



INCIT-EV

The logo features the text 'INCIT-EV' in a bold, dark blue font. The word 'INCIT' is partially overlaid by a light blue, abstract shape resembling a speech bubble or a stylized arrow pointing right. Three yellow squares are positioned around the 'INCIT' part: one above the 'I', one above the 'C', and one below the 'T'. To the right of 'EV', there is a light blue silhouette of a car, and below it are three horizontal yellow bars of varying lengths, suggesting motion or a road.

D10.6 Citizens and tourism engagement

Date of document - 2024/07/19

D10.6:

Authors: Avere-France; CIRCE.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Technical References

Project Acronym	INCIT-EV
Project Title	Large demonstration of user centric urban and long-range charging solutions to boost an engaging deployment of electric vehicles in Europe
Project Coordinator	CIRCE
Project Duration	01/2020 – 06/2024

Deliverable No.	D10.7
Dissemination level ¹	PU
Work Package	WP10 – Communication and dissemination activities
Task	T 10.2 - Dissemination and public communication actions T10.3 - Interaction and exploitation of synergies with other projects and initiatives T10.4 - Public bodies, citizen and local stakeholders' engagement through promotion activities: Workshops and Showcases
Lead beneficiary	All Partners
Contributing beneficiaries	RSA,PSA, ENEDIS, AYZ, CIRCE, TRIA, IREN, PRIMA, MRA-E, PITP, EESTI, EVBOX, ATOS
Due date of deliverable	30/06/2024
Actual submission date	23/07/2024

¹ PU = Public

PP = Restricted to other programme participants (including the Commission Services)

RE = Restricted to a group specified by the consortium (including the Commission Services)

CO = Confidential, only for members of the consortium (including the Commission Services)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Document history		
V	Date	Beneficiary partner(s)
0.1	19/07/2024	AVERE First Version ready
1	23/07/2024	CIRCE. Contributions and Final Quality Review

DISCLAIMER OF WARRANTIES

This document has been prepared by INCIT-EV project partners as an account of work carried out within the framework of the EC-GA contract no 875683.

Neither Project Coordinator, nor any signatory party of INCIT-EV Project Consortium Agreement, nor any person acting on behalf of any of them:

- a. makes any warranty or representation whatsoever, express or implied,
 - i. with respect to the use of any information, apparatus, method, process, or similar item disclosed in this document, including merchantability and fitness for a particular purpose, or
 - ii. that such use does not infringe on or interfere with privately owned rights, including any party's intellectual property, or
 - iii. that this document is suitable to any particular user's circumstance; or
- b. assumes responsibility for any damages or other liability whatsoever (including any consequential damages, even if Project Coordinator or any representative of a signatory party of the INCIT-EV Project Consortium Agreement, has been advised of the possibility of such damages) resulting from your selection or use of this document or any information, apparatus, method, process, or similar item disclosed in this document.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Table of content

0	EXECUTIVE SUMMARY	6
1	ACCEPTANCE AND FEEDBACK OF CITIE'S STAKEHOLDERS	7
1.1	CITY OF ZARAGOZA	7
1.2	CITY OF AMSTERDAM	10
1.3	CITY OF TALLINN	13
1.4	CITY OF TURINO	15
1.5	CITY OF VERSAILLES SATORY	16
1.6	CITY OF PARIS	18
2	ACCEPTANCE AND FEEDBACK OF THE CITIZENS	21
2.1	WIRELESS CHARGING DEMONSTRATORS	21
2.2	SMART AND ULTRA-FAST CHARGING DEMONSTRATORS	22
2.3	BIDIRECTIONAL CHARGING DEMONSTRATORS (V2G)	22
3	CONCLUSION	23
	REFERENCES, FIGURES AND TABLES INDEX	24
	ANNEXES	25



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



WP10 Partners :

RSA	RENAULT SAS/Groupe Renault
CDP	Commune de PARIS
STELLANTIS,	STELLANTIS
ENEDIS,	ENEDIS
AYZ,	Ayuntamiento de Zaragoza
CIRCE,	Centro de Investigación de Recursos y Consumos Energéticos
TRIA,	INGENIERIA TECNICA DEL TRASNPORTE TRIA SA
IREN,	IREN SPA
PRIMA,	PRIMA ELECTRO SPA
MRA-E,	Province Noord-Holland
PITP,	PITPOINT.EV BV
EESTI,	Eesti Energia Aktsiaselts
EVBOX,	EV charged B.V.
ATOS	ATOS SPAIN SA
AVERE	ASSOCIATION EUROPEENNE DES VEHICULES ELECTRIQUES ROUTIERS-France (Avere-France)

Project Leader CIRCE

WP10 Leader AVERE



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



0 EXECUTIVE SUMMARY

This document is the deliverable “D10.6 Citizens and tourism engagement” of the INCIT-EV project.

