



# SMAGRINET

POWERING SMART GRID  
EXPERTISE IN EUROPE



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 837626

**CONTACT US**  
[info@smagrinet.eu](mailto:info@smagrinet.eu)

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## DELIVERABLE 4.2.

# SHORT-TERM PROGRAMMES' PILOT REPORT

### DELIVERABLE TYPE

Report

### MONTH AND DATE OF DELIVERY

Month 28 | July 2021

### WORK PACKAGE

WP 4

### LEADER

University of Lorraine

### DISSEMINATION LEVEL

Report

### AUTHORS

Gabriel Alex  
Berger Kévin

### PROGRAMME

H2020

### CONTRACT NUMBER

837626

### DURATION

30 Months

### START

April 2019





## Contributors

|                |      |
|----------------|------|
| Berger Kévin   | ULOR |
| Gabriel Alex   | ULOR |
| Dupont Laurent | ULOR |

## Peer Review

| Name      | Organisation |
|-----------|--------------|
| Karl Kull | TalTech      |

## Revision History

| Version | Date       | Reviewer     | Modifications   |
|---------|------------|--------------|-----------------|
| 1.2     | 13/07/2021 | Kévin Berger | Final version   |
| 1.1     | 12/07/2021 | Merylin Pill | Modifications   |
| 1.0     | 26/05/2021 | Alex Gabriel | Initial version |

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# 1. Implementation of the pilot

*In order to address the local specificities and eventually respond to question in native languages, the three short term programs were replicated by each partner. Furthermore, the proposal suggested a quota of participants in each partner. To deal with this multiplication of programs, the SMAGRINET website only displays the 3 programs (Figure 1. SMAGRINET website to access programs.*

) and redirect to the right program according to the location of the visitor detected from the IP address.

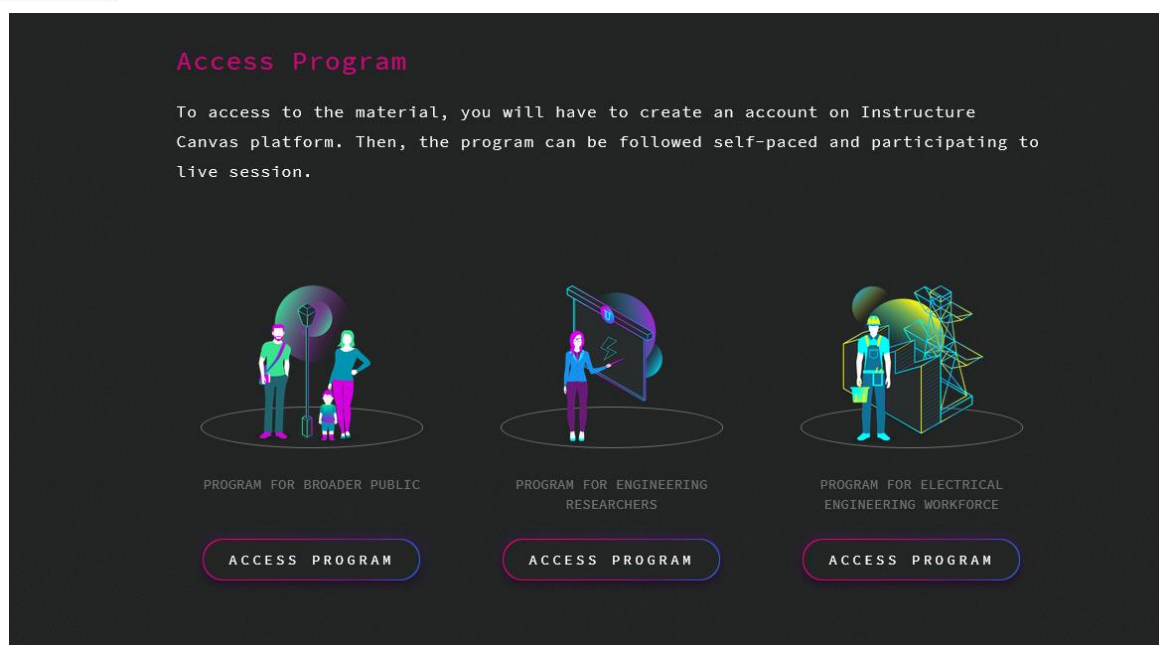


Figure 1. SMAGRINET website to access programs.

## 1.1. Schedule

A global schedule was defined to let each partner manage its own implementation of each program pilots. As illustrated by the planning shared among partners (Erreur ! Source du renvoi introuvable.), the broader public program had to be implemented between October 2020 and January 2021. As the researcher and the workforce program has been released later, the beginning of the pilot was delayed between December 2020 and March 2021.

