



WP5
Organization of Joint SINERGY Events for Expertise Exchange and
Hands-on Experience

D5.2

The Second SINERGY Workshop – Efficient Building Operation

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Executive Summary

In the SINERGY WP5 framework, three workshops as a combination of training courses and lectures, hands-on experience, social and networking activities are foreseen. The goal is to increase the competence level of PhD students and other interested stakeholders in the domain of the SINERGY project.

This deliverable focuses on the organizational aspects and specific sessions of the second Sinergy workshop¹, coordinated by NUIG (Galway, Ireland) from May 31st to June 2nd, 2022.

Section 1 provides with an overview of the objectives of WP5

Section 2 describes the organisation of 2nd. workshop in Galway, Ireland.

Section 3 follows with a presentation of the Day 1 activities that consisted on the SINERGY Plenary Meeting, the SINERGY Steering Committee meeting and the NUIG pilot session and visit.

Section 4 briefly summarizes activities of Day 2 devoted to the PhD workshop.

Section 5 closes with the presentation of Day 3 on the Efficient Building Operation Series, a session on proposal writing, and the public event titled [“Smart Grid Technology Underpinning Sustainable and Secure Energy in Europe”](#). The open event was hosted in a joint organization with Engineers Ireland west region section and endorsed as Continuous Professional Development (CPD) and also endorsed by ASHRAE Ireland.

¹ Second SINERGY Workshop - Energy Efficient Building Operation | Project Sinergy (project-sinergy.org)



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Abbreviations and Acronyms

AIT	Austrian Institute of Technology
CA	Consortium Agreement
CO	Coordinator
DSO	Distribution System Operator
EMS	Energy Management System
ERDF	European Regional Development Fund
EU	European Union
IEEE	Institute of Electrical and Electronics Engineers
ICT	Information and Communications Technology
IMP	Institute Mihajlo Pupin
NUIG	National University of Ireland Galway
R&D	Research and Development
SEAI	Sustainable Energy Authority of Ireland
WP	Work Package



1 Introduction

The primary objective of SINERGY is to strengthen the research capacity and further unlock the innovation potential of IMP, transforming it into a regional Centre of Excellence in the smart energy management. This will be achieved via a set of actions that range from (1) exploring the synergies between the partners; via (2) exchange of personnel and early-stage researchers' involvement in joint research and development; to (3) organizing joint events for knowledge transfer, expertise exchange, awareness raising and stakeholders networking.

Workshops and conferences are seen as the most efficient way to get an insight into the state-of-the-art in selected research topics. Therefore, work package 5 focuses on the organization of joint project events that will enable know-how exchange and provide with a “hands-on” experience in the domain of smart energy management.

1.1. Main Objectives and Deliverable Scope

The main objectives of WP5 include the following:

- Organizing three international workshops and one conference in research area of smart energy management technologies, with emphasis on their applications;
- Increasing the competence level of local and regional experts in the selected research domain;
- Facilitating networking between regional and EU experts in the field;
- Presenting the latest research results of distinguished experts from strategic partner organizations and providing “hands-on” experience.

In the project framework, three workshops as combination of training courses and lectures, hands-on experience, social and networking activities are foreseen:

- 1st Workshop coordinated by AIT, November 2021;
- 2nd Workshop, coordinated by NUIG, May/June 2022;
- 3rd Workshop, coordinated by IMP, November 2022.

This deliverable focuses on the organizational aspects and specific sessions of the second Sinergy workshop, coordinated by NUIG (Galway, Ireland) from May 31st to June 2nd 2022.

1.2. Structure of the Deliverable

This deliverable is structured as follows:

- Section 1 Introduction provides with an overview of the objectives of WP5;
- Section 2 describes the organisation of the 2nd. workshop in Galway, Ireland;
- Section 3 follows with a presentation of DAY 1 activities that consisted on the SINERGY Plenary Meeting, the SINERGY Steering Committee meeting and the NUIG pilot session and visit;
- Section 4 summarizes activities of DAY 2 devoted to the PhD workshop;
- Section 5 closes with the account of DAY 3 activities which comprised a presentation of the Efficient Building Operation Series, a joint session on proposal writing, and the public event titled “Smart Grid Technology Underpinning Sustainable and Secure Energy in Europe”. The open event was hosted in a joint organization with Engineers Ireland west region section, endorsed as Continuous Professional Development (CPD), and endorsed by ASHRAE Ireland.



2 Organization of the 2nd SINERGY Workshop

The workshop was planned to be hosted presentially at NUIG premises in Galway/Ireland with participation of delegations from the other SINERGY project partners from the 31st. May 2022 to the 2nd. June 2022. This was planned and announced well in advance the 6th of March 2022 via the SINERGY website² as can be seen in Figure 1 below.

The screenshot shows the SINERGY website with the tagline "Capacity building in Smart and Innovative eENERGY management". The navigation menu includes Home, Project, Pilots, eLearning, Events, Expected Results, and JoinUs. The "Events" section is active, displaying three announcements:

- Staff exchange (NUIG, AIT, IMP), Pilot 2 (NUIG), June 2022**
Submitted by valentina.janev on Mon, 06/06/2022 - 15:24
[Read more](#)
Review of SINERGY Lectures and Training materials
- 2nd PhD Workshop, Galway, Ireland, June 2022**
Submitted by valentina.janev on Mon, 06/06/2022 - 13:30
[Read more](#)
Idea- Generation Session!
The PhD Workshop was facilitated by Dr. [redacted]
- Second SINERGY Workshop – Energy Efficient Building Operation**
Submitted by valentina.janev on Fri, 06/03/2022 - 09:22
[Read more](#)
The 2nd SINERGY Workshop was organized from 31st of May until 2nd of June at the National University of Ireland Galway.

