



# SMAGRINET

POWERING SMART GRID  
EXPERTISE IN EUROPE



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EUTRON ELECTRICITY TECHNOLOGY



UNIVERSITÉ  
DE LORRAINE



**DELIVERABLE 6.7 First annual conference**

# **Report on the 1<sup>st</sup> SMAGRINET Conference**

## **“Energy Game Changers – Understanding the Value of Energy Transition”**

**DELIVERABLE TYPE**

Report

**MONTH AND DATE OF DELIVERY**

November 27, 2020

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CIVITTA





**DISSEMINATION LEVEL**

Public

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**PROGRAMME**

H2020

**CONTRACT NUMBER**

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April 2019





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## Peer Review

Name	Organisation
Karl Kull	Tallinn University of Technology

## Revision History

Version	Date	Reviewer	Modifications
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## Executive summary

SMAGRINET annual conferences are main events of the project acting as large-scale information and awareness-raising events, where the main findings of the project are shared with a large multidisciplinary audience.

The present document provides data and insights stemming from the 1<sup>st</sup> SMAGRINET Conference “Energy Game Changers – Understanding the Value of Energy Transition”, held on the 19<sup>th</sup> of November 2020, live streaming from Pronto Invention Factory.

Due to COVID-19 outbreak across Europe Civitta was not able to hold the 1<sup>st</sup> SMAGRINET conference as a physical event in April 2020 as planned. Due the continuing health crises Civitta and the coordinator of the project Tallinn University of Technology decided to organise the conference as an online event with professional moderator, video team and broadcasting service.

CIVITTA was responsible for the organisation of the conferences and managing the contributions from all partners during the preparatory phase (elaborating the content, finding the speakers, inviting participants) and during conference implementation (managing the speakers, participants etc.).

The **focus** remained the same as initially planned - **bringing together academia and industry to power smart grid expertise in Europe and fully understand the value in energy transition.**

**TARGET AUDIENCE** for the 1<sup>st</sup> Annual Conference was mostly:

- University representatives teaching on the topics of Smart Grid (AI, Economic Operations, Societal Challenges in Energy Sector, and Connection Planning) that wish to take up the above-mentioned module in their academic institution.
- Students interested in learning more about the topics.
- Current workforce (electrical engineers) interested in learning more Artificial Intelligence/economic challenges and planning in the Smart Grid.

*Table 1. Summary of SMAGRINET 1st Annual Conference*

#	Title	Date held	Speakers	Registrations / Participants
1	Energy Game Changers – Understanding the Value of Energy Transition	19/11/2020	<b>Hando Sutter</b> , Eesti Energia/Enefit <b>Dan Podjed</b> , University of Ljubljana <b>Antonella Battaglini</b> , Renewable Grid Initiative <b>Seddik Bacha</b> , SuperGrid Institute <b>Fabrice Lemoine</b> , University of Lorraine Excellence “Energies of the future”	Registrations: 122 registered participants  Actual number of participants: 95 participants at the Worksup platform 508 views during Facebook live 1311 people reached in Facebook



			<b>Kai Strunz</b> , TU Berlin <b>Karl Kull</b> , Tallinn University of Technology <b>Saulius Gudzius</b> , Kaunas Technological University	
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The recording of the Conference is available under the following link:  
<https://www.facebook.com/smagrinet/videos/734689730477860>

## 1. Agenda of the Conference

### AGENDA\*

9:00	<b>Opening of the Conference</b>	Welcome words Tallinn University of Technology
9:20	<b>Industry view</b>  Digitalization and decarbonisation of the economy. Challenges from practice.	<b>Hando Sutter</b> , CEO of Eesti Energia/Enefit, Estonia Board Member of Eurelectric
10:00	<b>Society view</b>  Engaging society with a human-centric approach to the challenges in the energy sector.	<b>Dan Podjed</b> , Ph.D. Founder and Advisor at EASA Applied Anthropology Network, Research Fellow at the Research Centre of the Slovenian Academy of Sciences and Arts, and Institute for Innovation and Development of University of Ljubljana