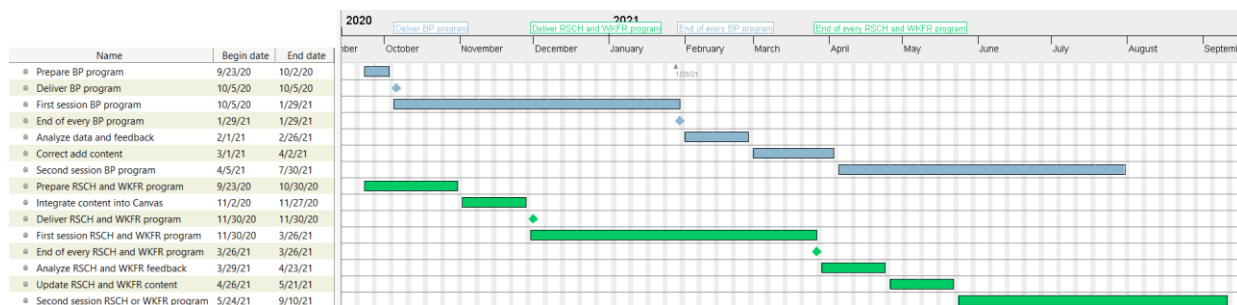


Figure 2. Updated pilot deployment schedule for the SMAGRINET project.

Within these dates, each partner had to manage its three programs by its own. It means they had to communicate about the program, engage participants, plan

the live session and do the follow-up to participants. Table I provides the program dates indicated by each partner.

| Partner | Broader Public |            | Researcher |            | Workforce  |            |
|---------|----------------|------------|------------|------------|------------|------------|
|         | Start          | End        | Start      | End        | Start      | End        |
| KTU     |                |            | /          | /          | /          | /          |
| TALTECH | 16/10/2020     | 31/12/2020 | 22/01/2021 | 31/03/2021 | 15/03/2021 | 30/06/2021 |
| TUB-TUD | 11/01/2021     | 26/02/2021 | 15/02/2021 | 19/03/2021 | 15/02/2021 | 19/03/2021 |
| ULJUB   | 09/11/2020     | 13/12/2020 | 01/02/2021 | 07/03/2021 | 15/02/2021 | 21/03/2021 |
| ULOR    | 01/10/2020     | 31/12/2020 | 01/01/2021 | 31/03/2021 | /          | /          |

Table I. Deployment of the pilot programmes for each partner.

## 1.2. Implementation Instructions

In order to provide all participants a similar instructional experience independently of country, the Canvas LMS platform was introduced to all the partners during a live webinar. A brief notice has also been produced to summarise the information, as a reminder. This notice provides the link to the respective programme (Table II), enumerates the tasks to do implement it and provides some screenshots of the platform.

| Countries | Partner    | Referees   | Broader Public program  |
|-----------|------------|--|---|
| Estonia   | TalTech    | <a href="mailto:merylin.pill@taltech.ee">merylin.pill@taltech.ee</a>   | <a href="https://canvas.instructure.com/enroll/GJYF7G">https://canvas.instructure.com/enroll/GJYF7G</a> |
| France    | ULOR       | <a href="mailto:alex.gabriel@univ-lorraine.fr">alex.gabriel@univ-lorraine.fr</a>   | <a href="https://canvas.instructure.com/enroll/TTWAYB">https://canvas.instructure.com/enroll/TTWAYB</a> |
| Germany   | TUB<br>TUD | <a href="mailto:christine.michalek@tu-berlin.de">christine.michalek@tu-berlin.de</a><br><a href="mailto:sascha.mueller@tu-dresden.de">sascha.mueller@tu-dresden.de</a><br><a href="mailto:olga.zyabkina@tu-dresden.de">olga.zyabkina@tu-dresden.de</a> | <a href="https://canvas.instructure.com/enroll/8KMJMY">https://canvas.instructure.com/enroll/8KMJMY</a> |
| Lithuania | KTU        | <a href="mailto:lina.startiene@ktu.lt">lina.startiene@ktu.lt</a>   | <a href="https://canvas.instructure.com/enroll/C7JDDR">https://canvas.instructure.com/enroll/C7JDDR</a> |
| Slovenia  | ULJUB      | <a href="mailto:Janja.Dolenc@fe.uni-lj.si">Janja.Dolenc@fe.uni-lj.si</a>   | <a href="https://canvas.instructure.com/enroll/YFGP8G">https://canvas.instructure.com/enroll/YFGP8G</a> |

Table II. Referees and links to the short-term programs.

The tasks that the referees had to do were:

- Define the starting date for the program
- Send an invitation to a potential audience with the link to the Canvas Instance (Table II)
- Define the date of the first FAQ live session (we suggest after the second or the third module). The duration is 1h. **Keep a trace of the live session (screenshot)**
- Define the date of the second and last live session (we suggest after the fifth module). The duration is 1h. **Keep a trace of the live session (screenshot)**
- Tell us when the end of the course is achieved in order to initiate data collection for T4.3 and do the improvement.

The aim of the screenshots was to bring the essential information to do the follow up of the programme. As illustrated by **Erreur ! Source du renvoi introuvable.** and **Erreur ! Source du renvoi introuvable.**, these screenshots remind how information is structured on the platform and the main action the referee has to do to manage its program.

Click to make the course available to participant

Menu not visible by participants

Modify settings of the module

Managing user manually

Add elements to the module

Unpublished page. Click on it to publish

Published page. Click on it to unpublish

Condition to access to the course

Figure 3. Screenshot to explain the main page of Canvas LMS.