Figure 1. Workshop Announcement

This workshop was held in person as planned after the progressive lifting of all major travel restrictions within the EU travel space in March 2022 and the lowering of hospital and ICU cases in all countries. Monday and Friday were left to accommodate travel as required by the long-term displacement from Serbia with one stop flight towards Ireland and expected delays in airports.

The agenda was kept planned and the content was revised, where necessary, to offset potential limitations of online participation and one minor change during DAY 3 to accommodate a session on proposal writing as agreed during the plenary meeting of DAY 1

Two participants from IMP, Dr. Valentina Janev and Mr. Dušan Popadić and one from AIT, Dr. Johannes Stöckl travelled to Galway for workshop participation. Other participants attended online to some of the activities proposed (e.g.: Plenary meeting and PhD workshop).

² [Second SINERGY Workshop - Energy Efficient Building Operation | Project Sinergy \(project-sinergy.org\)](https://project-sinergy.org)



The DAY 3 public event was held online with a noticeable participation and interest from regional and also international audience.

Figure 2 and 3 in the next page shows participants and the Alice Perry engineering building, one of the SINERGY pilots and live twitter posts related to the workshop activities.



Figure 2. Participants of the DAY 2 workshop. From Left to Right: Mr. Mostafa Rezaeimozafer (NUIG), Dr. Johannes Stöckl (AIT), Mr. Junlin Lu (NUIG), Ms. Xue Yang (NUIG), Dr. Marcus M. Keane (NUIG), Mr. Dušan Popadić (IMP), Valentina Janev (IMP), Mr. Luis M. Blanes (NUIG), Ms. Dayanne Peretti (NUIG), Ms. Shima Yousefigarjan (NUIG) and Dr. Kevin Byron (Bioinnovate Fellowship NUIG). Background is the Alice Perry Engineering Building in the NUIG North Campus



Figure 3. Twitter posts related to the 2nd. Sinergy Workshop



3 Day 1 –May 31st, 2022

The agenda for Day 1 of this workshop was devoted to (1) internal SINERGY consortium plenary meeting, (2) the SINERGY Steering Committee meeting and (3) presentation and visit of the NUIG pilot and BMS assets.

Below the agenda for DAY 1 and the Table 1 with the list of participants

9:00 (IST) - Welcome

9:30 - 12:30 SINERGY General Assembly

- Coordinator updates
- WPs Updates
- Deliverables
- Reporting Status
- 1st. Review Meeting Rehearsal
- Other business - PhD Challenges

12:30 - 14:00 - Lunch - Friars

14:00 - 15:00 - Presentations to the **SINERGY Steering Committee - ONLINE**

15:00 - 15:30 - Coffee Break

15:30 - 17:00 - NUIG Pilot workshop

- Introduction to BMS systems in campus (Karl Byrne - EWA Controls Ireland)
- Workshop session around SINERGY pilots and proposed collaborations
- Tour of the Alice Perry Engineering Building Living Laboratory
- Visit to Aras de Brun Building

18:00 - End of 1st Day - Transfer to Hotel.

DAY 1 participants list is shown below in Table 1.

Table 1. DAY1 SINERGY Participants

IMP team	AIT Team	NUIG Team
Valentina Janev Dušan Popadić	Johannes Stöckl	Luis Miguel Blanes Restoy Marcus Keane Karl Byrne (EWA Controls Ireland)

3.1 Sinergy Plenary Meeting



Figure 4. Participants of DAY 1 - Plenary Meeting

Topics for discussion at the plenary meeting were as follows:

- The project coordinator Dr. Valentina Janev presented progress in all WPs which lead to fruitful discussion on work done and further planning the activities ahead;
- Updates on periodic reporting and administrative matters related to the 1st Reporting Period (M1-M15);
- Rehearsal of the Review Meeting presentation to be held 15th June;
- Organization of mentoring sessions and personnel exchange for the second period of the project M16 to M36;
- Proposal writing and compilation of a list of potential calls. It was agreed to postpone this discussion for DAY 3;
- Organization of the 3rd SINERGY Workshop to be held in Belgrade
- Review of the list of publication available at <https://project-sinergy.org/Results/Publications>.
- Review of the PhD topics to be used as exemplary for the DAY 2 PhD workshop.

3.2 Steering Committee Meeting

The steering committee meeting took place at 14:00h. This meeting was held online consisted in a wide overview of the SINERGY project activities to the committee members. A discussion took place where some interesting further collaboration possibilities were explored. Several indication from committee members were pointed out to help reach the outcomes of the SINERGY activities to a wider audience within the West Balkans region.

Table 2. Participants of the SINERGY Steering Committee meeting

IMP team	AIT Team	NUIG Team
Valentina Janev Dušan Popadić	Johannes Stöckl	Luis Miguel Blanes Restoy Marcus Keane
Steering Committee Participants		
Prof. Miloš Banjac (apologies)	Faculty of Mechanical Engineering, University of Belgrade;	
Ruth Buggie (apologies)	Sustainable Energy Authority of Ireland	
Andreas Lugmaier (apologies)	SIEMENS Austria	
Prof. Dimitar Taškovski	Facult. of Elect. Eng. Ss. Cyril and Methodius Univ. in Skopje	



Gordana Danilović Grković	Science Technology Park Belgrade
Prof. Vedad Pašić (apologies)	Faculty of Natural Sciences and Mathematics, Univ. of Tuzla
Marko Poznanović	Belit, ICT Network
Marina Blagojevic	ICT Network

3.3 Presentation of the NUIG pilot

The NUIG pilot session was led by NUIG in-house BMS consultant Karl Byrne. Karl has been working in campus for more than 10 years with the mission of developing a comprehensive whole campus BMS monitoring system that can provide a bird-view of the day to day campus energy performance.