This deliverable summarizes all the impressions, acceptance and feedback of the citizens and other local stakeholders, collected during the project activities of INCIT-EV. Especially during the showcases and the inauguration of the demonstrators. This report will show also the point of view of the cities’ stakeholders after the execution of the INCIT-EV project. As well as the future of the demonstrators.

The first part of this document presents the involvement of the municipalities in the INCIT-EV project. The future of the demonstrators after the end of the project and the first feedback from their operations is also discussed.

All the municipalities involved in the project have shown their interest in continuing the tests and/or operation of the various demonstrators. This is despite the problems encountered during the 54 months of the project (delay due to Covid, choice of the location of the demonstrators, withdrawal of some partners). In June 2024, all demonstrators are operational, which is a great achievement for the INCIT-EV project.

The second part presents the users' point of view on the technologies used based mainly on the results of WP2 & WP9. but also, on the exchanges with potential users during Webinars, the final event and the presentations of UC2 and UC3.

The solutions presented in the INCIT-EV project correspond well to the expectations of users:

Simplicity of use via inductive charging even if its development is rather identified for the future. Plug and charge represents the simplicity of payment of current infrastructures. Fast charging is a clearly identified request but at a reasonable price. Finally, smart charging and bidirectional charging are well mastered by users who are already used to programming their electrical devices and using solar panels. On the other hand, the cost of the use of the battery by the electricity grid remains an open question.

To conclude about demonstrators, some are already in operation in the Amsterdam area (UC1) the others will be open to the public in the last quarter of 2024 (Turino UC4, Tallinn UC5, Zaragoza UC6). Finally, the inductive charger demonstrators will continue their tests after the end of the project (Paris UC2, Versailles UC3 and Zaragoza UC7).

The studies on user expectations and the various presentations of the technologies (Webinars, showcases, inauguration of the demonstrators and the final event) have made it possible to understand how these new technologies are seen by users.

The work is not yet over because some questions have been identified and future work and/or new projects must be launched to provide additional solutions and advancements.



This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



1 ACCEPTANCE AND FEEDBACK OF CITIE'S STAKEHOLDERS

1.1 CITY OF ZARAGOZA

The UC6 and UC7 demonstrators were installed in Zaragoza.

UC6: Low power DC bidirectional charging infrastructure for EV, including two-wheelers, operational in February 2023 and open to public planned end of 2024.

UC7: Recharging taxis and public transport vehicles while stationary static Wireless, operational in February 2023 and open to public planned end of 2024.

Presentation of Zaragoza City:

Zaragoza City Council is the public, democratic and constitutional institution of the city that promotes its improvement and stands close to the citizens. The Council manages the environment of the city through the Strategic Framework 2020, Zaragoza has adopted a far-sighted approach in its policies.

Moreover, Zaragoza is a member of numerous European Initiatives, it signed the Covenant of Mayors. It is one of the 20 signatories' cities of the Green Digital Charter and is a full member in EUROCITIES initiative. Moreover, Zaragoza is part of non-demonstrator cities in Civitas and member of "International Council for Local Environmental Initiative" (ICLEI).

The Municipality of Zaragoza will provide the required permission and supervise the civil works of UC6 and UC7 demonstrators installed near the Bridge Pavilion promoted by Mobility City. They will be involved in WP2 to gather insights into the mobility patterns in Saragossa and to support the users and stakeholder engagement.

Inauguration by Zaragosa municipality of UC6 & UC7 February 2023.

Zaragoza city in sustainable mobility. Natalia Chueca, Minister of Public Services and Mobility, and now Mayor of Zaragoza City Council, and Andrés Llombart, General Director of CIRCE, were in charge of inaugurating three new electric vehicle charging infrastructures that have been installed in the vicinity of the Bridge Pavilion promoted by Mobility City.