Access settings for the course when published

Figure 4. Screenshot to explain the setting of the program access parameters.

In addition to this, video captures were made to show how do specific action as required by several partners.



### 1.3. The certificate of completion

In order to reward people who achieved the success criteria of the programme, meaning 70% of correct answers, a certificate of completion has been setup. The template of the certificate of completion look like **Erreur ! Source du renvoi introuvable.**.. However, the canvas LMS does not provide this feature so a work-around was implemented based on a third-party service on Google marketplace: AutoCrat<sup>1</sup>. This tool work on Google spreadsheets. Each time the spreadsheet is modified, it triggers an action.

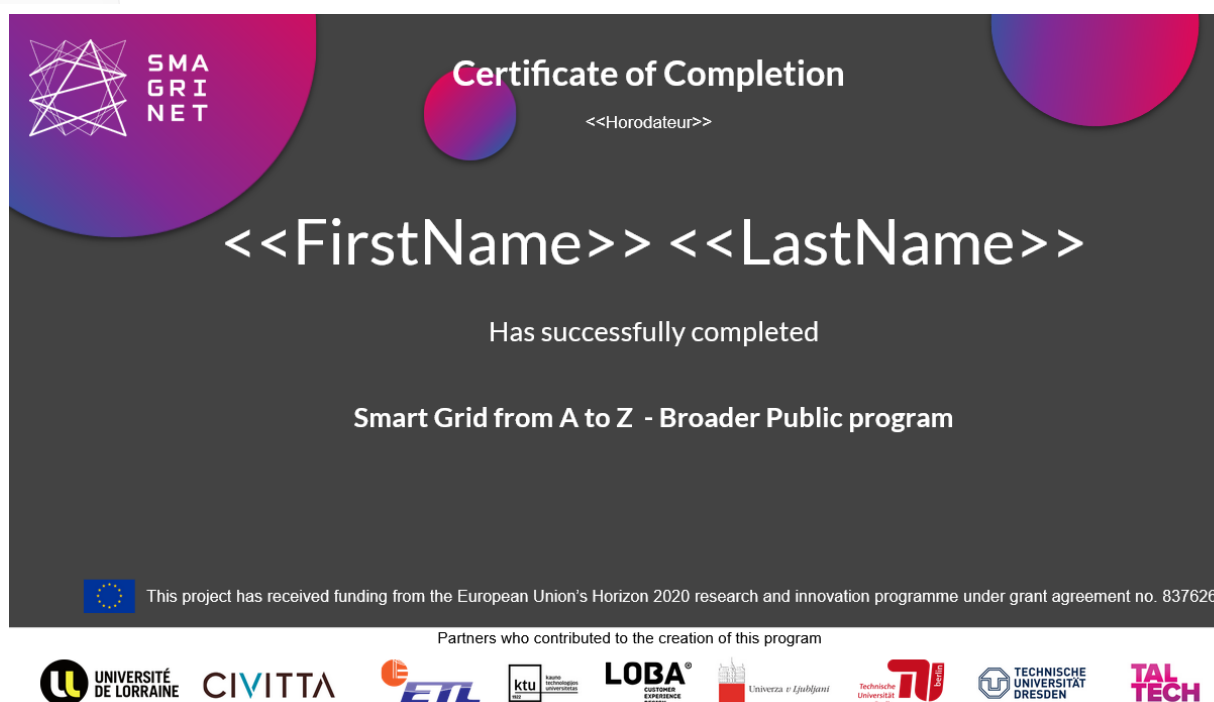
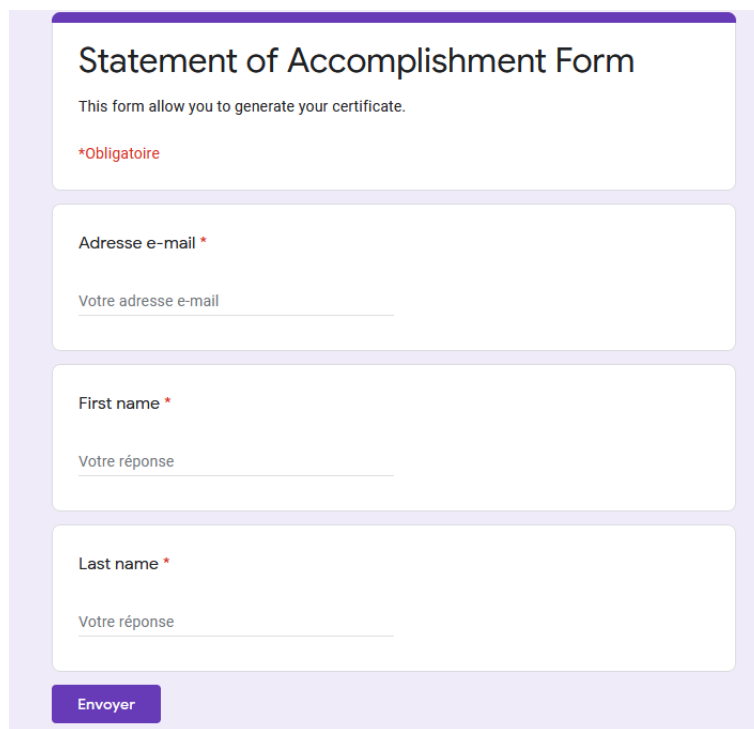


Figure 5. Templates of the certificate of completion.