This is a significant challenge as the campus building stock is very diverse. Buildings in campus are very different regarding smart readiness, from not monitored non-BMS compliant buildings to state-of-the-art BMS data rich as the [Alice Perry building living laboratory](#).

An important part of Karl's job is to assist a vibrant research community on NUIG by deploying different sensors and data acquisition equipment, ensure connectivity, security and reliability as well as supporting the NUIG management on their statutory energy and CO₂ reporting for government agencies such as SEAI or the ISO 50001 on-going certification obligations. Gathering and standardization of the whole campus portfolio is an important outcome of his activity.

Discussion with Karl took place over technology options, different alternatives and solutions implemented and the difficulties encountered on developing the whole campus solution. Future ideas and directions regarding new campus expansion, upgrades and trends that will for sure affect the provision of data, connectivity and interoperability were discussed.

It was an overall a positive experience to bring a hands-on expert in the field and also for Karl very positive to learn about the research-led initiatives in other countries as a "heads-up" to what will be coming in the next years that impact the provision of data and BMS infrastructure e.g.: positive-energy district, energy storage, thermal-electrical district networks or behavioural feedback to the user level such as the one of local flexibility markets.



Figure 5. Karl Byrne displays the whole campus BMS dashboard

3.4 Visit to Alice Perry Building and Aras de Brun Building.

A visit to two buildings of the NUIG campus took place after the whole campus BMS presentation. The Alice Perry Building was visited, and some of the featured BMS equipment and sensed rooms were inspected by the team.



Figure 6. Newly PV panels installation of the Aras de Brun building



Figure 7. At the Aras de Brun building plant room data acquisition system



4 Day 2 – June 1st, 2022

DAY 2 focused on the PhD workshop where students from IMP, NUIG and AIT participated. The DAY 2 agenda is shown below alongside the list of participants. An adjustment to the agenda was agreed and the PhD workshop session was extended during the evening and keep the proposal preparation discussion for DAY 3:

9:00 (IST) 10:00h (CET) - *Coming together*
 9:30 - 12:30 PhD Workshop - *ONLINE*
Individual PhD presentation
Presentation by Dr. Kevin Byron
Cross Fertilization Sessions and Mentoring Activities
 12:30 - 14:00 - *Lunch - Friars*
 14:00 - 15:00 - *Proposal Preparation*
Review of call topics of interest
Discussion and decision of Call Topics
Coffee Break - Refreshments Provided - Networking
 15:30 - 16:30

Table 3. DAY 2 Sinergy Participants

IMP team	AIT Team	NUIG Team
Dr. Valentina Janev Mr. Dušan Popadić Ms. Katarina Stanković (online) Ms. Marija Popović (online) Ms. Dea Pujić (online) Mr. Marko Jelić (online)	Johannes Stöckl Mr. Ron Ablinger (online)	Dr. Marcus M. Keane Mr. Luis M. Blanes Dr. Kevin Byron (Bioinnovate NUIG Fellowship) Ms. Dayanne Peretti Ms. Shima Yousefigarjan Ms. Raquel Lima Mr. Mostafa Rezaeimozafer Ms. Xue Yang Mr. Junlin Lu

4.1 Introductory lecture by Dr. Kevin Byron

The PhD workshop was conducted by Dr. Kevin Byron and was centred around new innovative methods to foster research creativity. Dr. Kevin Byron is an associated speaker of NUIG Bioinnovate Fellowship. This is a permanent NUIG facility to train PhD students organise effectively their research journey and is an established training program at NUIG.

The session comprised two introductory training lectures followed with a participatory PhD activity using the methods and techniques proposed by Dr. Byron in the presentations given. The material was made available for the attendees. Additional to the face-to-face interactions, there was on-line presence of PhD Students from IMP, NUIG and AIT



After a brief introduction of all PhD participants and research topics Dr. Byron presented a lecture on idea-generation, creativity, problem solving and introduced the concept of the sigmoid curve to illustrate the evolution of a research topic. This is a methodology to help PhD students find out the research stage of their topic of interest and how mature is their field of study.



Figure 8. Dr. Kevin Byron introduces the idea-generation session

4.2 PhD interactive session: mapping your research progress.

The students participating were instructed to prepare a diagrammatic idea using the method proposed to illustrate their research question and maturity. Students used PVC A1 sheets and markers which helped visualise and discuss over different topics (Figure 9). Students maps are shown in following figures.



Figure 9. PhD students exercise of mapping their research progress using sigmoid method