10:45	<b>Exploring the sustainable opportunities in the energy shift</b>	<b>Antonella Battaglini</b> , CEO of Renewables Grid Initiative, member of the European Commission's expert group on electricity interconnection targets
11:15	<b>View to the future</b> HVDC as a mean for large scale renewable energies integration	<b>Prof. Seddik Bacha</b> , Program Scientific Director of the SuperGrid Institute
11:45 -12:00	<b>Break</b>	
12:00	<b>Panel discussion</b> on industry-academy collaboration and the need for powering expertise in the energy sector	<b>Prof. Fabrice Lemoine</b> , University of Lorraine Excellence "Energies of the future"; <b>Prof. Dr.-Ing. Kai Strunz</b> , TU Berlin, <b>Karl Kull</b> , Tallinn University of Technology; <b>Prof. Saulius Gudzius</b> from Kaunas Technological University.
13:30	<b>Closing remarks</b>	

\*The organizer reserves the right to make changes to the schedule

## 2. Conference organisation and participants statistics

The main organiser of the conference was Civitta and all SMAGRINET partners: Tallinn University of Technology, Technical University of Berlin, Dresden University of Technology, Kaunas University of Technology, University of Lorraine and University of Ljubljana, LOBA and the Union of the Estonian Electricity Industry contributed to the organisation of the conference.

Energy Game Changers Online conference that took place via Worksup platform that was the main gateway for the participants, speakers were connected via Zoom. The conference was broadcasted with professional technical company supporting the event and was streamed from Tallinn, Estonia, Pronto Invention Factory.

All participants and 7 speakers out of 1 attended online. At the venue in Tallinn there were present:

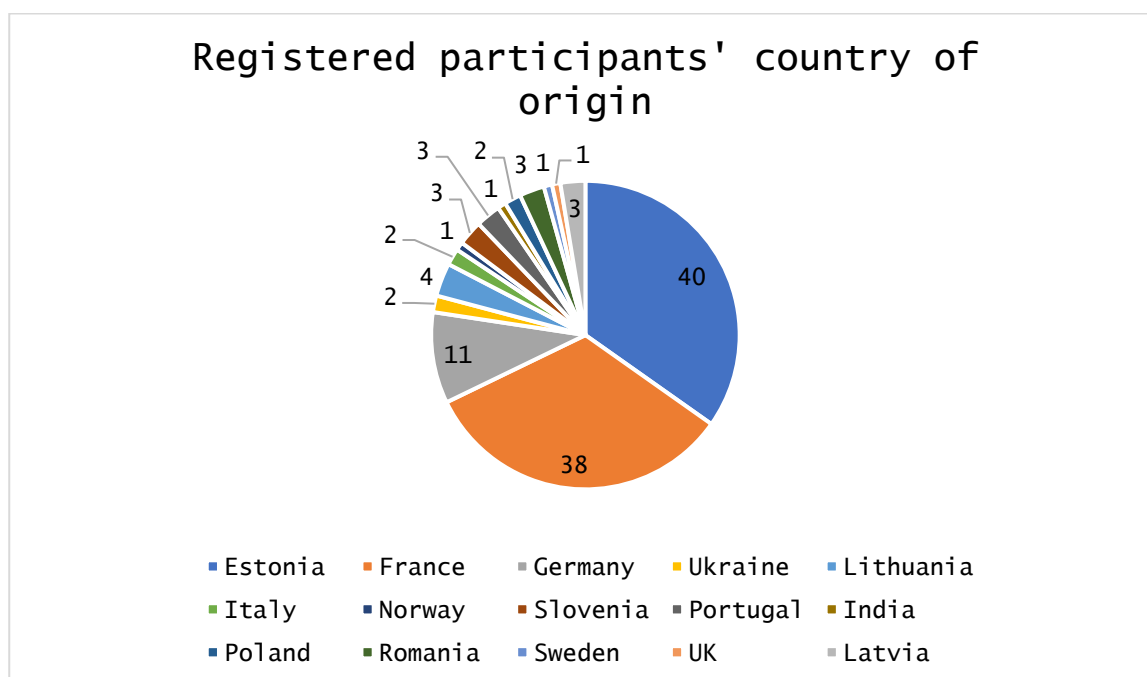
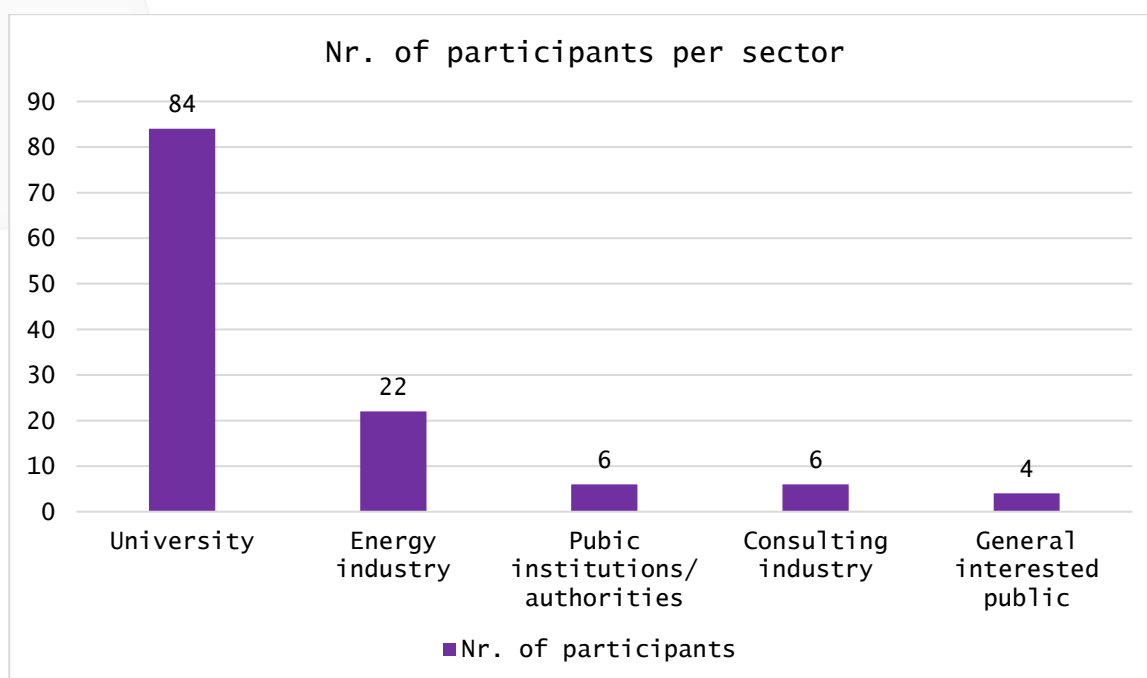
- Karl Kull, coordinator of the SMAGRINET project from Tallinn University of Technology
- Anneli Roose, Senior Consultant of Civitta Estonia, main organiser of the conference
- Kristin Parts, moderator of the conference