In the case of the short-term program, a Google form has been created to allow people to request their certificate of completion (**Erreur ! Source du renvoi introuvable.**). The form generates/modifies a spreadsheet that is associated with AutoCrat. It means that each time someone completes the form it triggers an action, replacing the first and last name on the template (**Erreur ! Source du renvoi introuvable.**), generates a PDF and send it to the email provided in the form. The way to deliver the form to people who reach the required score was to embed form into a page on Canvas and make this page accessible when all modules have been validated (**Erreur ! Source du renvoi introuvable.**).

<sup>1</sup> AutoCrat website: <https://cloudlab.newvisions.org/autocratt>





**Statement of Accomplishment Form**

This form allow you to generate your certificate.

*\*Obligatoire*

Adresse e-mail \*

Votre adresse e-mail

First name \*

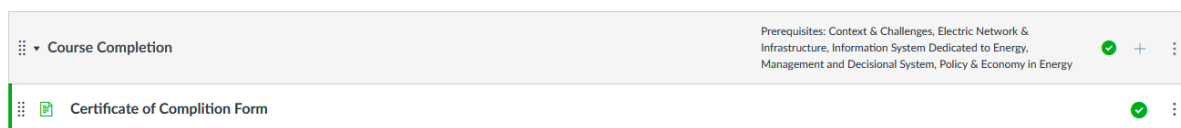
Votre réponse

Last name \*

Votre réponse

Envoyer

Figure 6. Form to generate the certificate of completion.



Course Completion

Prerequisites: Context & Challenges, Electric Network & Infrastructure, Information System Dedicated to Energy, Management and Decisional System, Policy & Economy in Energy

Certificate of Completion Form

Figure 7. Access to the certificate form on Canvas.

## 1.4. Live Sessions

In addition to the short-term programs, the proposal defined the organisation of live sessions. The Table III presents the date of these live sessions. It was suggested to split the live session into 2 parts:

- a presentation concerning one topic,
- a question and answering session.

| Partner | Broader Public  |                 | Researcher      |                 | Workforce       |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|         | 1 <sup>st</sup> | 2 <sup>nd</sup> | 1 <sup>st</sup> | 2 <sup>nd</sup> | 1 <sup>st</sup> | 2 <sup>nd</sup> |
| KTU     | -               | -               | /               | /               | /               | /               |
| TALTECH | 13/11/2021      | 27/11/2021      | 19/01/2021      | 20/01/2021      | 11/05/2021      | in the fall     |
| TUB-TUD | 04/02/2021      | 26/02/2021      | 03/03/2021      | 17/03/2021      | 04/03/2021      | 17/03/2021      |
| ULJUB   | 20/11/2020      | 11/12/2020      | 12/02/2021      | 05/03/2021      | 26/02/2021      | 19/03/2021      |
| ULOR    | 20/11/2020      | /               | 11/03/2021      | /               | /               | /               |

Table III. Date of the live sessions.

Due to the health crisis, all the live sessions were held online. Each local referee was free to organise it and use its preferred videoconference software. **Erreur ! Source du renvoi introuvable.** presents some screenshots of the live sessions among partners.