These demonstrators consist of an opportunity inductive charging system for taxis, a bidirectional charger for electric vehicles and an anti-vandal station for bicycles and electric scooters.

Almost 100 industrial stakeholders and citizens were able to attend the event to gain new knowledge about innovative charging technologies.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein





Fig 1: Presentation of automatic wireless charging

The inductive system, designed by CIRCE, has a power of 50 kW at 85 kHz, which is a significant technological advance compared to current chargers. This infrastructure allows automatic charging without the need for cables after positioning the vehicle in the parking space. This system is ideal for taxi ranks.

For its part, the bidirectional charger, both for vehicles and for scooters and bicycles, has a power of 25 kW and allows the exchange of energy with the facilities of nearby buildings, as well as with other vehicles, renewable generation sources or batteries, providing auxiliary services to the infrastructure and flexibility to the electricity grid. generating new business models that allow the implementation of electric vehicles in the city to be consolidated



Fig 2: Natalia Chueca, Minister of Public Services and Mobility of the Zaragoza City Council, and Andrés Llobart, General Director of CIRCE

PIONEERING PROJECT WITH EUROPEAN PROJECTION



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



During this inauguration, The Minister of Public Services and Mobility of the Zaragoza City Council, Natalia Chueca, presented the involvement of the municipality in the INCIT-EV project:

"The presentation of these smart charging infrastructures, which until very recently could seem like science fiction, are one more element, in this case very prominent, of the good position that Zaragoza occupies in the field of innovation and the promotion of sustainable mobility and zero emissions".

"We are the leaders' thanks, of course, to this joint impulse with institutions such as CIRCE, which have been able to find in the Zaragoza City Council a solvent partner with whom to develop this type of initiative," he added.

"Being here today, next to the Bridge Pavilion, headquarters of Mobility City, also symbolises this common commitment to promote both cutting-edge projects and the name of our city around the world. I am convinced,"

"That many cities and many companies will come to Zaragoza to be interested in these initiatives that, for sure, will change our city model in a very short time".

For his part, the Director General of CIRCE, Andrés Llombart, highlighted:

"The role that Zaragoza is playing in the field of innovation with the participation in European research projects as relevant as INCIT-EV, which has allowed the city to position itself at the forefront of Europe with the installation of cutting-edge electric vehicle charging infrastructures and that will facilitate the deployment of electric mobility in Europe. urban environments and user acceptance".

After these inaugural speeches, round tables discussed the developments of electric mobility



Fig3: Round tables

The inductive technologies generates major interest from media who asked for additional interviews and information after the conclusion of the event.

Showcase presentation to the members of the Steering Committee

on Thursday, 16th March 2023 at Mobility City; the III General Assembly gathered most of the INCIT-EV partners in Zaragoza Spain and a dedicated showcase event illustrated the Recharging taxis and public transport vehicles while stationary static Wireless (UC7) and Low power DC bidirectional charging infrastructure for EV, including two-wheelers (UC6).

During this day, the project partners visited the research and development facilities of CIRCE as well as the Mobility City Pavilion.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein





Fig4: INCIT-EV steering committee showcase in Zaragoza

Operation of UC6 & UC7 after June 30, 2024:

A new citizens oriented inauguration of Inductive Charging Technology in Zaragoza is planned for September 2024.

The Inductive Webinar is also planned for Sept 2024.

Test drives / UCs open for public users at the end 2024.

1.2 City of Amsterdam

Three demonstrators are being developed in the Amsterdam region

UC1a/Haarlem V2Gr Smart Charging, operational in January 2022

UC1b/Utrecht V2Gr Smart Charging, operational in June 2022

UC1c/ Amsterdam V2H Smart Charging, operational in April 2024

Presentation of Amsterdam region:

The Metropolitan Region Amsterdam – Electric (MRA-E) is a cooperation aimed at stimulating electromobility in the three provinces North-Holland, Flevoland and Utrecht and the municipalities within these provinces. Jointly we manage the largest network of public charging stations in the Netherlands.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



MRA-E will coordinate Use Case 1 on smart charging and more specifically shall be the main actor on Shared smart charging, thus leading. In addition, MRA-E will have a relevant participation in the user and stakeholder engagement in the Amsterdam region.