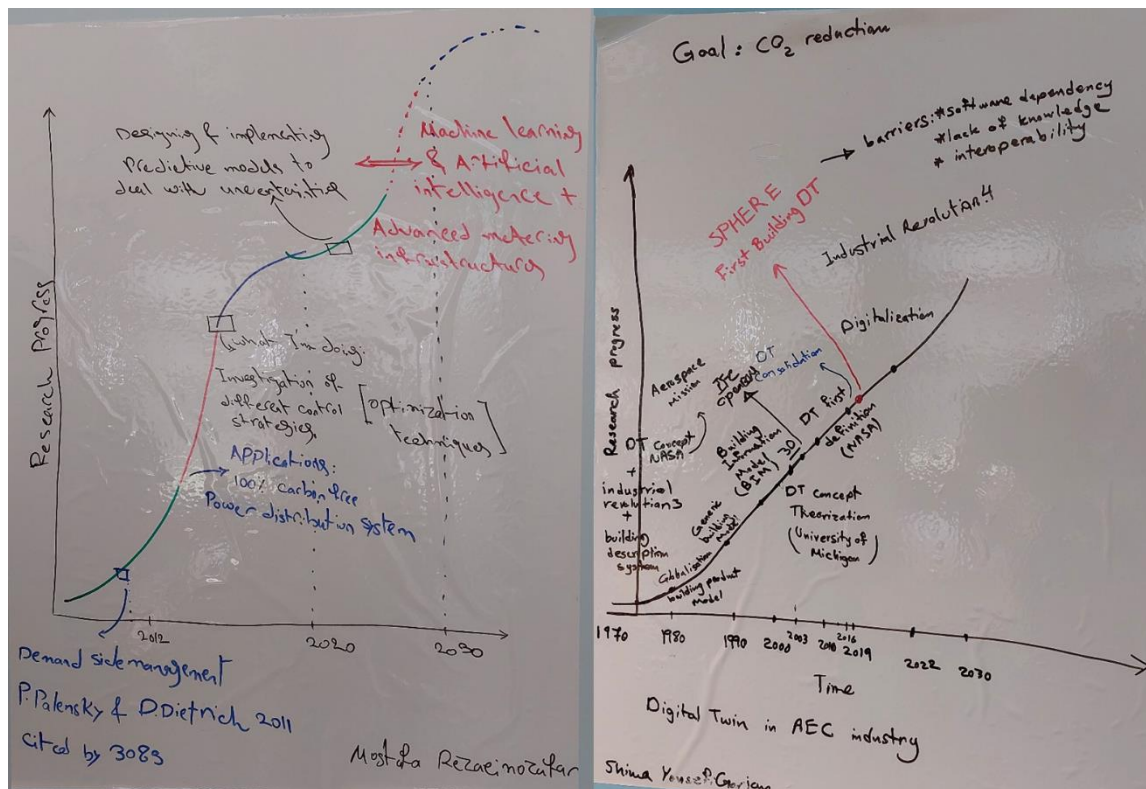


Figure 10. Mr. Mostafa Rezaeimoazafar and Ms. Shima Yousefifarjan

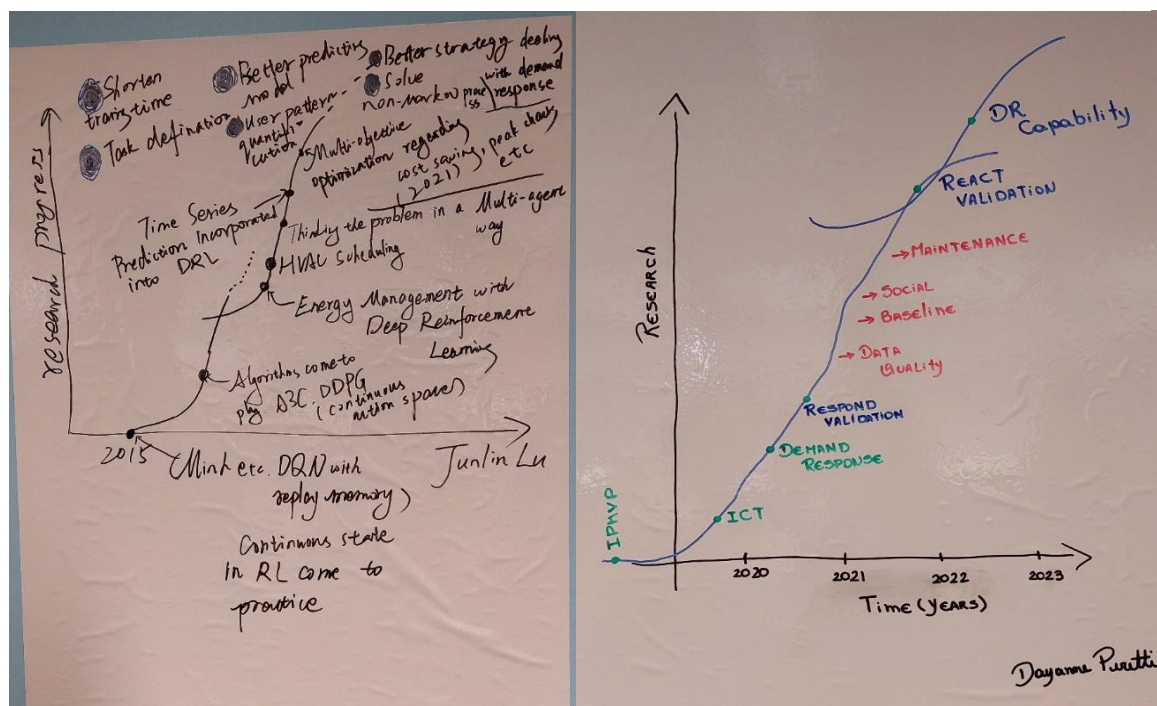


Figure 11. Mr. Junlin Lu and Ms. Dayanne Peretti

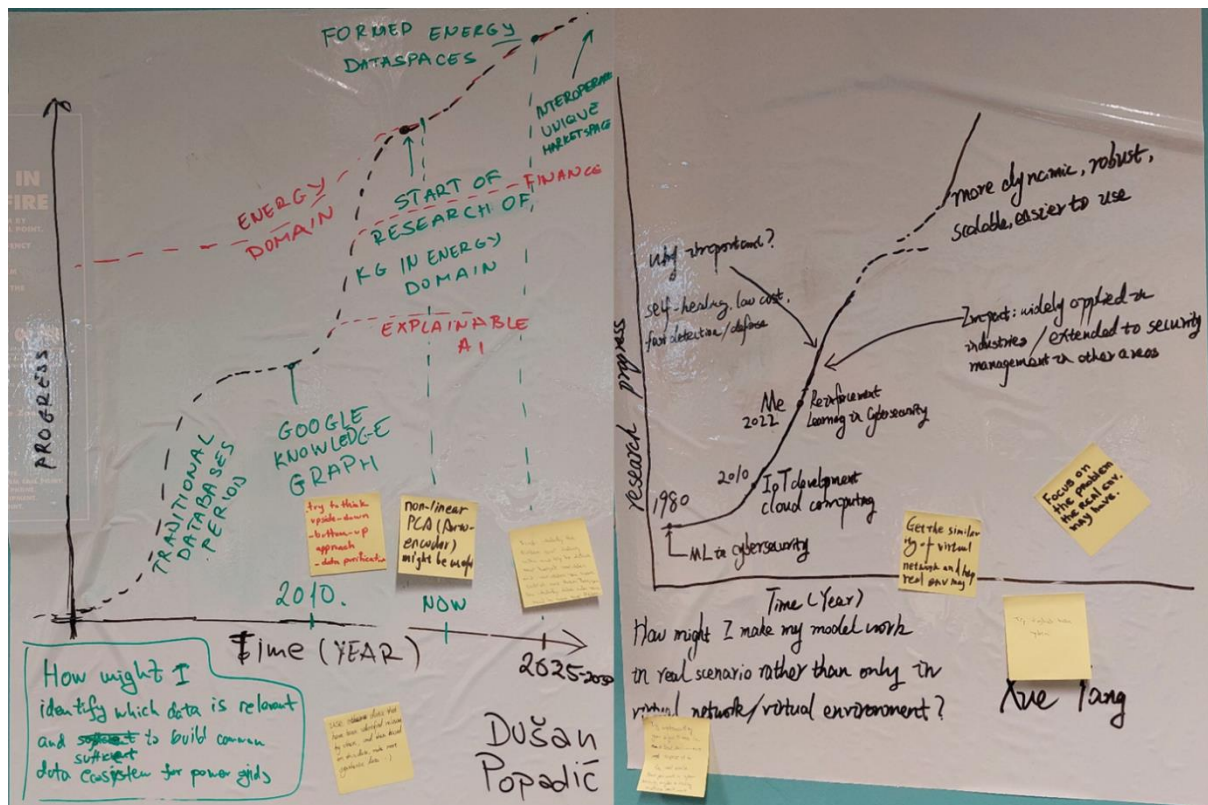


Figure 12. Mr. Dušan Popadić and Ms. Xue Yang

After this exercise the Students were grouped with the tasks of creating research challenges and finding new ideas using the methods and strategies described in the previous lecture. Three main topics were discussed:

- Problem 1: Energy Balancing. With the increase of RES share on the production side, matching production and demand becomes increasingly challenging.
- Problem 2: Several energy blockchain projects deployed. How to securely implement key management to provide key recovery without balances lost while ensuring security.
- Problem 3: Digitalization and automation of management and open source. Standardization to help real-time balancing of energy consumption and generation. How can this be integrated in different regions?

4.3 Lecture on research creativity by Dr. Kevin Byron: The science of inventing

A second lecture took place during the evening session where the Theory of Inventing Problem Solving (TRIZ) was introduced. This was a very innovative and formative talk which was centred based on Genrich Altshuller³ theory of problem solving. The ideas presented in this talk helped understand the process of solving challenges. Lots of historical examples illustrated the talk and some conventional thinking was challenged. Methods to frame and exploratory contradictory parameters and trade-offs were described.

³ <https://www.aitriz.org/116-altshuller/775-genrich-altshuller>



Figure 13. 2nd PhD workshop session: The art of problem solving

Finally, feedback from workshop participants was requested and reflected below in Table 4. In general, it the experience was very innovative for all project participants, and helped think “out of the box” and reconsider existing research problems. Consideration was given to repeating and extending this training with a two days face-to-face workshop in IMP premises for a full cohort of PhD students.

Table 4. Example of Feedbacks from the PhD students

Organization	Feedback collected
