



City of Zagreb  
Office for EU programmes and projects

Smart evolucija – inovacijama prema održivosti  
Smart evolution – through innovation to sustainability  
Zagrebački inovacijski centar, 15. svibnja 2019.



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Ljubljana



BRATISLAVA



Co-financed by the European Union  
Connecting Europe Facility



# About the Call

- Innovation and Networks Executive Agency (INEA)
- Multi-annual work programme 2014-2020
- CEF Transport - Cohesion envelope - Innovation and new technologies
- Call for proposals concerning projects of common interest under the Connecting Europe Facility in the field of Trans-European Transport Network – 13th of October 2016
- Project proposal was submitted on 7th February 2017



# About the Project (Action)

## Electromobility in Urban nodes in cohesion region

- Proposal Number: 2016-EU-TMC-0351-S (27373574)
- Duration of the Action: 1st of March 2017 –  
31st of December 2020

- Partners:  
Municipalities



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- Energy companies



Energy for life



- Transport service  
operators





# About the Project (Action)

## Electromobility in Urban nodes in cohesion region

- Total Budget                      4,473,060.00 EUR
- EC Funding (85% of Budget)                      3,802,101.00 EUR
- Action Contribution:
  - Network of DC and AC chargers – enabling innovative mobility services
  - Innovative one platform services – e-taxi, e-shuttle, public transportation



# The Action Rationale

The Cohesion Region is lagging behind in EV charging infrastructure. A significant boost is needed !

- High CO2 emissions
- Strong increase in private car traffic (2x in Zagreb in 10 years)
- High levels of pollutants (e.g.66 days above threshold in Ljubljana in 2016)
- High noise levels (e.g.Bratislava-the noisiest capital city in theEU)
- Limited availability of parking places



# The Cohesion region is lagging behind in EV charging infrastructure causing congestion, pollution and noise problems. A significant boost is needed!

Figure: EV Market share in Europe

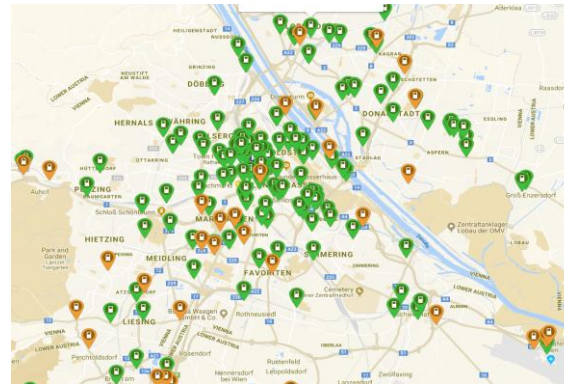
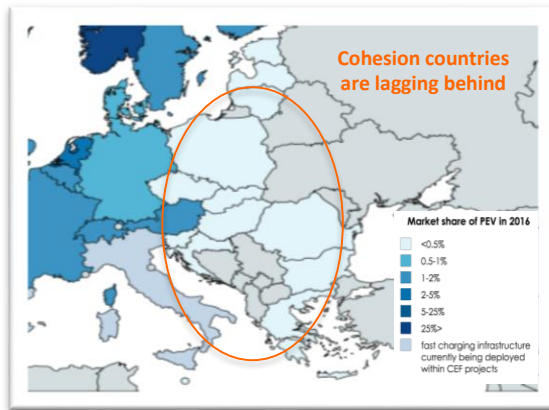
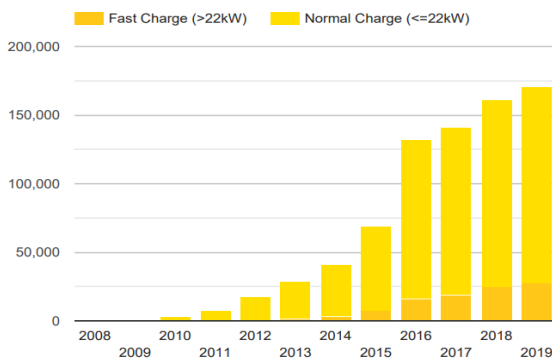
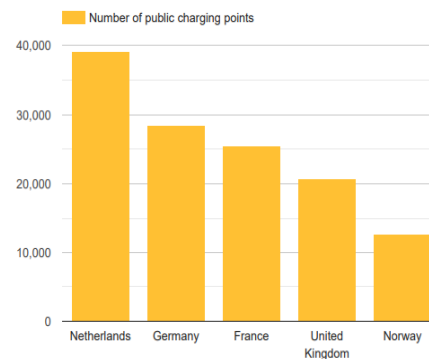


