



ETIP SNET

**European Technology and Innovation Platform
Smart Networks for Energy Transition**

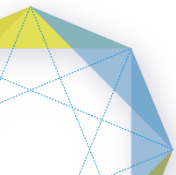
11th ETIP SNET Regional Workshop

Parallel Session 1 – Electromobility integration in
the energy systems



Electromobility integration in the energy systems

WELCOME AND INTRODUCTION	- Aris Dimeas – ICCS - Shenja Ruthenberg – CLERENS
99 SECOND PITCHES	- Dominique Bertin – Enedis (INCIT EV project) - Sanna Öörni – VTT (Smart Otaniemi project) - Thomas Zeinzinger – lab10 collective eG (CLUE Project) - Albedo Bettini – University of Applied Sciences and Arts of Southern Switzerland (EVA project)
PANEL DISCUSSION	- Rolf Riemenschneider – EC DG CNECT - Enrique Morgades Prat – CIRCE (ETIP SNET WG2 Chair) - Antonio Iliceto – ENTSO-E (ETIP SNET WG1 Co-Chair) - Dominique Bertin – Enedis & Xavier Serrier – Groupe Renault (INCIT EV project) - Sanna Öörni – VTT, Paakkinen Marko – VTT (Smart Otaniemi project) - Thomas Zeinzinger – lab10 collective eG (CLUE Project) - Albedo Bettini – University of Applied Sciences and Arts of Southern Switzerland (EVA project)



Welcome

Panellists

Rolf Riemenschneider – EC DG CNECT

Enrique Morgades Prat, CIRCE (ETIP SNET WG 2 Chair)

Antonio Iliceto, ENTSO-E (ETIP SNET WG1 Co-Chair)

INCIT EV – **Dominique Bertin** – Enedis, **Xavier Serrier** – Groupe Renault,
Joseph Beretta – Avere France

SMART OTANIEMI – **Sanna Öörni**, **Marko Paakkinen** – VTT

CLUE – **Thomas Zeinzinger** – lab10 collective eG

EVA – **Albedo Bettini** – University of Applied Sciences and Arts of Southern
Switzerland

Moderators

Aris Dimeas - Institute of Communication and Computer Systems (ICCS)
and

Shenja Ruthenberg – CLERENS

Join the conversation on Slido



www.slido.com

#635722

→ Parallel Session 1
'Electromobility
integration in
the energy systems'

SLIDO questions:

1. In which country is your company located?
[no abbreviations, full country Name in English]
2. Which of the following research areas represent you the most?
 - 1.Consumer, prosumer and citizen energy community
 - 2.System economics
 - 3.Digitalisation ...

General organisation rules

- Switch off your microphone and Camera
- Only Panellists and Moderators will have Camera and Microsoft on

➤ Questions & Answer session

- Please write your questions in the chat on TEAMS



The entire workshop (including the parallel sessions)
will be recorded !

➤ Accessing SLIDO links

- They will be posted in the chat before each session change!

99 Second pitches pitches

INCIT EV – Dominique Bertin – Enedis

SMART OTANIEMI – Sanna Öörni – VTT

CLUE – Thomas Zeinzinger – lab10 collective eG

EVA – Albedo Bettini – University of Applied Sciences
and Arts of Southern Switzerland

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21 April 2021

This project has received
funding from the European
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and innovation programme
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875683.