NUIG PhD Student	<i>“ This workshop is very helpful. I have learned that it's important to consider our PhD journey in a higher and longer perspective. Also, the approaches of how to be creative are very interesting and can help me to think out of the box. I also learned about other students' approaches and topics, and through our discussions, I learned how the other students think or mind-set when facing some problems. I think this kind of workshop can be included in PhD skills not only because of the skills and knowledge, but also the potential collaboration among candidates. Thanks a million for the wonderful workshop. “</i>
NUIG PhD Student	<i>“ I did learn something new about creativity. Thinking the route of the development of my area and finding out what may be happen in the future are good inspiration. By listening to others approaches and topics, I begin to think about my research from different perspective. I think this should be involved as a general module for Graduate students, but it may be better coming with more practical project. There is some potential collaboration in the future, as my algorithm might be able to solve some problem in battery scheduling. “</i>



IMP Ph.D. Student	<i>“ The Synergy Ph.D. Workshop offered us a really interesting and innovative approach to the observation of our scientific research progress. Through the visualization of our research path using the sigmoid curve, we were able to more clearly identify some of the turning points in the learning process, such as the beginnings of our research, challenges and setbacks that occurred over time, and advancements and improvements that accelerated our progress. From all the aforementioned processes, which inevitably occur throughout the whole study process, we can draw some conclusions that can help in advancing our research. These workshops, in my opinion, are very helpful for Ph.D. students and offer insights that can be put to good use in our ongoing academic development. ”</i>
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5 Day 3 – June 2nd, 2022

The DAY 3 agenda proposed was slightly changed to accommodate a discussion over proposal writing activities, as agreed during the first day. After the discussion, the Energy Efficient Building Operation (EEBO) Series was introduced by Luis M. Blanes (NUIG). To finalise, a public event was held presentially and broadcasted online.