Figure: Chargers in Vienna



Normal and fast public charging points (2019)



Top 5 countries with the highest number of public charging points.

Total number of public charging stations in EU: 170.149  
Total number of public charging stations in "big 5":  
126.272 ~75%





# Additional info. and opportunities in Zagreb

- First **TEN-T project ever awarded from „Innovation and new technologies“ field targeting Urban environment** and not installation of fast charging infrastructure along the highways
- **Projects impact** on urban problematic was **given grade 5.0/5.0 by external evaluators** and project was **presented at TEN-T Days 2018!**
- **Concept of intermodality marketplace** combining e-taxi, e-shuttle and Public Transportation Service **as the first of its kind in Europe!**
- Project Rollout will strongly **influence development of City of Zagreb as advanced and green capital city.**
- **Strong press coverage** is expected
- **Croatian Presidency of Council of Europe in 2020**



# Project Overview

## 8 Activities in total:

1 Consumer Expectations and Needs for Infrastructure and Services (Study)

2 Network Planning and Site Finalization (Study)

3 Technology and ICT: Interoperability, Intermodality Market Place, and User Interfaces (Study)

4 Preparation for Urban EV integration (Study)

5 Urban EV Pilot in Ljubljana, Zagreb and Bratislava

6 Urban EV Roll out and Business Plan (Study)

7 Dissemination and Communication

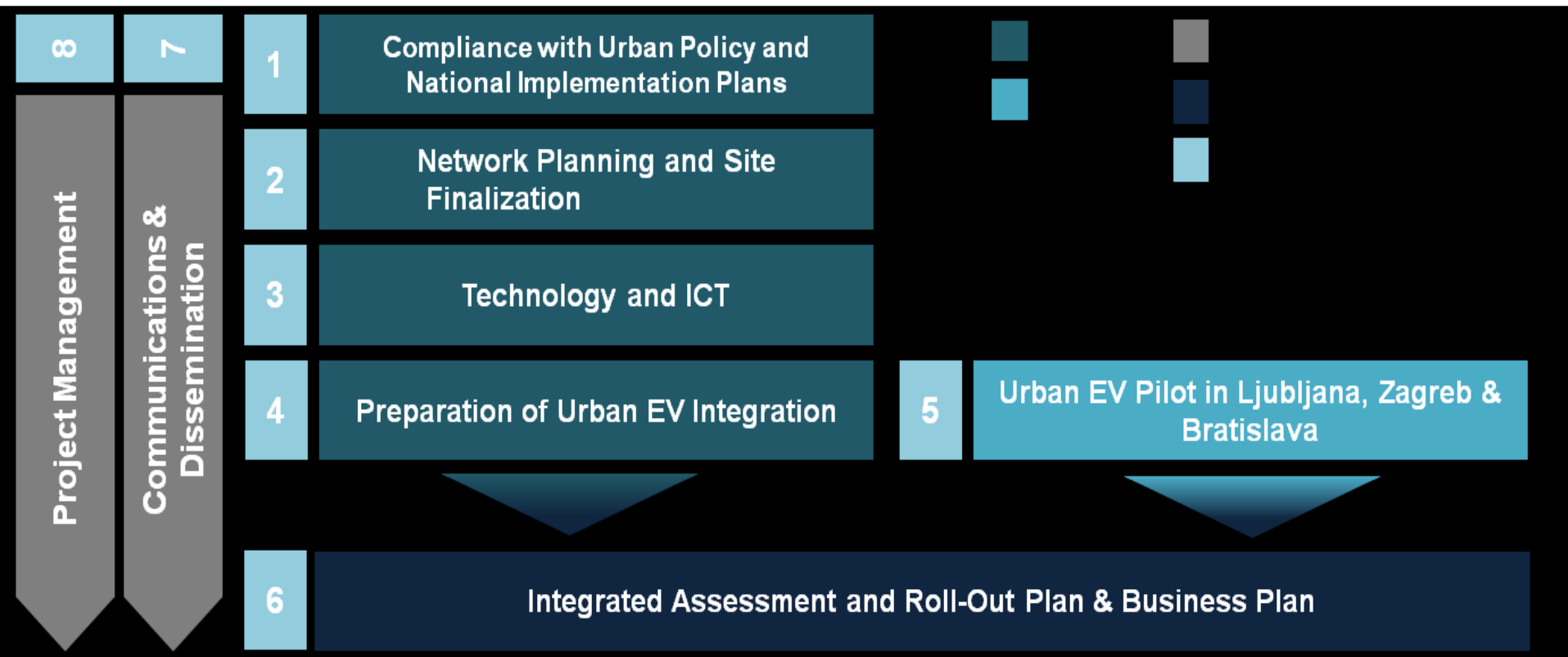
8 Project Management





# Project Overview

## Activites





# THE ASSESSMENT OF CONSUMER EXPECTATIONS FOR URBAN ELECTRIC PERSONAL TRANSPORT, INTERMODAL TRANSPORT AND INNOVATIVE MOBILITY SERVICES IN THE CITY OF ZAGREB AND ITS SURROUNDINGS WITHIN THE "URBAN-E" PROJECT



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# THE STUDY ON THE ELECTRIC VEHICLES CHARGING STATIONS NETWORK WITHIN THE „URBAN-e“ PROJECT



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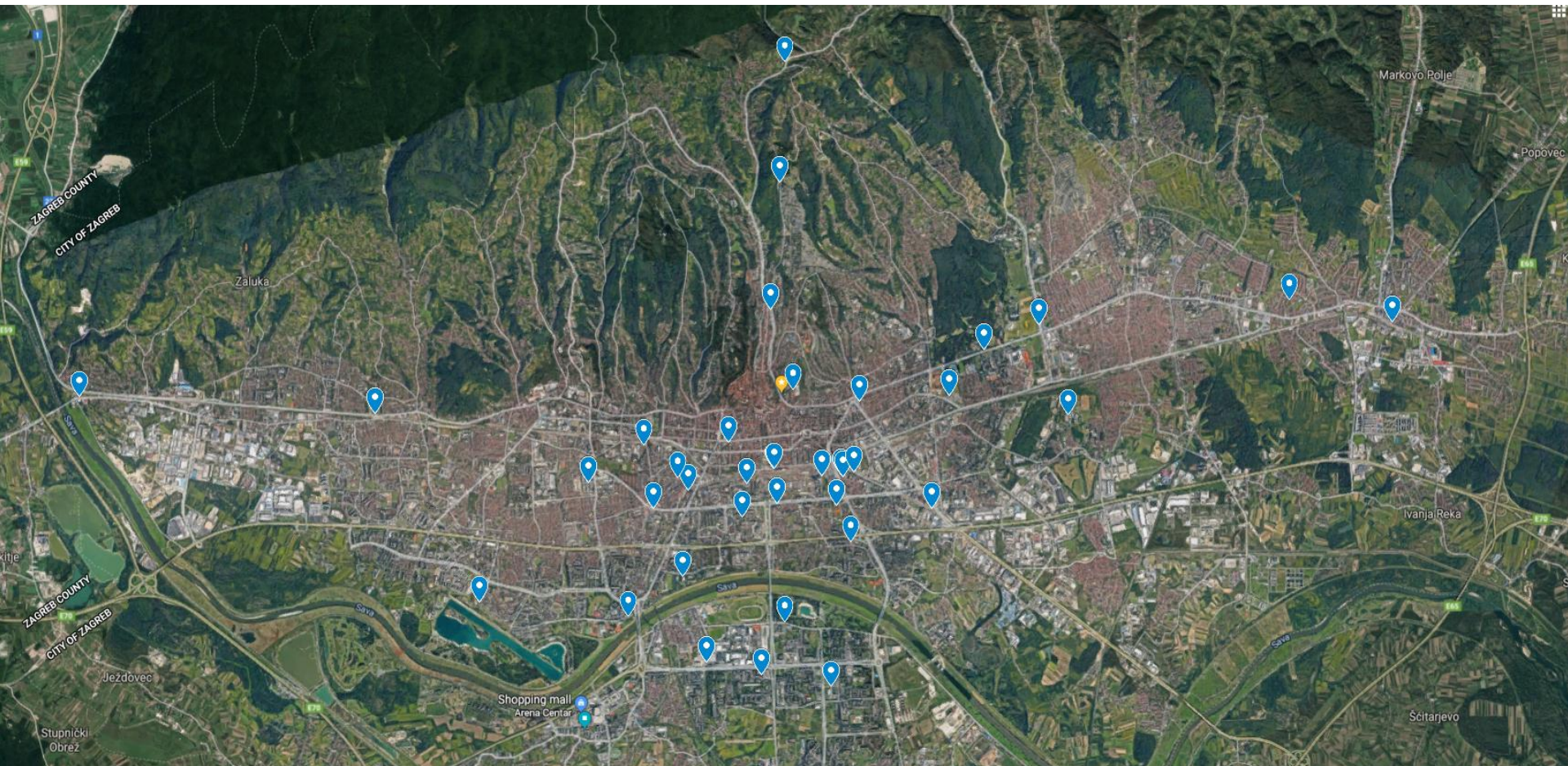
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# Future network of public charging points in City of Zagreb