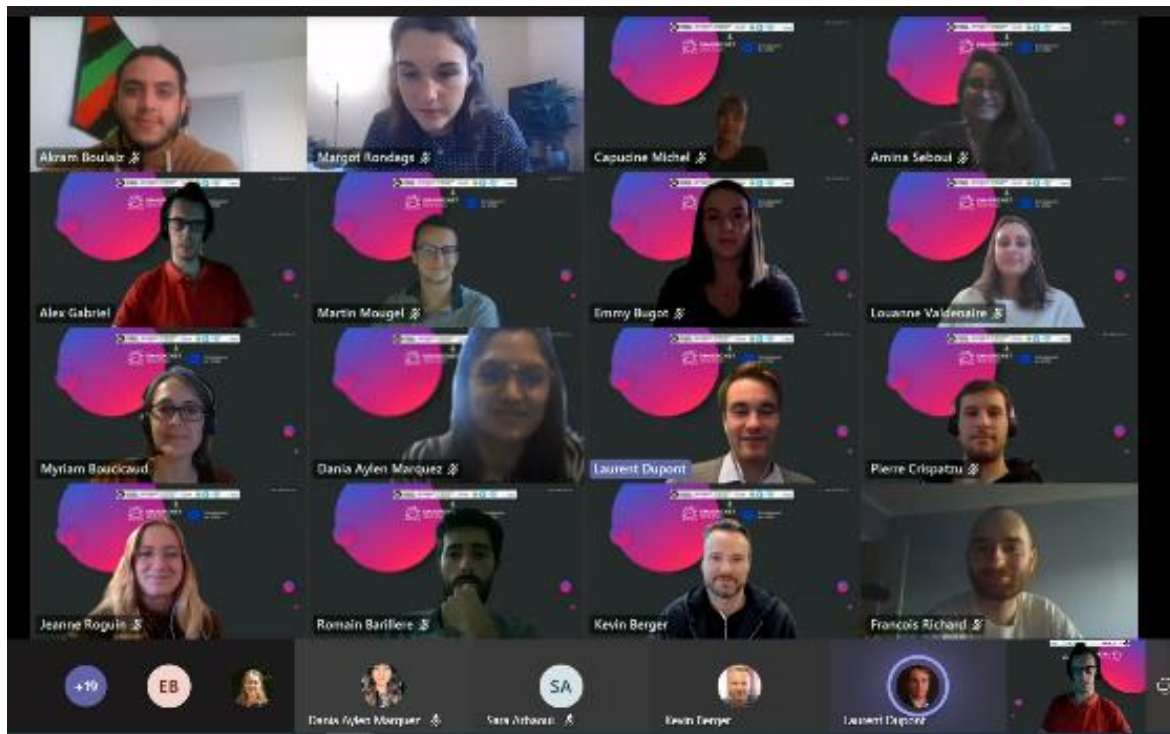


Figure 8. Screenshot of the live session at ULOR for BP the program.

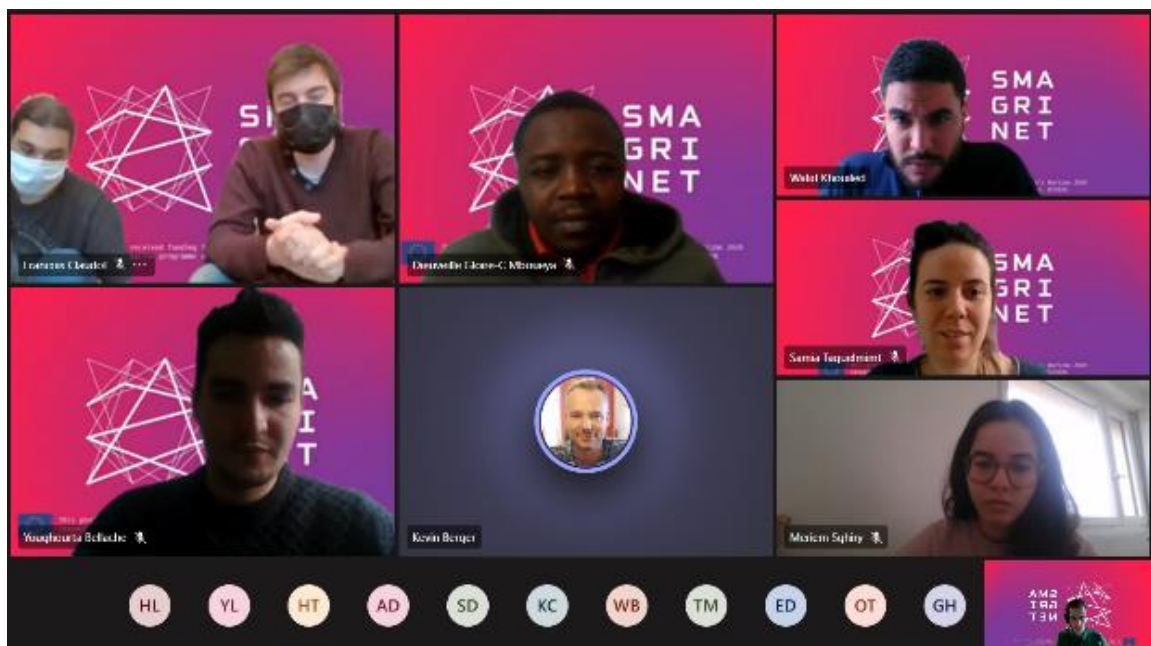


Figure 9. Screenshot of the live session at ULOR for the RSCH program.

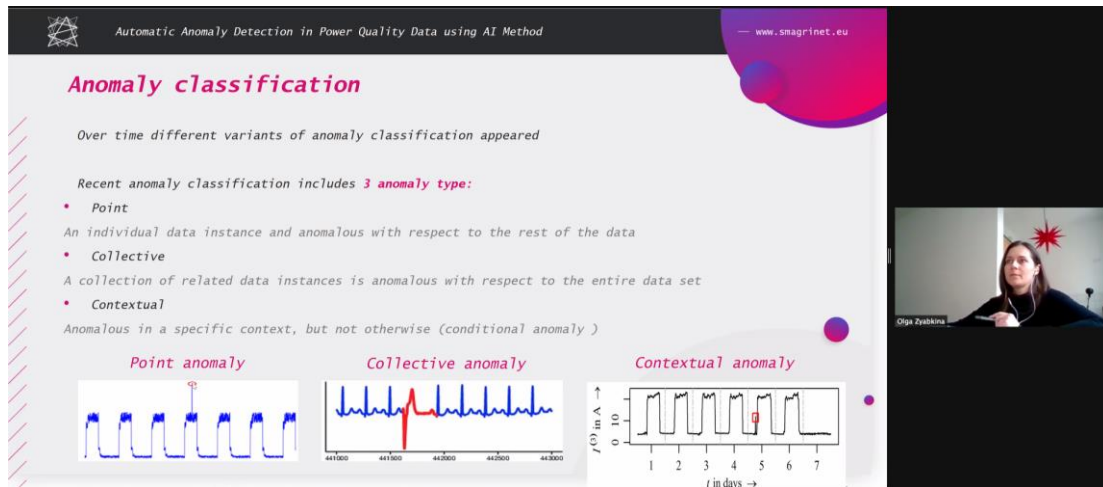


Figure 10. Screenshot of the live session at TUD for the RSCH program.