- Technical support team (4 people).

In total **122 participants** registered to the conference. 69% of participants came from universities or academic institutions and 18% were representatives of the energy industry. The rest of the participants were either general interested public or public sector.

The geographical coverage of SMAGRINET 1<sup>st</sup> Annual Online Conference reached **15 countries**. The most prevalent countries were Estonia, France and Germany.



At the day of the conference 95 people watched the conference broadcast at Worksup platform. The conference was additionally disseminated via Facebook

live by Tallinn University of Technology, Civitta and SMAGRINET project. In Facebook the conference live received 508 views and 1311 people were reached. KPI in the DoA was 50 participants for the 1<sup>st</sup> conference which means that due the online broadcast the KPI was outnumbered.

### 3. Content and speakers of the Conference

The Conference offered a 180 degree to the SMAGRINET project by showing the industrial and societal view on energy sector and its challenges. Additionally, emphasizing cross-cutting priorities such as Sustainability and Future perspectives.

#### Aim of the conference was:

- To bring together industry and academia to discuss about the energy transition and smart grid implementation;
- To discuss about the role of the industry, academia and society in the energy transition, smart grid implementation and related workforce challenges;
- To lead the audience from the industry view to the societal aspects of the energy transition and sustainability of the energy shift to its future perspectives related to the HVDC.
- To introduce the best practices of industry-academia collaboration in tackling the shortage of skilled workforce and upskilling researchers and engineers to ensure energy transition.

The event consisted of four main speakers presenting the Conference's four topics (Industry view, Societal view, Sustainability and View to the Future, followed up by a panel discussion (Industry-academy collaboration) formed of the main speakers and four more guests. During the presentations the participants of the conference were also able to send their questions to the speakers.

#### Industry view

**Title of the presentation:** "Digitalization and decarbonisation of the economy. Challenges from practice"

**Speaker: Hando Sutter**, CEO of Eesti Energia/Enefit since 2014, Estonia, board member of Eurelectric. Prior to this he was the regional manager of Nord Pool Spot power exchange in the Baltics and Russia. He has also previously worked in the management teams of regional companies such as ESS Group (renamed to G4S Estonia), Tolaram Investments and Olympic Entertainment Group. He is also a Chairman of the Management Board in the Union of Electricity Industry of Estonia.



**Key question:** What are the greatest challenges for the industry related to the decarbonization of the economy and digitalization of the electricity grid?

