

Three short-term innovative university programmes have been developed to:

- provide a blended learning,
- provide up-to date knowledge to the targeted groups and
- response to the urgent European industry needs.

Targeted groups are:

- engineering workforce from industry, to improve their current skill-set with knowledge about new technologies,
- early-stage researchers and engineering researchers to update their knowledge on the smart grids and
- broader public, to raise their awareness about energy transition.





Challenges

- Smart grids are covering various knowledge areas.
- Necessity of the multidisciplinary approach due to acquired regular updates.
- First tasks of development were:
 - identifying the concepts to be integrated in the programme and
 - defining instructional objectives to be addressed to each profile targeted.
- 72 instructional objectives over the 3 target groups were defined with:
 - literature reviews,
 - benchmarks and
 - workshops.



Structure





Structure overview

The collaboration of all consortium universities generated:

- 36 videos to reach over 4 hours,
- 37 lectures and
- dozens of additional materials and links to external resources.



Structure overview

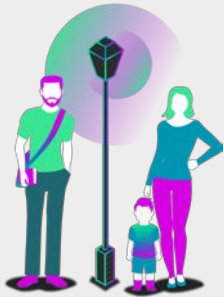
In order to provide a systematic view of what a smart grid is, there were five interdisciplinary modules defined:

1. The context and challenge related to smart grid,
Environmental challenges, energy system actors, load balancing, smart grid definitions
2. The evolution of the electrical infrastructure,
Sources of energy (fossil fuels, nuclear & renewable), transmission, distribution, storage
3. The fundamentals regarding the digitalization of the sector,
Information system, computer network, distributed control system, cybersecurity
4. The decisional system that is on top of the digital system and
Consumption and price forecasting, load balancing, decision making process, AI
5. The economic and political dimension that impact the energy and electricity sector.
Clean Energy package, GDPR, energy market, emerging business model



Structure overview

The „Smart Grid from A to Z“ programmes admit a range of three variations:



Broader public
(ready)



Engineering researcher
(will be ready to start in
December)



Electrical engineering workforce
(will be ready to start in
December).



Broader Public

Profile of participants:

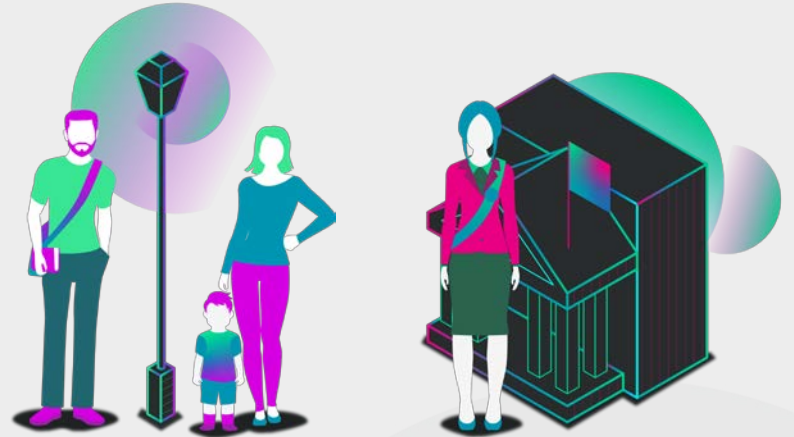
- Public decision makers
- Managers
- Future students
- Persons with no knowledge about energy

Number of lectures:

- 33 lectures (videos)

Duration:

- 5 weeks (2-3 hours per week)





Engineering Research

Profile of participants:

- Engineer /researcher with little knowledge in the field of smart grids

Number of lectures:

- 44 lectures (videos)

Duration:

- 5 weeks (3-4 hours per week)





Electrical Engineering Workforce

Profile of participants:

- Professionals from the energy domain

Number of lectures:

- 47 lectures (videos)

Duration:

- 5 weeks (3-4 hours per week)





Implementation





Implementation of the programmes

- Each programme is planned be implemented by the consortium universities:
 - ULOR – France
 - TalTech – Estonia
 - KTU – Lithuania
 - TUB – Germany
 - TUD – Germany
 - ULJUB – Slovenia
- Implementation using Canvas study platform
Content in English