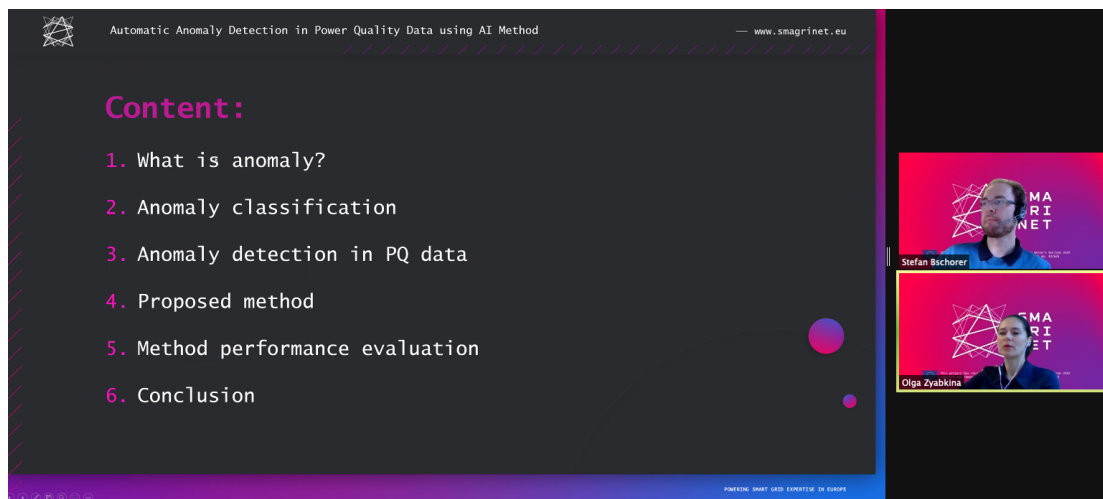


Figure 11. Screenshot of the live session at TUD for the WKFR program.

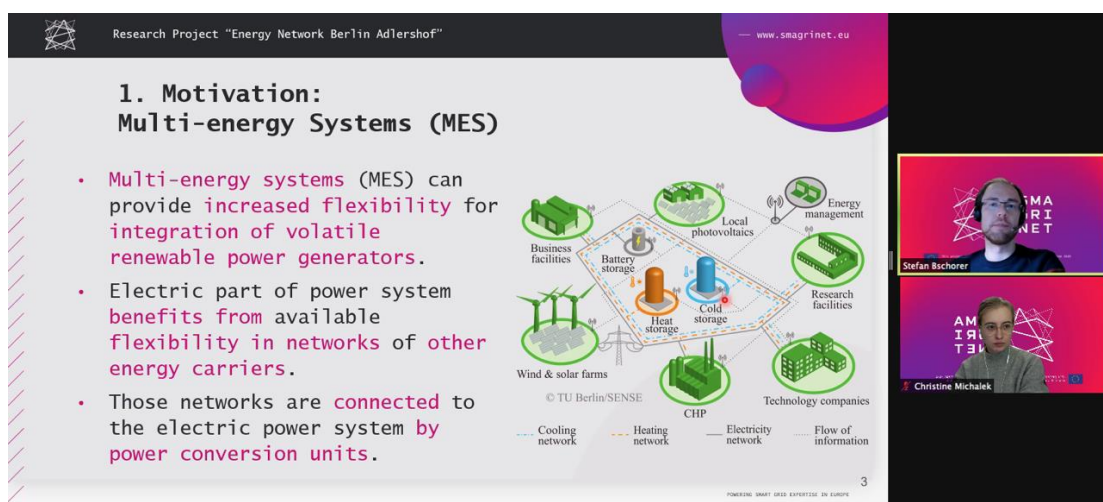


Figure 12. Screenshot of the live session at TUB for the BP program.