#### Discussion points:

- Decarbonisation of the economy and digitalization of the electricity grid;

- Industry view seen from the experience of Enefit and companies in Europe at large;
- Need for employees capable of working with smart grid energy technology and guaranteeing the smooth transition of energy system in Europe;
- Is there mismatch of skills and labour market needs and how to educate workforce who is ready to cope with the energy transition challenges; to adjust with the transformations in the future.
- Flow of workforce between educational institutions and the industry – practical experience.

## Society view

**Title of the presentation:** “Engaging society with a human-centric approach to the challenges in the energy sector”

**Dan Podjed**, PhD, is an applied anthropologist from Slovenia, devoted to developing people-friendly and environmentally responsible services, products and solutions. He is a Research Fellow at the Research Centre of the Slovenian Academy of Sciences and Arts, a Researcher at the Institute for Innovation and Development of the University of Ljubljana, and an Assistant Professor for Cultural and Social Anthropology at the University of Ljubljana’s Faculty of Arts. He has led several applied and interdisciplinary projects (Drive-Green, Invisible Life of Waste, etc.) and has been involved in the development of several ethnography-based IT solutions (MOBISTYLE, TripleA-reno, etc.). He founded the EASA Applied Anthropology Network (served as network’s convenor from 2010 to 2018), and co-founded the “Why the World Needs Anthropologists” international symposium, annually organised since 2013. He is the author of many articles and monographs on sustainable lifestyle, human-technology interaction, volunteering, and altruism.



**Key question:** Why and how should the society be engaged to the energy shift?

### Discussion points:

- **Societal acceptance of the smart grid technology** - Besides the technological aspects it needs to be considered that one of the major challenges is to introduce the need for the smart grid technology, uptake of renewable energy sources and related higher costs, opportunities, but also possible threats like cyber-security to the society;
- **Effective communication with society** - An effective communication between the electrical engineers and individuals (society) is crucial when it comes to implementing the smart grid technology and building out the new generation of electrical grids. Considering the societal needs and the acceptance of the new technology in society requires a change of mindset.
- Raising awareness of wider public who is the end-user of the services the smart grid technology provides; this demands a full set of “soft” skills from the next generation of engineers to be able understand the societal and economic aspects and to communicate them.

## Sustainability

**Title of the presentation:** “Exploring the sustainable opportunities in the energy shift”

**Antonella Battaglini** is Chief Executive Officer of the Renewables Grid Initiative. Antonella is currently a member of the European Commission’s expert group on electricity interconnection targets and has previously been an expert member of the World Economic Forum (WEF)’s 2014–2016 Global Agenda Council on the Future of Electricity. In 2015 she was named one of Tällberg’s 2015 five Global Leaders for her commitment to a sustainable energy future and combating climate change. She is also a senior scientist at the Potsdam Institute for Climate Impact Research (PIK) where she leads the SuperSmart Grid (SSG) process, a concept she developed together with her team to reconcile different approaches to the system integration of renewables. By adopting a holistic approach, the SSG addresses the challenges of the transformation of the power sector considering generation, transmission and demand management. In this concept, both centralised and decentralised options play an undisputed role.



**Key question:** how can sustainability ensure growth and security of the electricity grid?

**Discussion points:**

- What is sustainability of the electricity grid and why is it important;
- To what extent is the concept of sustainability implemented by the industry;
- Is the concept of sustainable grid incorporated to the university programmes to teach the future engineers;
- What should be the key steps of industry-academia-society collaboration to ensure the sustainability of the electricity grid.

**View to the future**

**Title of the presentation:** “HVDC as a mean for large scale renewable energies integration”

**Prof Seddik Bacha**, Program Scientific Director of the SuperGrid Institute After 8 year of teaching activity at the Ecole Nationale Polytechnique and Abderahmane Mira University (Bejaia-Bgayet ,Algeria), he joined the Grenoble Electrical Engineering Laboratory in 1990. He is currently full professor within Grenoble Alpes University in charge of Electric Engineering, power Electronics, mathematics, and control lectures for various undergraduate courses. His main research interests are modelling, control and simulation of energy systems and Supergrids/microgrids. Currently he is Program Scientific Director within the SuperGrid Institute in Lyon and President of its Scientific Council.



**Key question:** How to solve the challenges related to the large-scale integration of renewable electricity generation and HVDC grids?