Showcase demonstration of UC1a

On Tuesday 31st May 2022, the 1st Steering Committee between WP Leaders and UC leaders was held in Amsterdam Center, Netherlands, and a dedicated showcase event illustrated the aggregated Smart Charging.

Public charge points can be used to decrease grid congestion with minimal impact on the service towards EV drivers. 200 public charge Points enable charging Passive smart charging with no user interaction. The Steering window is 18:00-0:00.

The experiment took place until November 2023. 400 charge sessions took place which saved 1 MWh shifted load.



Fig 5: Smart charging point in a city of Haarlem

Operation of UC1a after June 30, 2024:

Reaching setpoint without interfering EV Drivers' mobility needs

Showcase presentation of UC1b:

On Tuesday Wednesday 1st June 2022, the 1st Steering Committee between WP Leaders and UC leaders was held in Town of Odijk, near city of Utrecht, Netherlands. A dedicated showcase event illustrated the Community Bi-Directional Charging Smart charging and V2G car sharing consisting of 5 V2G Renault Zoé, powered by solar power produced in the district.

Lessons Learned: demand in small communities; V2G charging interoperability



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein





Fig 6: INCIT-EV steering committee showcase in Utrecht

Operation of UC1b after June 30, 2024:

Extended the interoperability of shared e-car reservation system, users, smart charging. MyWheels has adopted a shared EV fleet and committed to ISO15118-20 V2G upscaling.

Offering new EV models into V2G EV system.

Monitoring technical and non-technical aspects of UC1b.

UC1c

The first work of MRA-E has been to address financial, legal, technical, organizational barriers in private charging in apartment blocks.

Lessons learned provided in a video and webinar were presented for Convince homeowners.

Today, 12 Charge points and 5 back plates have been installed in Purmerend apartment building close to Amsterdam. The applied shared and smart charging (including dynamic load balancing) in/at an apartment block is operational, charge points in use by residents.

Circular electric cabling has been installed to reduce cabling costs and prepare for the future.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein





Fig 7: installation of two shared charging points in Purmerend apartment building

Operation of UC1c after June 30, 2024:

Electric cabling prepared for further rollout including 5 backplates in the same building.

Installation of news shared charge points in basement of apartment building, for that use Lessons learned provided in a video and webinar for Convince homeowners associations.

1.3 City of Tallinn

UC5, Tallin. 200 kW EV Superfast highway, operational June 2024

Presentation of Tallinn City:

The Estonian capital has been setting trends in green development for years now. Various activities undertaken by Estonians have been recognised by the European Commission, with Tallinn being awarded the title of European Green Capital for 2023. Solutions implemented in the city attract attention not only due to their effectiveness but also their originality.

Tallinn is an example of smart city use. Tallinn is a green and global city where people look to the future and value their heritage. Tallinn is one of the leaders of green transformation in Estonia: its economy and lifestyle affect the wellbeing of the population of the entire country.

Deputy Mayor Vladimir Svet (Center) said one of the core objectives of the Mobility Plan is to create a safe environment for transportation. "In Tallinn, no one should lose their life in traffic, which is why the Vision Zero strategy which means no traffic fatalities is of utmost importance. It ensures safer and better traffic conditions for the residents,".



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Showcase presentation of UC5

On the 25th of April 2023, the 3rd Steering Committee between WP Leaders and UC leaders was held in Tallinn, and the on-site presentation allowed us to see the progress of the UC5 installation.

In June 2024, the official commissioning of the demonstrator made it possible to produce a video presenting the charging station and associated services.