www.incit-ev.eu

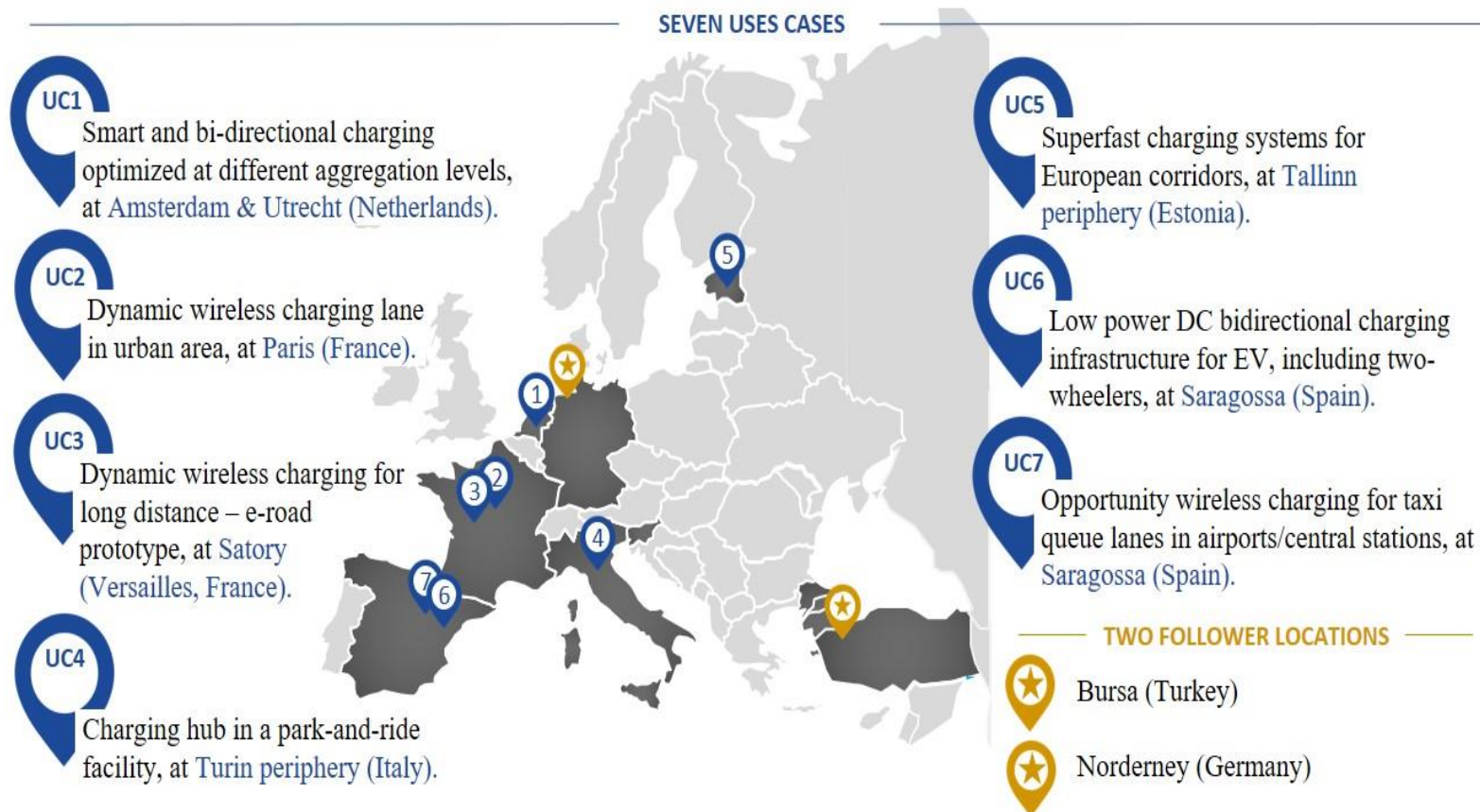
Dominique BERTIN

enedis

Head of Eco Transition and Innovation
Dominique.bertin@enedis.fr



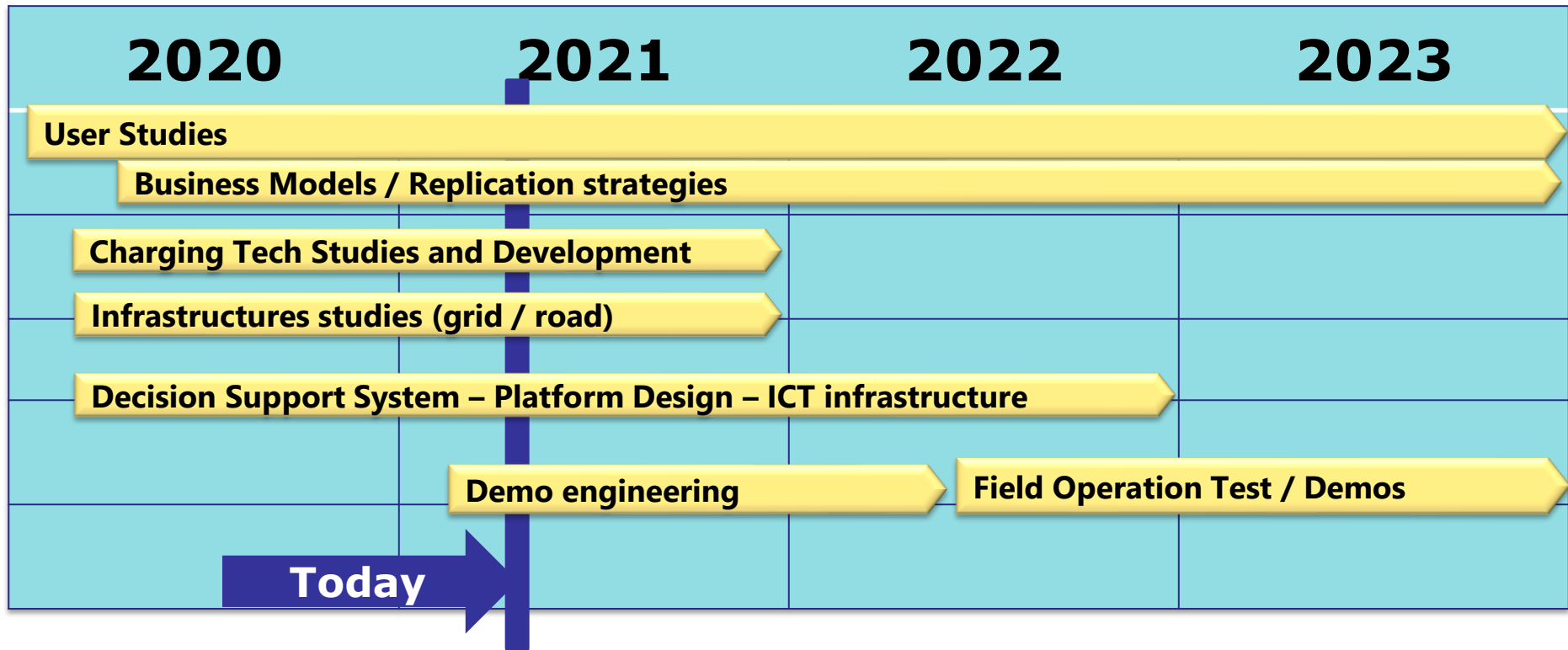
INCIT-EV aims to demonstrate, at five demonstration environments including TENT-T corridors, an innovative set of **charging infrastructures, technologies and its associated business models**, ready to improve the **EV users experience** with the ultimate goal of **fostering the EV market share** in the EU.



- ✓ **8 countries : Estonia, France, Germany, Italy, The Netherlands, Slovenia, Spain, Turkey**
- ✓ **A wide and diversified consortium covering the scope of stakeholders**
 - **Vehicles Manufacturers**
 - **Energy providers : DSOs & TSOs**
 - **Civil Engineering / ICT groups**
 - **Technologies providers**
 - **Municipalities / Regions**
 - **Users association**
 - **Universities / Research institutes**
 - **SMEs...**

33 Members:





SMART OTANIEMI

OTANIEMI – KEILANIEMI INNOVATION HOT SPOT

- 2 000 companies, 100 start-ups/year
- Global company headquarters
- 25 R&D organizations (VTT, CSC, GTK)
- 5 000 researchers
- Aalto university ranked #9 in the world (QS2021 top 50 under 50)
- 12 000 students
- 500 professors
- Thriving entrepreneurial community with brands like SLUSH and Design Factory
- Major urban development object of Espoo City

GLOBALLY LEADING DEVELOPMENT ENVIRONMENT FOR SMART CITY SOLUTIONS



Smart Otaniemi focus areas:



ENERGY



MOBILITY



DATA &
CONNECTIVITY



CIRCULAR
ECONOMY



URBAN
PLANNING



ZEM
HUB

BY SMART
OTANIEMI

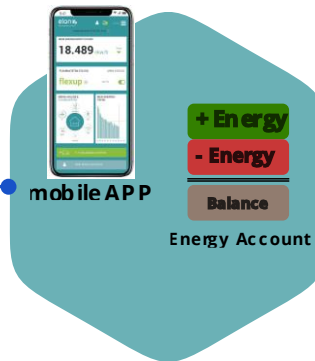


Use Case: EV Charging with regional energy token

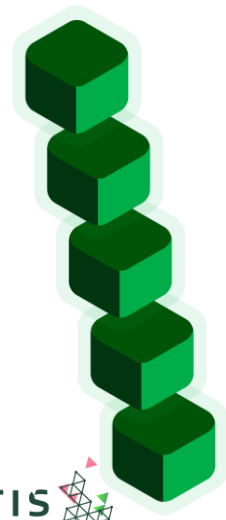
Households produces energy and generates flexibilities



An energy token „e-kWh“ is minted on the blockchain based on Energy Account balance



Balance of production and consumption is tracked in the Energy Account

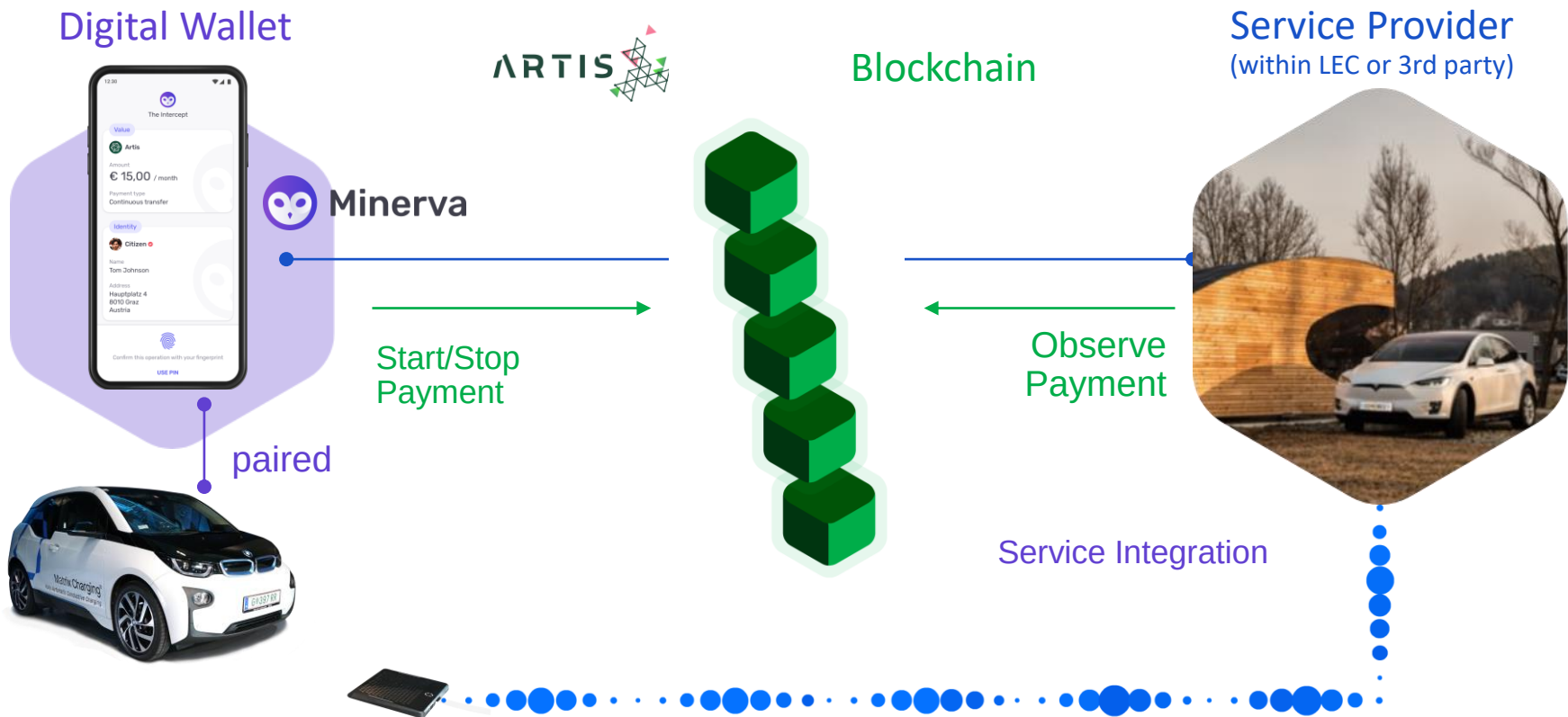


ARTIS
Blockchain





Use Case: EV Charging with regional energy token

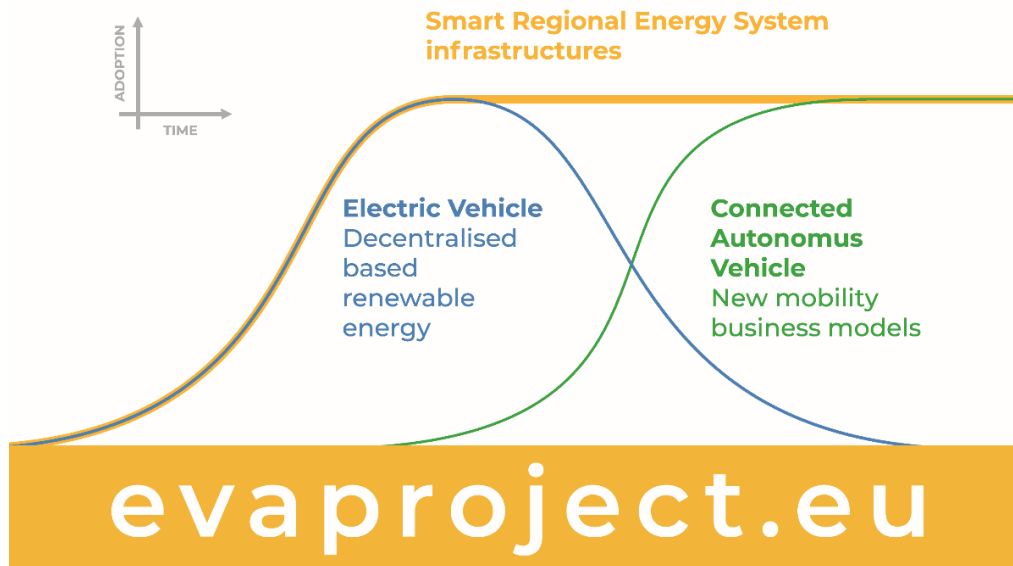




EVA project



Optimization of regional infrastructures for the transition to Electric and Connected Autonomous Vehicles



[linkedin.com/groups/8843374](https://www.linkedin.com/groups/8843374)

Funding program



Budget

907'498 Euro

Start September 2019 **End** August 2022

Research partners

Switzerland
University of Applied Sciences and Arts
of Southern Switzerland

SUPSI

France



Italy
eurac
research

Austria





EVA project



1) Smart management of charging vs. distribution network investments

- The project aims at investigating how autonomous driving will impact distribution grids (including deferring network investments) and design smart charging algorithms accounting for the additional degree of freedom coming from autonomous driving ^[1].
- Interoperability will be investigated from the standpoint of the additional requirements for charging autonomous EVs compared to non-autonomous ones.

3) Fast charging and V2G and other key technologies

- We will address the optimal/optimized deployment of the charging infrastructure for autonomous EVs, and compare it to the case of non-autonomous EVs.
- As chargers, we will consider both fast and conventional chargers.
- New converter designs? No, however we will address optimized coordination policies for connection and disconnection of EVs to increase chargers' utilization factors accounting for grid constraints.