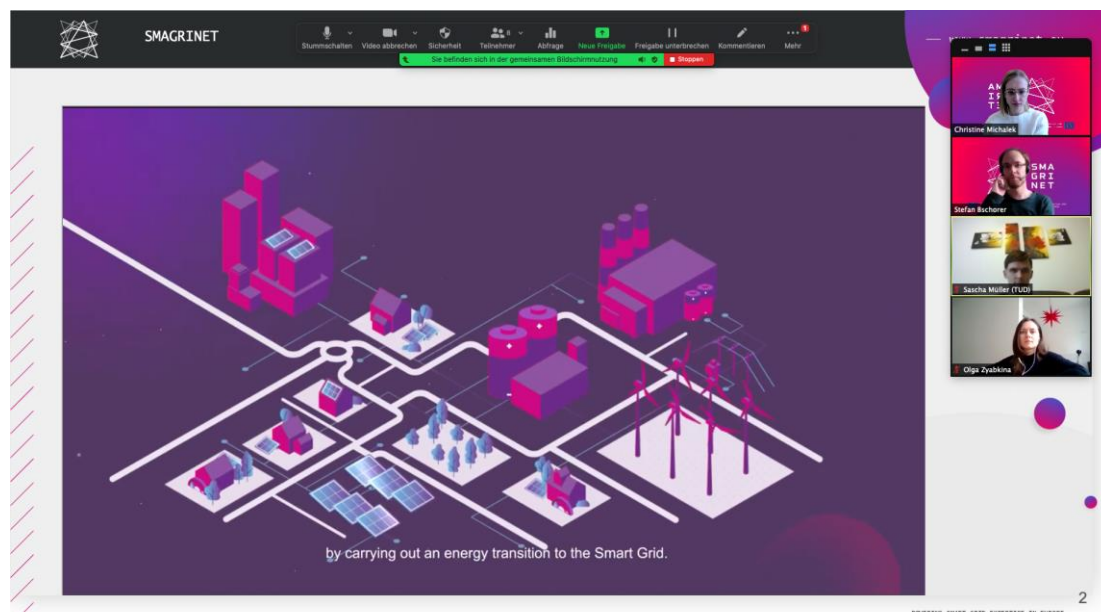


Figure 13. Screenshot of the live session at TUB for the RSCH program.

## 1.5. Participation and Completion

The ability to involve participants in each program was not as easy for each partner. The Table IV summarises the number of persons involved in each program and the rate of people who completed the program. The pilots gathered a total of 436 participants were 100 persons really completed the programs (achieving all the quiz). It represents 22% completion rate. From TalTech the numbers include the participants from Canvas and also the participants of the live sessions.

|              | BP<br>enrolled | BP<br>completed | RSCH<br>enrolled | RSCH<br>completed | WKFR<br>enrolled | WKFR<br>completed |
|--------------|----------------|-----------------|------------------|-------------------|------------------|-------------------|
| KTU          | 19             | 1               | 0                | 0                 | 0                | 0                 |
| ULOR         | 34             | 24              | 42               | 7                 | 0                | 0                 |
| TalTech      | 89             | 50              | 43               | 15                | 148              | 80                |
| TUB-TUD      | 46             | 3               | 30               | 6                 | 41               | 2                 |
| ULJUB        | 20             | 6               | 11               | 1                 | 60               | 21                |
| <b>Total</b> | <b>208</b>     | <b>84</b>       | <b>126</b>       | <b>29</b>         | <b>249</b>       | <b>103</b>        |

Table IV. Number of participants for each program.

Another interesting indicator concerning the participation is the time spent on the platform. Hopefully, Canvas LMS provides the time a participant was connected to the platform. Although it provides an indication of the time required by the different program, there is an important limit, inactive presence is also counted. It leads to really extreme value as for instance a participant with a total time of 180 hours. The Table V provides this indicator for each program and partners. While creating this table, it was noticed that a part of the participants spends only several minutes on the platform. For this reason, the data was filtered to only consider the statistic of people who completed the program. Even with this filter, there is an important variation, participants to the Broader Public program from ULJUB was nearly 4 times faster than



participants from ULOR. It can be supposed that participants did not have the same familiarity with the subject. The same observation can be made for the re-searcher program.

|             | BP<br>enrolled | BP<br>completed | RSCH<br>enrolled | RSCH<br>completed | WKFR<br>enrolled | WKFR<br>completed |
|-------------|----------------|-----------------|------------------|-------------------|------------------|-------------------|
| KTU         | 8:50:27        | 7:28:03         | -                | -                 | -                | -                 |
| ULOR        | 15:38:52       | 17:03:40        | 11:26:36         | 25:34:45          | -                | -                 |
| TalTech     | 6:11:24        | 10:18:21        | 1:21:30          | 9:32:26           | -                | -                 |
| TUB-TUD     | 3:26:52        | 4:26:51         | 11:28:01         | 24:29:06          | 5:08:07          | 25:05:07          |
| ULJUB       | 6:10:21        | 12:17:36        | 4:04:44          | 3:47:11           | 19:16:44         | 29:07:29          |
| <b>Mean</b> | <b>8:03:35</b> | <b>10:18:54</b> | <b>7:05:13</b>   | <b>15:50:52</b>   | <b>12:12:26</b>  | <b>27:06:18</b>   |

Table V. Mean time spending by participants on the Canvas LMS.

The Figure 14 provides the repartition of the time spend by participants on the Canvas LMS.