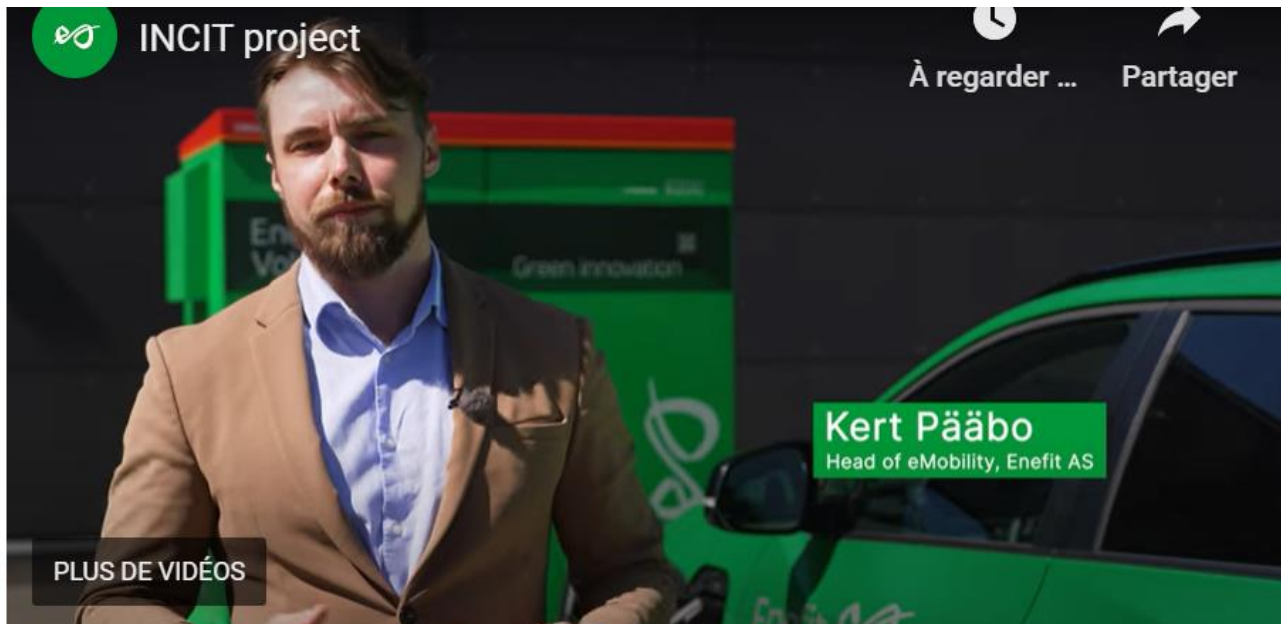


Fig 8: Video of UC5

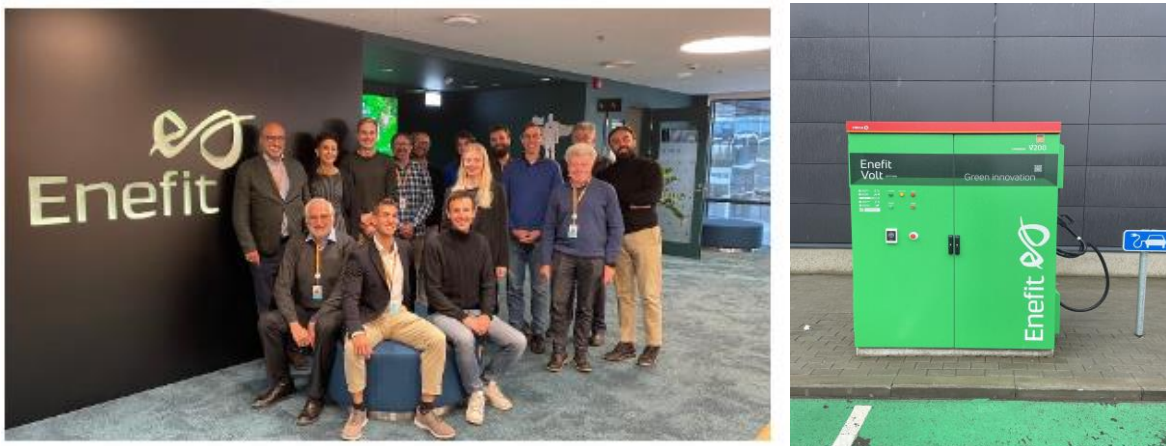


Fig 9: INCIT-EV steering committee showcase in Tallinn & fast charger

Operation of UC5 after June 30, 2024:

chargers' tests continue until the end of July. Open the two superfast charging points; from 1st of July, charging is free until the end of August.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Then, the 2 prototype chargers will be included in the Enefit Volt public charging network for public use. There are plans to collect feedback from EV drivers about these two chargers.

1.4 City of Turino

UC4: Turin Charging hub parking; interoperability between public transport and electric vehicles infrastructures, operational in April 2024.

Presentation of City:

Torino is the capital of the Piedmont Region, is the fourth Italian city by population and the third productive area in the Country.

The path to become “Smart City” started in 2009, when the City Council decided to take part in the initiative of the European Commission “Covenant of Mayors” and – as one of the first Italian cities – committed to elaborate an Action Plan for Energy.