**Discussion points:**

- The large-scale integration of renewable electricity generation and HVDC grids pose structural, economic and management challenges. Among the major challenges, one can note the grid integration and the routing of this energy from the production centers to the consumption poles and the loss of grid inertia due to power electronic interfaces.
- To show how the HVDC transmission grid could solve or at minima mitigate these issues. In this context some challenges or locks will be highlighted and discussed through some examples.

**Industry-academy collaboration**

After the 4 presentations a panel discussion about the need for powering expertise in the energy sector was held.

**Speakers:**

**Kai Strunz**, professor of the Department of Sustainable Electric Networks and Sources of Energy, Technical University of Berlin, guest Professor of the Chinese Academy of Science, Beijing and the Secretary of the IEEE Power and Energy Society (PES) Committee on Energy Development and Power Generation.

**Fabrice Lemoine**, Professor at University of Lorraine, Director of the Theoretical and Applied Energetics and Mechanics Laboratory and leader of the “Energies for the Future Challenge” excellence programme.

**Saulius Gudžius**, Professor and Head of Electric Power Systems Department at Kaunas University of Technology and an Operational expert of MTTP at UAB Modesa, and member of several expert groups.

**Karl Kull**, Tallinn University of Technology, School of Engineering, Department of Electrical Power Engineering and Mechatronics, the coordinator of SMAGRINET project.

**Key question for the panel was:** What are the best practices of industry-academia collaboration in tackling the shortage of skilled workforce and upskilling researchers and engineers to ensure energy transition.

One of the takeaways was that universities can get higher interest from students if they work on relevant and industry-driven topics. Building laboratory for teaching is also essential as it ensures higher quality of the teaching. Universities should be active as they can advise policy makers in the energy transition process. Universities can not stay apart from this process as decision makers are dependent on the expert inputs. There is need to demonstrate the experience of the universities and make it evident what is the profit of the energy transition to the industry and that the use of new technology has clear advantages. It is equally important to educate people in the industry, consumer side and decision makers in an easily understandable and acceptable way as the uptake of new technologies for the benefit of energy transition should not be seen as a burden that creates problems, but rather something that offers solutions.



## 4. Photo coverage

Below we provide some photos that capture some important moments from the 1<sup>st</sup> SMAGRINET Annual Online Conference.

### 4.1. Photos from the Conference



*Figure 1 The coordinator of SMAGRINET (Karl Kull) kicking-off the online Conference*



*Figure 2 Live streaming of one of the speakers during the online Conference*

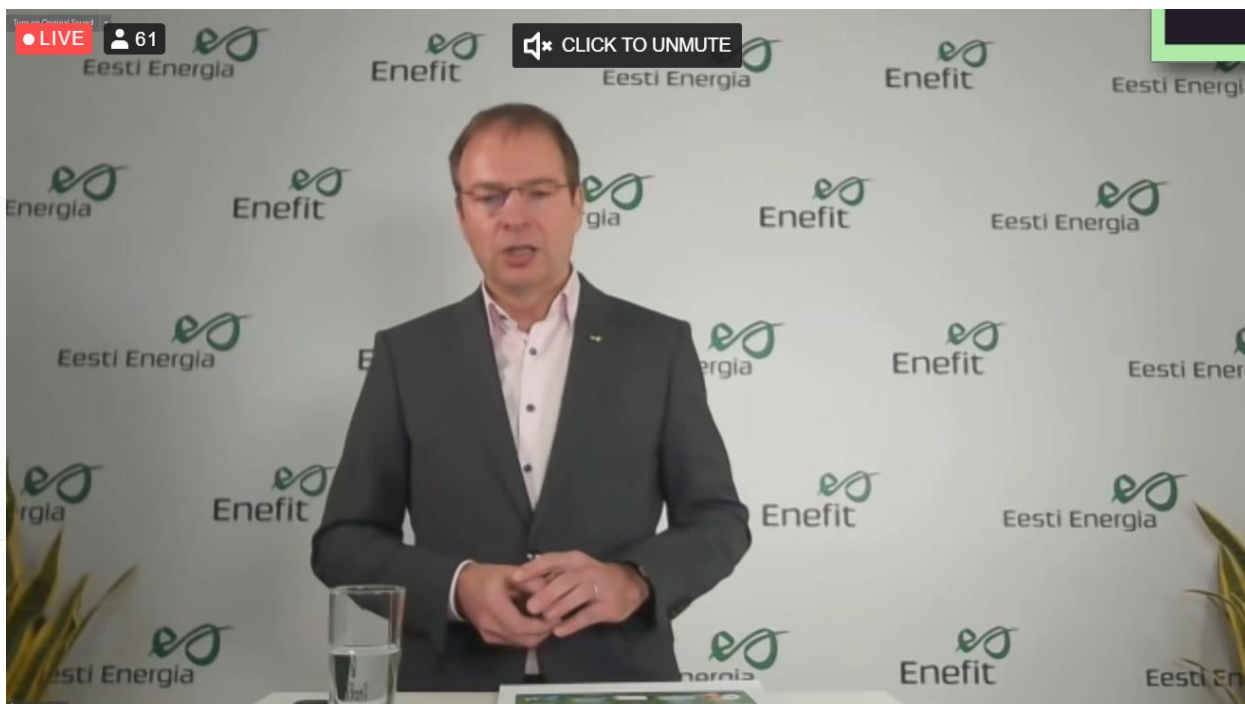


Figure 2 The coordinator of the project Karl Kull and the moderator of the conference Kristin Parts during the panel discussion

## 4.2. Screenshots from the Conference broadcast (participants view)



Figure 3 Promotional banner for social media



### 5 recommendations for the development of smart energy solutions for the post-Covid age

1. **Involve people in the development process** (4 steps of people-centred development).
2. **Combine digital and analog solutions by bringing together** the quantitative and qualitative approaches (Big Data + Thick Data).
3. **Discover and consider the new habits** of Homo covidensis.
4. **Support the development of „calm technologies“** and do not overburden people.
5. **Forget about users, customers and clients** – think instead about people and planet.





**What are the conditions to address urgent challenges?**

Understand the world & embrace the future

Solar is now 'cheapest electricity in history', confirms IEA

Renewables Grid Initiative

Source: Alexa Capital

Energy Game Changers - SMAGRINET  
Powered By workup

ONLINE BROADCAST  
19 NOVEMBER 2020

LIVE STREAM/ ALL TIMES ARE CET CLOSE

19 NOV

09:00 - 09:20  
Tallinn University of Technology  
Opening of the Conference  
Details

09:20 - 10:00  
INDUSTRY VIEW

**Short break 01:40**

ONLINE BROADCAST  
19 NOVEMBER 2020

**ENERGY GAME CHANGERS 2020**

BRINGING TOGETHER ACADEMY AND INDUSTRY TO POWER 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

12:00 - 13:30

Prof. FABRICE LEMOINE  
University of Lorraine

Prof. Dr.-Ing. KAI STRUNZ  
Technical University of Berlin

Prof. SAULIUS GUDZIUS  
Kaunas University of Technology

KARL KULL  
Tallinn University of Technology

**PANEL DISCUSSION**  
Industry-academia collaboration and the need for powering expertise in the energy sector  
Details Q&A  
★★★★★

12:00 - 13:30

Prof. FABRICE LEMOINE  
University of Lorraine

Prof. Dr.-Ing. KAI STRUNZ  
Technical University of Berlin

Prof. SAULIUS GUDZIUS  
Kaunas University of Technology

KARL KULL  
Tallinn University of Technology

**PANEL DISCUSSION**  
Industry-academia collaboration and the need for powering expertise in the energy sector  
Details Q&A  
★★★★★

## 5. Annex 1

### 5.1. List of registered participants

Email	Organization	Type of the organization	Country
	SolarCar Estonia MTÄœ	Industry	Estonia
	Estonian Hydrogen Association	Industry	Estonia
	Estonian Electronics Industries Association	Industry	Estonia
	ENSGSI	University	France
	University of Tartu	University	Estonia
	TalTech (Tallinn University of Technology)	University	Estonia
	UniversitÄ© de Lorraine	University	France
	ENSAM-BÄctInnov	University	France
	ENSGSI	University	France
	Technische UniversitÄt Dresden	University	Germany
	Tallinna TehnikaÄlikool	University	Estonia
	InnoEnergy	Professional formation	France
	Technische UniversitÄt Dresden	University	Germany
	Civitta	Innovation Consulting Management	Estonia
	Kaunas University of Technology	University	Lithuania
	UniversitÄ© de Lorraine	University	France
	Environmental Projects Management Agency	Public Authority	Lithuania
	Centrale Lille Institut - L2EP	University	France
	Sunergy	Industry	Norway
	ENSGSI	University	France
	GLOBAZ SA	Marketing consultancy	Portugal
	TU Berlin	University	Germany
	UniversitÄ© de Lorraine, GREEN, F-54000 Nancy, France	University	France
	ENSGSI	University	France
	Ministry of Economics	Public Authority	Latvia
	Enefit	Industry	Latvia
	UniversitÄ© de Lorraine	University	France
	Napoli, UniversitÄ Federico II	University	Italy
	Civitta LT	Innovation Consulting Management	Lithuania
	Ubik Solutions OÄœ	Industry	Estonia
	UM	University	Slovenia
	UniversitÄ© de Lorraine	University	France
	UAB Praugas	Industry	Lithuania
	ENSGSI	University	France
	Home	General interested public	-
	Elektrilevi	Industry	Estonia
	ENSGSI de Nancy	University	France
	universite lyon1	University	France
	ENSGSI	University	France
	TalTech	University	Estonia
	TUB	University	Germany
	Tallinn University of Technology	University	Estonia
	TalTech (student)	University	Estonia
	Ministry of Economics of Latvia	Public Authority	Latvia
	Eesti Energia	Industry	Estonia
	Tallinn University of Technology	University	Estonia
	Taltech	University	Estonia
	Taltech	University	Estonia