Courses on
[Canvas](#)



Check videos on
[YouTube](#)



Implementation of the programmes



Courses on Canvas

Expand All

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- Collaborations

▸ Introduction	Complete All Items	✓
▸ Context & Challenges	Prerequisites: Introduction Complete All Items	
▸ Electric Network & Infrastructure	Prerequisites: Context & Challenges Complete All Items	🔒
▸ Information System Dedicated to Energy	Prerequisites: Electric Network & Infrastructure Complete All Items	🔒
▸ Management and Decisional System	Prerequisites: Information System Dedicated to Energy Complete All Items	🔒
▸ Policy & Economy in Energy	Prerequisites: Management and Decisional System Complete All Items	🔒
▸ Course Completion	Prerequisites: Policy & Economy in Energy	🔒



Implementation of the programmes



Check videos on [YouTube](https://www.youtube.com)












Smart Grid from A to Z: SMAGRINET's Empowering Virtual Classes

36 vidéos • 263 vues • Mise à jour il y a 6 jours



Smagrinet Project

S'ABONNER

- 1  Challenge and Context - The link between electricity and environment | Smart Grid from A to Z
Smagrinet Project 6:31
 - 2  Challenge and Context: Challenges of TSOs and DSOs in modern power systems | Smart Grid from A to Z
Smagrinet Project 4:34
 - 3  Challenge and Context - Regulated Actors | Smart Grid from A to Z
Smagrinet Project 6:49
 - 4  Challenge and Context - Stakeholders Related to Energy Generation, Distribution and Sales
Smagrinet Project 7:35
 - 5  Challenge and Context: Physical Principles Related to Smart Grids | Smart Grid from A to Z
Smagrinet Project 4:48
 - 6  Challenge and Context: Common Principles & Concepts of Smart Grid (general) | Smart Grid from A to Z
Smagrinet Project 4:58
 - 7  Challenge and Context: Common Principles and Concepts of Smart Grids (for experts)
Smagrinet Project 7:07
 - 8  Context and Challenges - Scales in Energy System | Smart Grid from A to Z
Smagrinet Project 6:00
-  Electric Network Elements - Different Energy Types | Smart Grid from A to Z
Smagrinet Project



Implementation of the programmes

- First round of implementation:

270 participants are targeted (15 participants x 3 programmes x 6 consortium universities)

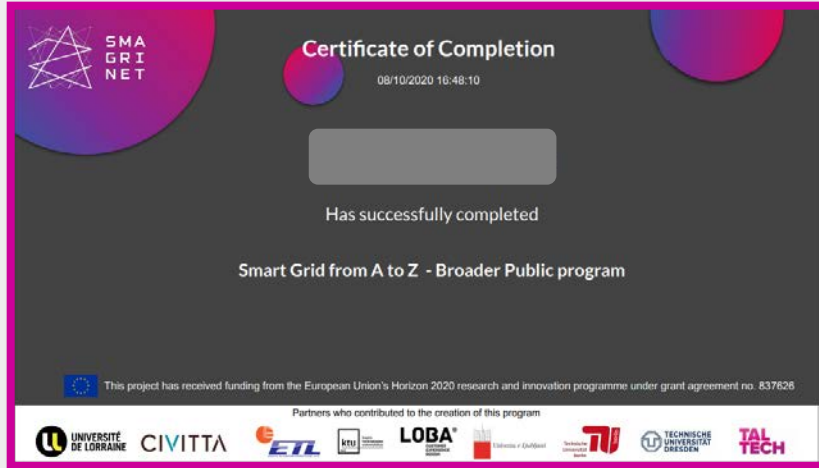
- Second round of implementation:

720 participants are targeted in total

(270 + 450 = 15 participants x 3 programmes x (6+4) universities)



Implementation of the programmes



- The programme for each target group will take 5 weeks to be finished.
- In each blended programme:
 - 2 on-line sessions with remotely-working instruction will be organized and
 - 15 participants will be targeted for each session.
- Participants will receive the certificate after the finished course.



Thank you for your attention!



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