In 2011 the city approved the Sustainable Urban Mobility Plan. The objectives of the SUMP are: 1. Improving accessibility to the city; 2. Ensuring and improving accessibility for people; 3. Improving air quality; 4. Improving the quality of urban environment; 5. Increase the use of public transport; 6. Efficiency and safety of road system; 7. Innovative technologies for mobility management; 8. Define the governance of the Plan. Currently the Mobility Department is engaged in implementing several National and EU funded project in the mobility and transport sector.

The City of Torino will participate mainly in UC4, providing the required permission and supervising the civil works during the demonstration phase for the charging hub (UC4). In addition, they will be involved in WP2 to gather insights about the mobility patterns in Torino and to support the users and stakeholder engagement.

Commenting on the commitment of the City of Turin, Gloria Tarentino technical officer mobility management said:

“This hub enables us to test innovative charging infrastructures technologies and business models that: improved the user experience of EV drivers. They can both use superfast chargers or leave their vehicle plugged in all daylong as part of their daily commute and benefit from discounted prices.

Foster the use of public transportation thanks to a payment system interoperable with the public transport system.”

Showcase presentation of UC4:

On the 17th and 18th of April, the IV Steering Committee between WP Leaders and UC leaders was held in Torino, and a dedicated showcase event illustrated the Charging HUB architecture and demonstrated the functioning of the charging infrastructure to the partners.

This demonstrator will be in the Torino Caio Mario Park. Its hallmark innovation stems from the power source of the charging points: a direct connection to one of Torino’s AC/DC conversion substations whose main purpose is to power part of Torino’s tramway grid.



This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein





Fig 10: INCIT-EV steering committee showcase in Torino



The demosite is located in Caio Maio Park.

Fig 11: INCIT-EV steering committee showcase in Turino & charging hub

Operation of UC4 after June 30, 2024:

Exploitation of the charging hub.

1.5 City of Versailles Satory

UC3/Paris (Versailles Satory). Dynamic e-corr. wireless highway, operational in June 2024

Presentation of City:

Versailles Satory, a business park that houses industrial companies working in land armaments, motorsport and mobility technologies. Several military establishments are also located in this sector.

Today, the Satory Ouest district is mainly developing around two major themes, those of the mobility of the future and the defense industry. It includes a major innovation hub made up of various R&D centers, SMEs and other start-ups focused on the mobility of the future and revolving in particular around the former IFSTTAR (now Gustave Eiffel University) and the Institute for Public-Private Partnership Research for Low-Carbon and Communicating Vehicles (VEDECOM-Mobilab), both being partners in the project.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



The UC3 track is installed in front of the Mobilab on one of the military fields where test tracks are available.

Showcase presentation of UC3 during final review:

Wednesday, June 25th, 2024. VEDECOM – Versailles Satory, France. INCIT-EV Final review

For this presentation, all partners and Program officer attended the demonstration of this section of electric road.

The technology was presented, and a Renault ZOE traveled the track.



Fig 12: INCIT-EV partners final review showcase in Versailles

Showcase presentation of UC3 during INCIT-EV final event:

Wednesday, June 26th, 2024. VEDECOM - Versailles, France.

For this presentation, more than one hundred and fifty people as well as a dozen journalists attended the demonstration of this section of the electric road.



Fig 13: The Renault Zoé and the participants in the Final Event

Operation of UC3 after June 30, 2024:



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein





Fig 14 test track in Versailles Satory with Paris coil

The Versailles Satory track is a modular test track that allows different inductive road concepts to be tested. The civil engineering was carried out as part of a previous European project (FRABIC). It was used to test the UC2 coils located in Paris and UC3 coil. Because of its modularity, this track will surely still be used. For the rest, nothing is planned to date for UC3.

1.6 City of Paris

UC2/Paris. Dynamic charging in city, operational in June 2024

Presentation of Paris City:

Paris is one of the European Union's leading urban areas ahead of London, the French capital has 2.19 million inhabitants in 2016. With 21,000 inhabitants/km² it is one of the densest cities in the world.