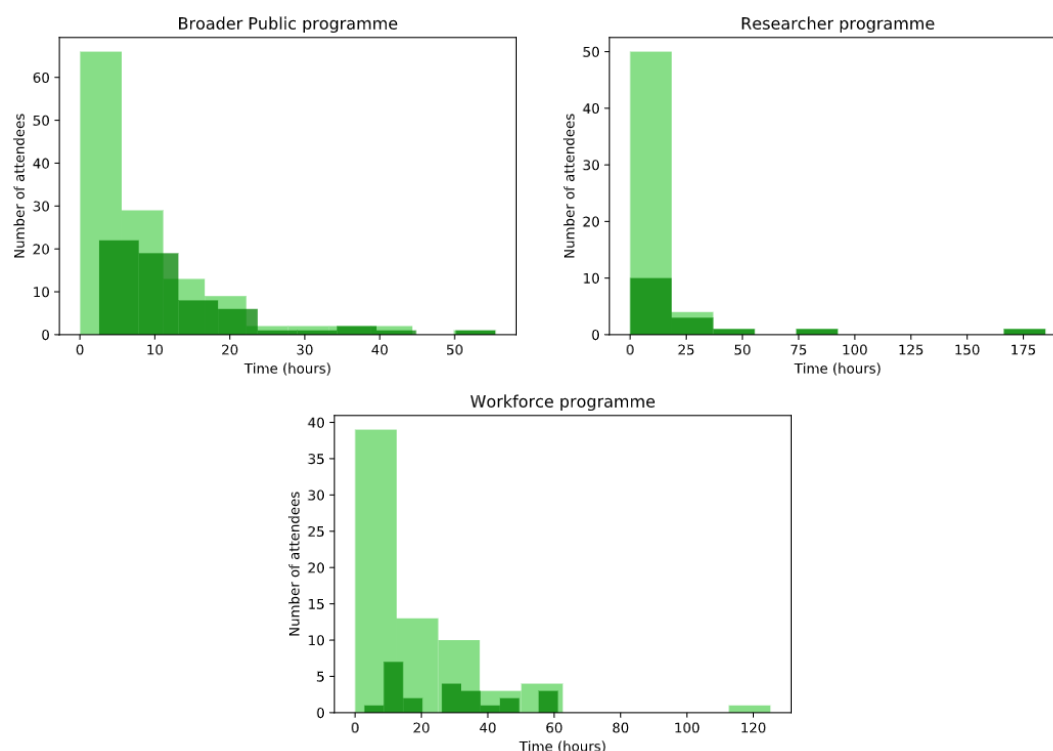


Figure 14. Distribution of time spent by participants for each program.

## 1.6. Notes About Implementation

Several difficulties were met to engage people in the short-term programmes notably for the workforce programme. At ULOR, the local actors and companies didn't want to participate because it was in English. Similar reactions were also observed by partners in some countries. However, TalTech had a slightly different way to involve participants in the short-term programme. The programme has been translated and added to the training catalogue of the national re-education programme for unemployed people. It increases the potential impact

of the programme. One of the drawbacks is the usage of another learning management system that does not allow the identification of improvement for the Canvas Used by other partners. The initiative also provides an insight to deploy the program on national MOOC platform that has much more audience.

To effectively spread the short-programme and reach more people on the second pilots, partners have shared with each other the communication strategy used for the first pilots. For the broader public, social networks such as Facebook and twitter were used by some partners. Some partners took benefits of the audience of university and faculty on social networks whereas others were not allowed by their university to benefits of their visibility. For more specific audience like RSCH and WKFR, social network such as LinkedIn or telegram were used in parallel to taking advantage of professional associations to promote the programme through their newsletter to their members.

Concerning the live sessions, it was also highlighted the difficulty to involve participants. In response, some partners involved industrial partners to present an industrial point of view concerning smart grid. This initiative was well received and increased the number of participants. Two responses were suggested to increase the participation rate to the live sessions:

- Make it mandatory to get the certificate of completion.
- Perform a live session / conference with external partners to kick-start the launch of the short-term programme.

## 2. Content Improvement

### 2.1. Feedbacks

The overall feedback from participants is clearly positive. However, these pilots allowed the identification of several issues in quiz and lectures, such as mistakes, typo or misleading sentences. It also revealed difficulties in delivering the certificate of completion. Another feedback was about the work time required by the programs. Indeed, the time estimation for the RSCH and WKFR programmes seems to be underestimated.

Some participants also wanted more practical approaches to smart grids, with for example, more calculation and exercises during the live sessions. This additional content can be handled in a specialisation module.

### 2.2. Difficulties

Several difficulties were faced during these pilots:

- Wrong correction of the quiz,
- Correction of the open-ended question was both time consuming for local programme leader and blocking to deliver the certificate,
- Bad settings in the quiz feedback and number of attempts,
- Add hints about the number of responses expected in quiz
- Some quiz was quite hard notably concerning the information system,
- Some participants reached the minimal score to receive the certificate but an error to a quiz can block access to the certificate,
- Some open-ended question was inadvertently left in several quiz and were both confusing for participants and local programme manager,



- Issues with the “fill in the blank” questions.

## 2.3. Sources of improvement

So, in order to improve the quality of the training for the second session:

- An important effort will be done to clarify questions in quiz. Check the automatic correction and notably remove open-ended questions.
- The content will be reviewed to remove typos and clarify abbreviation that may not be explained.
- Check a way to control access to new joiners to the programme while allowing persons who are already enrolled to have access without restriction.
- Experiment another way to deliver the certificate of completion.
- Implement micro reward to have a more engaging experience with a certification of small success even if the main certificate is reached (open badges).
- Improve the certificate of completion of better traduce the content and the effort it represents to have it (add a QR code to access to details).





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