^[1] Sossan, F., Mukherjee, B., & Hu, Z. (2020). Impact of the Charging Demand of Electric Vehicles on Distribution Grids: a Comparison Between Autonomous and Non-Autonomous Driving. In 15th International Conference on Ecological Vehicles and Renewable Energies (EVER). IEEE.



4) Consumer/customer perspective

What are your lessons learnt from demonstration projects related to drivers behaviour?

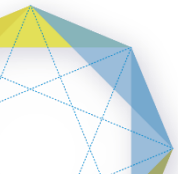
- Main travel flows occur within and to/from the major cities of the test sites. Bolzano (IT) and Lugano (CH)
- Leisure is the main trip purpose, but not the major challenge: they are disperse in time and space.
The most critical mobility issues are due to commuting trips, which are concentrated.

Which other incentives could be interesting?

- The regions in analysis (South Tyrol and Ticino) are experiencing an increase of their PEV fleet, but still represent a small portion of the passenger vehicle fleet (0.2% and 0.5 % respectively in 2019).
- South Tyrol: has incentivized EV through direct incentives, improving the charging infrastructure, offering test drives and tax reductions to the citizens and companies.
- Ticino cantonal has approved an incentive program for the purchase of full-electric vehicles, but still the price compared with their ICE equivalent model is higher. In Ticino the not binding Federal PEV market share objective for 2022 is 15%.

Panel Discussion

All Panellists



Panel questions

- **INCIT EV:** *What are the lessons learnt from your demonstration project related to driver's behaviour and the acceptance of incentives? Which other incentives could be interesting?*
- **CLUE:** *You are using digital currency and block chain technology to manage the charging stations. What are the benefits of this technology in the charging management?*
- **SMART OTANIEMI:** *Please explain the concept of Smart Hub?*
- **EVA:** *How will autonomous driving affect the charging policies (and the distribution grid)?*

SLIDO question: What are the main barriers in the deployment of Charging Stations in your country or city:

- Regulatory Issues
- Installation Cost
- Interoperability Issues
- Limited Number of EVs

Panel questions

- **INCIT EV:** Please give as an overview of advanced charging technologies used in your demo site. What are the benefits of these technologies?
- **CLUE:** You mentioned that you can easily create rewards for the drivers. Can you explain shortly how it works and how this functionality can be used (e.g. to manage congestion problems)?
- **EVA:** How can charging infrastructure evolve in the future?
- **SMART OTANIEMI:** How do you take into account in your EV management system the needs of the users, especially the drivers?

SLIDO question: What is the role of the DSO in the deployment of charging stations in your country/city:

- Active involvement in the deployment
- Support third parties to deploy their network of charging stations
- No involvement

Further perspectives

In your view what is currently missing to further advance the topic ?

Working groups



W61

Reliable, economic and efficient smart grid system



W62

Storage technologies and sector interfaces



W63

Flexible Generation



W64

Digitisation of the electricity system and Customer participation



W65

Innovation implementation in the business environment



NSCG

NATIONAL STAKEHOLDERS COORDINATION GROUP

If you have expertise are willing to contribute to ETIP SNET's vision please complete the [ETIP-SNET_WG_members_application_form](#) and send it to wg@etip-snet.eu

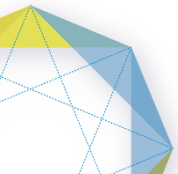
SLIDO question: Express in one word the main gap in your country R&I agenda related to Electromobility integration in the energy systems?



European
Commission

Panel questions

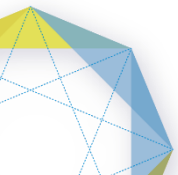
- **INCIT EV:** *How do you support Local Energy Communities in electromobility integration?*
- **CLUE:** *How easy is to integrate block chain technology with the charging stations?*
- **SMART OTANIEMI:** *What kind of flexibility services do you provide to the TSO?*
- **EVA:** *Can you list the technical challenges for autonomous driving?*



Results from SLIDO



Q&A session





**Thank for your participation
and attention!**

**Please attend the
joint session from 12:00-
13:00.**