Paris is part of the Greater Paris Metropolitan Area, which includes 131 municipalities and more than 7 million inhabitants in 2016. In 2017 Paris welcomes 34 million visitors

The City of Paris will participate mainly in WP7, providing the required permission and supervising the civil works during the demonstration phase in the Paris urban area (UC2). In addition, they will be involved in WP2 in order to gather insights about the mobility patterns in Paris and to support the users and stakeholder engagement.

Inauguration of UC2:

June 12th, 2024. Rue Floréal- Paris, France. For this inauguration, about thirty people and a dozen journalists attended the demonstration of this section of electric road

The City of Paris inaugurated Europe's first Dynamic Wireless Power Transfer (DWPT) demonstrator in urban area as part of the INCIT-EV project. Participants witnessed an electric vehicle recharging while driving on a road equipped by Incit-EV partners over a distance of 30 meters.

This brief demonstration of 30 meters significantly increased the vehicle's autonomy – by more than one kilometer – paving the way for potential reductions in charging duration and battery size without compromising autonomy.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Geoffroy Boulard, Mayor of the 17th arrondissement, and Penelope Komites-Valadares, Deputy Mayor of Paris for Innovation, Attractiveness, Paris 2030 Prospective, and Resilience, were present to discover this innovation.

As a full participant in the European Union's research and innovation funding programmed, the City of Paris has undertaken to carry out tests in the 17th arrondissement of Paris.

These should make it possible to experiment with dynamic inductive charging in an urban environment.



Speech of Paris municipalities

FIG 15 inauguration of UC2

Showcase demonstration of UC2 during final event:

Thursday, June 27th, 2024. Rue Floréal - Paris, France. INCIT-EV Final Event.

For this presentation, more than fifty people and a dozen journalists attended the demonstration of this section of electric road.



Fig 16: showcase UC2 during final event



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



Operation of UC2 after June 30, 2024:

Normally, the system shall be removed by the end of 2024, as requested by the City of Paris.

But after the inauguration on 12 June, the municipality of Paris showed interest, if the partners asked for it, to continue the tests and operation of this section of the road after 2024.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



2 ACCEPTANCE AND FEEDBACK OF THE CITIZENS

As the majority of the UC's were completed after April 2024, it was not possible to provide user feedback. In addition, the induction charging systems are only compatible with the four vehicles of the project. These charging systems have not been used by citizens. Thus, only UC1a and UC1b were opened to the public in 2022 and have some user feedback, for the other UC's we have in first step summarized from the work of WP2 and WP9 the position of users with regard to these new charging technologies.

Here are expectations of the users that were identified in WP2 are:

- Interoperability
- Education and information required
- Clear information for consumers
- Easy-to-use solution.

For the second step, during Webinars, the final event and the presentations of UC2 and UC3, we were able to exchange with the people present and the journalists who, through the discussions and their questions, gave us feedback on the perception of these charging technologies.

Considering user's expectations and feedback from final event, here is what we can say about the technologies implemented in the INCI'EV project.

2.1 Wireless charging demonstrators

Four vehicles have been adapted to be charged wirelessly: DS3 Crossback – Stellantis, Renault Zoe (Two) Utility Renault Master. These vehicles are interoperable with the induction charging demonstrators of Zaragoza (static), Versailles and Paris (dynamic).

Knowledge about wireless charging technology.

35% of users and potential users are familiar with static inductive loading, but only 20% are familiar with dynamic loading. It combines this dynamic load with the electric road.

Everyone finds this technology very interesting because it makes it possible to do without the manipulation of the charging cable and even for the electric road to eliminate the anxiety of an empty battery.

There are also a lot of questions about the effect on health of the use of high-power induction. Everyone has in mind the recommendations on the use of microwaves and induction hobs, especially for pacemaker wearers.

The other big question concerns the price of charging and the payment methods. For the static everything waits for everything to be automatic, you park your and the charge is automatically triggered and stops when you pick up your vehicle and the billing is also done automatically.

Interestingly, existing EV drivers are less confident about the success of inductive charging than non EV drivers.



2.2 Smart and ultra-fast charging demonstrators

Knowledge about Fast or ultra-fast public charging technology.:

There is a consensus in all countries regarding the use of fast or ultra-fast public charging points but only if the price of the refill remains reasonable.

As the Tallinn demonstrator has not yet entered its public operation phase, we have no user feedback.

Knowledge about smart charging technology:

Smart charging is well mastered by users who are already used to programming their electrical devices.