9:00 (IST) 09:30h (CET) - Coming together

9:30 - 10:30 - Lecturing Material on Energy Efficient Building Operation

- Presentation of the EEBO Lecturing Material

10:30 - 11:30 - 1st Module on Efficient Building Operation (TBD)

Coffee Break - Refreshments Provided - Networking

12:00 - 13:00 - 2nd. Module on Efficient Building Operation (TBD)

13:00 - 14:00 - Lunch - Friars

14:00 - 15:00 - Wrapping of the 2nd. SINERGY Workshop

- Feedback of the EEBO Modules by PhD Workshop participants
- Planning of the 2nd Series of EEBO Modules
- Proposed Mentoring Activities
- Personnel Exchange
- Publications Plan

Table 5. SINERGY DAY 3 participants

IMP team	AIT Team	NUIG Team
Valentina Janev Dušan Popadić	Johannes Stöckl	Luis Miguel Blanes Restoy Marcus M. Keane Dayanne Peretti

5.1 Session on Proposal Writing

Discussion on proposal writing took place related to

- the Horizon Europe Work Program 2021/2022⁴;
- the following forthcoming calls:
 - HORIZON-CL5-2022-D4-01-03 Smarter buildings for better energy performance, 06 September 2022.
 - HORIZON-CL5-2022-D4-02-04 Smart-grid ready and smart-network ready buildings, acting as active utility nodes (Built4People), deadline date 24 January 2023.
 - HORIZON-CL5-2023-D4-01-03: Interoperable solutions for positive energy districts (PEDs), including a better integration of local renewables and local excess heat sources.

⁴ Horizon Europe Work Programme 2021-2022, [wp-8-climate-energy-and-mobility_horizon-2021-2022_en.pdf](https://ec.europa.eu/info/sites/default/files/wp8-climate-energy-and-mobility_horizon-2021-2022_en.pdf) (europa.eu)

5.2 Training: Energy Efficient Building Operation Lecture Series

Luis M. Blanes provided an introductory lecture on Energy Efficient Building Operation (EEEBO) lecture series. During this lecture, the initial set of 10 lectures was described according to deliverable D3.3.



Figure 14. Luis M. Blanes presenting the EEEBO Lecture Series

Opportunities for further collaboration were identified regarding topics such as the Smart Readiness Indicator or the increasing need for Urban scale building simulation.

5.3 Open Event

To finalise the 2nd. SINERGY workshop, a public event was organised in a G047 Lecture Theatre of the Alice Perry building. The event booking was promoted using the Eventbrite platform. This allowed us track the number of participants and to better promote the event in social media. The event was endorsed by [Engineers Ireland \(EI\) West Region](#) and qualified with as Continuous Professional Development (CPD) credits for EI affiliates. The event was also promoted through ASHRAE Ireland and official media channels of NUIG.

The 3 hours event titled “**Smart Grid Technologies for Secure and Sustainable Energy in Europe**” comprised seven talks and speakers from a diverse background and experience.

According to the European Commission (EC-Directorate for Energy) a smart grid is the electricity network that integrates the behavior and actions of all users connected to it (generators, consumers and those that do both), in order to ensure economically efficient, sustainable power system with low losses and high levels of quality and security of supply and safety. As smart grids allow the integration of decentralized renewable energy resources



as well as electric vehicle recharging services, they are essential to ensure energy security, economic development and climate change mitigation. The integration of energy production and consumption component through the smart grid concept enables increased demand response and energy efficiency.

This event brought the latest experience from different perspectives on the developments needed for the efficient implementation of the smart grid. International and Irish experts illustrated how diverse enabling technologies and resources can facilitate smart grid adoption, such as Hardware in the Loop Validation and Certification for Large Infrastructures (AIT), Semantic Interoperability and the Cybersecurity requirements (NUIG).

Secondly, NUIG scholars will present the latest advances on EU funded projects Gencomm and STEPS regarding hydrogen energy and storage technologies, key to ensure effective renewable energy generation and orchestration.

Lastly, public sector (NUIG) and policy roadmap (SEAI) are brought to the discussion given the impact of the current energy crisis and the regulatory challenges ahead.

A final panel discussion moderated by Dr. Marcus M. Keane sparked the conversation with the speakers bringing different insights and perspectives to shed light into the opportunities the deployment of the smart grid brings to the EU and Irish sustainable and secure energy supply.

A total of 57 people participated in the event, most of the attendees joining online. The event was highly valued by the participants by the interesting discussions during the Q&A session and the valuable insights of Mr. Declan Meally, one of the for directors of Sustainable Energy Authority Ireland.

Sinergy
Capacity building in Smart and Innovative eENERGY management

SMART GRID TECHNOLOGIES FOR SECURE AND SUSTAINABLE ENERGY IN EUROPE

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John Gill
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Declan Meally
Director of Business, Public Sector and Transport at Sustainable Energy Authority of Ireland (SEAI)

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Assistant Professor
IRUSE - NUIG

THURSDAY - 2nd. JUNE 2022 - 16:00h - 19:00h (IST)
Alice Perry Building - Lee Theatre - G047
Distillery Road, NUIG, GALWAY

Logos: Interreg North-West Europe GenComm, Interreg North-West Europe STEPS, Energy Systems Integration Group, IRUSE, Ryan Institute, NUI Galway OÉ Gaillimh

Figure 15. Public event promotional banner



The screenshot shows the Engineers Ireland website with a dark blue header. The main navigation bar includes 'Engineers Journal', 'Jobs Desk', 'Resources', 'About Us', and a search icon. Below this, a secondary bar lists 'Professionals', 'Businesses', 'Students', and 'Schools'. A 'Members' area link is on the right. The event page features a 'Back' link, the event title, a brief description, and a detailed 'Description' section. To the right, a 'Details' box lists the start and end times (16:00 to 19:30 on Thursday, 2 June 2022), the location (Hybrid event at Alice Perry Engineering Building, Distillery Road, Galway), and a 'Fees' section. Below this is a 'Contact Details' box with the name Luis Miguel Blanes Restoy and his email address. A 'CPD Details' box indicates 3.5 CPD Award Hours.