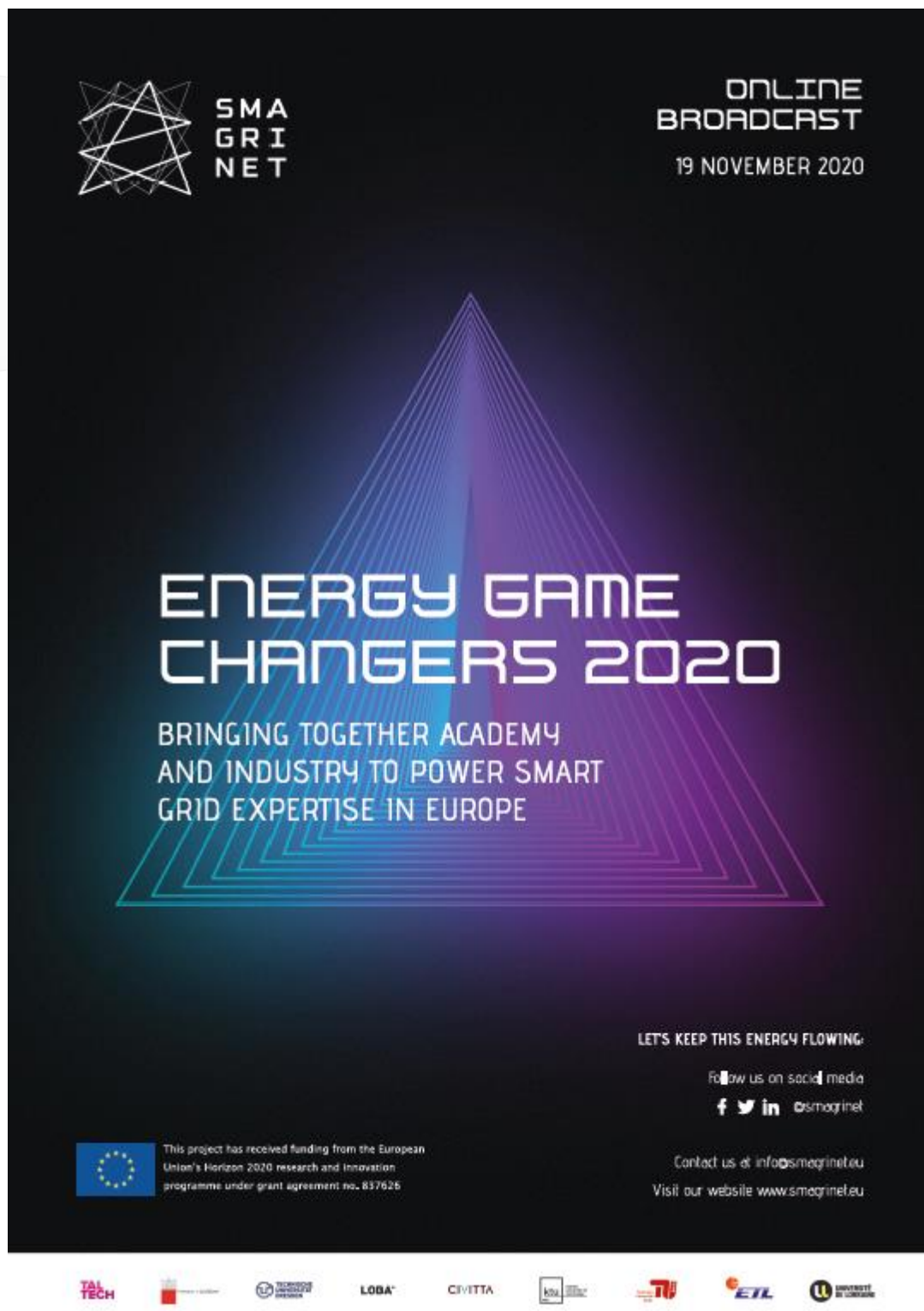
entrepreneur	General interested public	-
Elektrilevi	Industry	Estonia
University of Ljubljana, Faculty of Electrical Engineering	University	Slovenia
GREEN - Universit�� de Lorraine	University	France
Universit�� de Lorraine	University	France
National Audit Office	Public Authority	Estonia
University of Exeter	University	United Kingdom
Universit�� de Lorraine	University	France
Universit�� de Lorraine	University	France
Tallinn University of Technology	University	Estonia
Taltech	University	Estonia
GREEN Universit�� de Lorraine	University	France
TU Dresden	University	Germany
ENSGSI	University	France
UVT	University	Romania
Universit�� de Lorraine	University	France
Ensgsi	University	France
Civitta	Innovation Consulting Management	Estonia
TalTech	University	Estonia
West University of Timisoara	University	Romania
Silesian University of Technology	University	Poland
Universit�� de Lorraine	University	France
TalTech	University	Estonia
FEUP - University of Porto	University	Portugal
LOBA	Marketing consultancy	Portugal
Schneider Electric	Industry	Sweden
West University of Timi��oara	University	Romania
Silesian University of Technology	University	Poland
TalTech	University	Estonia
PAKRI Teadus- ja T���stuspark O��	Industry	Estonia
ENSGSI	University	France
University of Ljubljana, Faculty of Electrical Engineering	University	Slovenia
Elektrilevi	Industry	Estonia
TalTech	University	Estonia
TU Dresden	University	Germany
INEA	Executive Agency of EC	-
Universit�� de Lorraine IUVTT	University	France
ENSAM	University	France
ENSAM	University	France
TU Dresden, Fakult��t Architektur, LABORATORY OF KNOWLEDGE ARCHITECTURE	University	Germany
TU Dresden	University	Germany
TT��	Industry	Estonia
Universit�� de Lorraine	University	France
Universit�� de Lorraine	University	France
Universit�� de Lorraine	University	France
WEC Estonia	Public Authority	Estonia
Universit�� de Lorraine	University	France
EETEL-Ekspert, "Elektriala"	Industry	Estonia
Universit�� de Lorraine	University	France
Tal Tech	University	Estonia
universit�� de Lorraine	University	France