In the city of Haarlem (UC1a), smart charging means that charging stops when the grid requests it. The consumer is informed of this charging stoppage, but to date, no compensation has been applied for this service provided to the network. Users who agree to provide this service would like to have financial compensation in the long term.

On the other hand, the media sometimes misinform about smart charging, as DSOs can decide to stop EV charging if the grid is overloaded, which can be confusing and cause anxiety for potential EV drivers.

For Amsterdam demonstrator (UC1c), it was necessary to explain at length the interest of sharing charging stations in a condominium, addressing the economic, legal and technical dimensions. Now that the first charging stations have been installed, the acceptance of users is confirmed to such an extent that a whole set of documents (explanation video and a webinar) have been developed to convince other homeowner's associations.

2.3 Bidirectional charging demonstrators (V2G)

Knowledge about V2G charging technology:

Bidirectional charging is well mastered by users who are already using solar panels.

For experimentation in Utrecht (UC1b), the smart charging service with V2G being coupled with an EV rental service and solar production, this service is transparent for the user since it is not his battery that is being used.

For Zaragoza demonstrators, as they are bidirectional chargers, the extra energy can be stored in the batteries of the electric vehicles that are being charged when the building is producing extra power, for example thanks to photovoltaic panels. On the contrary, electric batteries can be used to power buildings instead of the usual sources of energy in various situations.

The charger was on the street for people to see and touch. The INCIT-EV website is displayed in the charger's cabinet. The feedback we received from citizens and EV drivers is that the V2G capabilities are everywhere, but not yet available for the existing EVs. There is frustration among some EV drivers that they cannot use the full potential of their own EVs. For Torino demonstrator, has not yet entered its public operation phase, we have no direct user feedback.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



3 CONCLUSION

The realization of the showcases for the various Uses cases shows the commitment of the municipalities to develop these innovations.

Some were already in operation during the last 2 years as the ones in Amsterdam area (Smart charging UC1) or Zaragoza (V2G of UC6), while the others were commissioned and open to the public in the first quarter of 2024 (Turino UC4, Tallinn UC5, Zaragoza UC). Finally, the inductive charger demonstrators will continue their tests after the end of the project (Paris UC2, Versailles UC3 and Zaragoza UC7).

The studies on user expectations and the various presentations of the technologies (Webinars, showcases, inauguration of the demonstrators and the final event) have made it possible to understand how these technologies are understood and accepted by users.

Some technologies as V2G are known by the users, but there is a frustration that they cannot be used by any EV on the street. On the other hand, the press releases can be confusing if they state that EVs will be prevented from charging when the grid congested, which could discourage EV sales if the full picture is not understood.

Interestingly, existing EV drivers are less confident about the success of inductive charging than non-EV drivers.

The work done in INCIT-EV is not yet complete as a number of issues have been identified and future work and/or projects will need to be launched to provide solutions.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



REFERENCES, FIGURES AND TABLES INDEX

Figures and Tables Index

Index	Name	Page
Figure 1	<i>Presentation of automatic wireless charging</i>	8
Figure 2	<i>Natalia Chueca, Minister of Public Services and Mobility of the Zaragoza City Council, and Andrés Llombart, General Director of CIRCE</i>	8
Figure 3	<i>Round tables</i>	9
Figure 4	<i>INCIT-EV steering committee showcase in Zaragoza</i>	10
Figure 5	<i>Smart charging point in a city of Haarlem</i>	11
Figure 6	<i>INCIT-EV steering committee showcase in Utrecht</i>	12
Figure 7	<i>installation of two shared charging points in Purmerend apartment building</i>	13
Figure 8	<i>Video of UC5</i>	15
Figure 9	<i>INCIT-EV steering committee showcase in Tallinn & fast charger</i>	15
Figure 10	<i>INCIT-EV steering committee showcase in Torino</i>	16
Figure 11	<i>INCIT-EV steering committee showcase in Turino & charging hub</i>	16
Figure 12	<i>INCIT-EV partners final review showcase in Versailles</i>	16
Figure 13	<i>The Renault Zoé and the participants in the Final Event</i>	17
Figure 14	<i>inauguration of UC2</i>	18
Figure 15	<i>inauguration of UC2</i>	19
Figure 16	<i>showcase UC2 during final event</i>	20



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein



ANNEXES



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683. Disclaimer: The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein