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Smart Grid Technology underpinning Sustainable and Secure Energy in Europe

Learn about latest technology developments on smart grid enabling technologies from international experts at NUIG.

Description

According to the European Commission (EC-Directorate for Energy) a smart grid is the electricity network that integrates the behavior and actions of all users connected to it (generators, consumers and those that do both), in order to ensure economically efficient, sustainable power system with low losses and high levels of quality and security of supply and safety. As smart grids allow the integration of decentralized renewable energy resources as well as electric vehicle recharging services, they are essential to ensure energy security, economic development and climate change mitigation. The integration of energy production and consumption component through the smart grid concept enables increased demand response and energy efficiency.

This event brings the latest experience from different perspectives on the developments needed for the efficient implementation of the smart grid. International and Irish experts will illustrate how diverse enabling technologies and resources can facilitate smart grid adoption, such as Hardware in the Loop Validation and Certification for Large Infrastructures, Semantic Interoperability and the Cybersecurity requirements. Secondly, NUIG scholars will present the latest advances on EU funded projects Gencomm and STEPS regarding hydrogen energy and storage technologies, key to ensure effective renewable energy generation and orchestration. Lastly, public sector (NUIG) and policy roadmap (SEAI) are brought to the discussion given the impact of the current energy crisis and the regulatory challenges ahead.

Details

Start Date & Time:
16:00 Thursday, 2 June 2022

End Date & Time:
19:30 Thursday, 2 June 2022

Location:
Hybrid event, Alice Perry Engineering Building, Distillery Road, Galway, Ireland

Fees:

Contact Details

Name:
Luis Miguel Blanes Restoy

Email:
luismiguel.blanesrestoy@nuigalway.ie

CPD Details

CPD Award Hours:
3.5

Figure 16. Engineers Ireland Announcement. Available at: <https://www.engineersireland.ie/listings/event/8322>



Figure 17. NUIG promotion of the public event



In the below the event agenda and pictures of the speakers.

Table 6. Sinergy public event AGENDA

Thursday 2nd. June 2022 - 16:00h - 19:30h IST Location: Alice Perry Building - G047 - Ground Floor. National University of Ireland Galway. ONLINE - https://meet.goto.com/467690293 BOOK YOUR TICKETS HERE: https://www.eventbrite.ie/e/336592676757	
16:00 h - Opening Remarks	Dr. Marcus M. Keane Assistant Professor - NUIG
16:15 h - Smart Grid Electronics HIL Validation and Certification for Large Infrastructures	Dr. Johannes Stöck Austrian Institute of Technology
16:35 h - Semantic Interoperability in Smart Grid Scenarios	Dr. Valentina Janev Institut Mihailo Pupin - Serbia
16:55 - Cybersecurity in Infrastructures and Smart Grid	Dr. Michael Schukat Associate Professor - Computer Science - NUIG
17:15 - Coffee Break - Alice Perry Ground Floor Atrium	
17:30 - Role of Hydrogen Storage GENNCOMM project	Mr. Tadhg Cummins Researcher - Energy Systems Engineering - NUIG
17:50 - Advances on Storage Technologies STEPS project	Dr. Maeve Duffy Associate Professor - Electronic Engineering - NUIG
18:10 - Impact of Energy Crisis and on NUIG Sustainability Strategy	Mr. John Gill - Chief Operating Officer - NUIG Mr. Michael Curran - Head of B&E - NUIG
18:30 - Smart Grid Roadmap for Ireland	Mr. Declan Meally Director of Business, Public Sector and Transport at Sustainable Energy Authority of Ireland (SEAI)
18:50 - Panel Discussion	Chair: Marcus M. Keane - NUIG



Figure 18. Dr. Marcus M. Keane (NUIG) introducing public event speakers

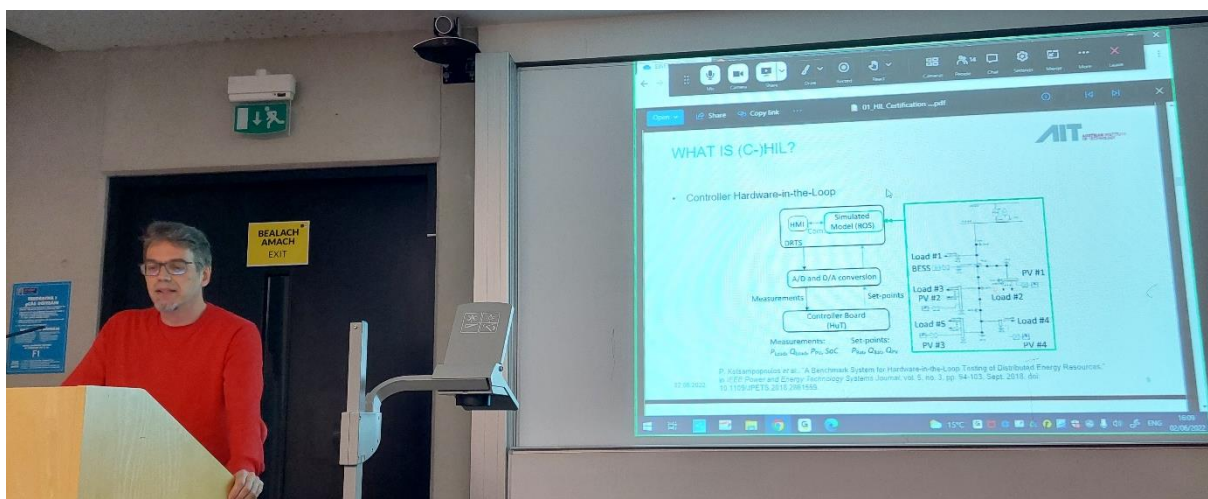


Figure 19. Dr. Johannes Stöckl talk on Smart Grid Electronics HIL Validation and Certification for Large Infrastructures



Figure 20. Dr. Valentina Janev (IMP) talk on Semantic Interoperability in Smart Grid Scenarios



Figure 21. Dr. Michael Schukat (NUIG) on Cybersecurity for Infrastructures

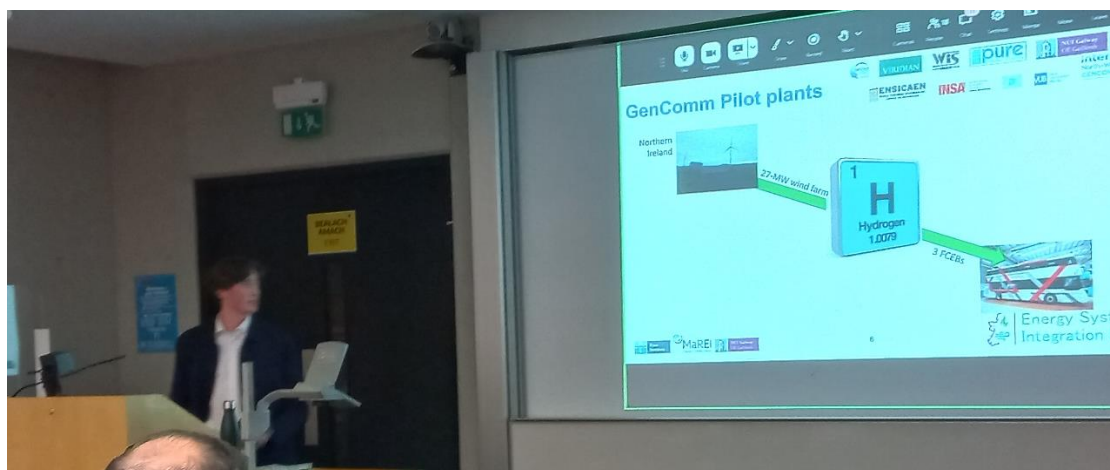


Figure 22. Mr Tadgh Cummins presentation about the role of Green Hydrogen and the GENCOMM project.⁵



Figure 23. Dr. Maeve Duffy on Advances on Storage Technologies and STEPS⁶ project



Figure 24. Mr. John Gill - NUIG Chief Executive Officer

⁵ <https://www.nweurope.eu/projects/project-search/gencomm-generating-energy-secure-communities/>

⁶ <https://www.nweurope.eu/projects/project-search/steps-storage-of-energy-power-systems-in-nwe/>



Figure 25. Mr. Michael Curran. Head of NUIG Buildings & Estates

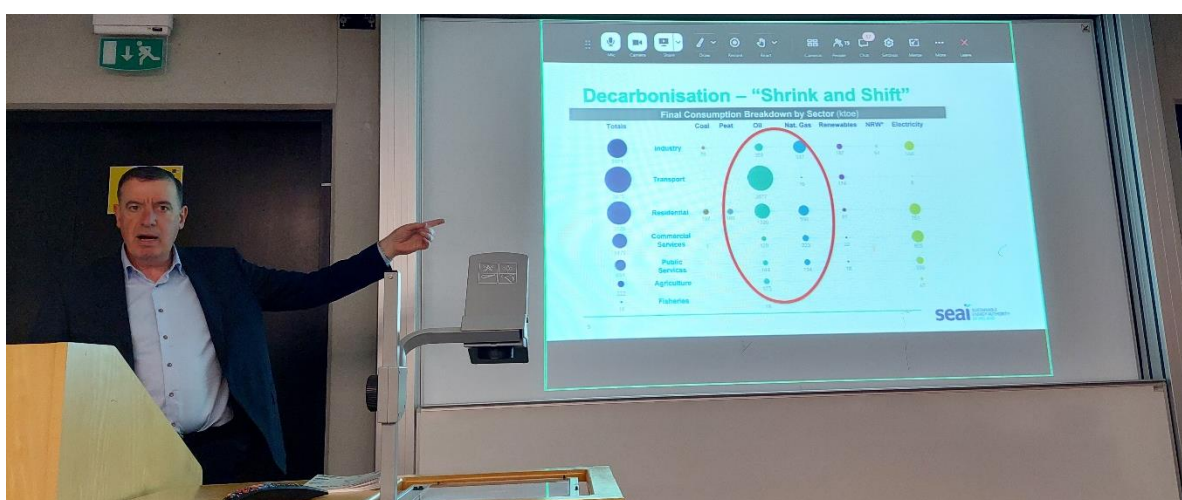


Figure 26. Mr Declan Meally. Director of Business, Public Sector and Transport at Sustainable Energy Authority of Ireland (SEAI)



Figure 27. Panelist Q&A Session with online chat and voice participation of the audience



6 Conclusion

Overall, the experience gained from organizing the 3rd Workshop on Efficient Building Operation was overall quite positive. IMP researchers travelling to Ireland had an opportunity to feel a somewhat distant reality and to have a hands-on experience on how NUIG is organised both operationally and academically. The workshop activities were also of great benefit to NUIG and AIT students and senior researchers. Ideas were exchanged during the three days of interaction and concrete actions were agreed among partners regarding future plans on:

- Physical exchange and stays of IMP, AIT and NUIG researchers;
- Participation in joint conference events and joint publications;
- Bringing the PhD creativity workshop to IMP in Serbia;
- Engagement with other research institutions in the West Balkan region;
- Improving the proposal writing strategy with specific actions on consortium formation and identification of research calls;
- Synergies between current research clusters in Serbia, Austria and Ireland with the Sinergy programmed events and activities.