	Tallinn University of Technology	University	Estonia
	Civitta	Consulting	Estonia
	Université de Lorraine	University	France
	Sunergy	Industry	France
	LCU	General interested public	-
	TU Berlin	University	Germany
	Université de Lorraine	University	France
	Elektrilevi	Industry	Estonia
	Taltech	University	Estonia
	RIA	Industry	Estonia
	Department of Anthropology, University of Delhi	University	India
	Imatra Elekter AS	Industry	Estonia
	ETL	Industry	Estonia
	FE Ljubljana	University	Slovenia
	TalTech	University	Estonia
	TU Dresden	University	Germany
	Université de Lorraine	University	France
	Tallinn University of Technology	University	Estonia
	Freelance	General interested public	-
	Institute of Mathematical Machines and Systems Problems of the Ukraine National Academy of Science	University	Ukraine
	Logical Soft	Industry	Italy
	Ukrainian Center for Social Data	Industry	Ukraine
	TU Berlin	University	Germany



## 5.2. Conference poster



The poster features a dark background with a large, stylized blue and purple triangle in the center. The text is white and arranged in a clean, modern font. At the top left is the SMAGRINET logo. At the top right, it says 'ONLINE BROADCAST' and '19 NOVEMBER 2020'. The main title 'ENERGY GAME CHANGERS 2020' is prominently displayed in the center. Below it, a subtitle reads 'BRINGING TOGETHER ACADEMY AND INDUSTRY TO POWER SMART GRID EXPERTISE IN EUROPE'. At the bottom, there is a section for social media and contact information, including the European Union logo and a funding notice.

**SMAGRINET**

ONLINE  
BROADCAST  
19 NOVEMBER 2020

# ENERGY GAME CHANGERS 2020






BRINGING TOGETHER ACADEMY  
AND INDUSTRY TO POWER SMART  
GRID EXPERTISE IN EUROPE

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