Network of 9 DC and 47 AC chargers





## Intermodality is the core of URBAN-E

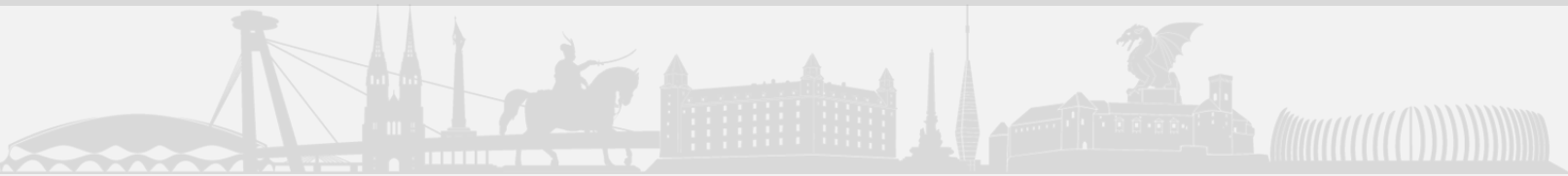
Innovative mobility services will be launched to secure initial utilization of the infrastructure. B2B and B2C EV customers can find, charge and pay without any constraints (interoperability) and switch between modes of transport in a dedicated intermodality focus.

**21 intermodality locations (train, bus, airports)**



- Creation of a unique Intermodality Marketplace, enabling interconnection of data on e-taxis, e-shuttles, and public transportation modes. Green end-to-end routing enabled
- Corresponding user interfaces for various use cases (e.g. mobile and web-app for e-shuttle / e-taxi, or e-carsharing customers, portal for drivers), connected to the Intermodality Marketplace
- An innovative EV-taxi platform will be evaluated, optimizing the cost-efficiency of green car utilization and operation (e.g. routing, matching drivers and cars, etc.)

1. e-Carsharing:
2. Green e-Shuttle Service
3. Green e-Taxi
4. e-Logistics





# Innovative approach to reduce the use of fossil fuels in Urban Nodes



## Innovative Mobility Services Infrastructure

Network of 23 DC and 144 AC chargers



## Intermodality Marketplace

Journey planner for an easy optimal search of green transportation services



## Innovative E-taxi platform








Newly developed E-taxi platform







## URBAN-E will seamlessly connect with other TEN-T/CEF funded projects towards the completion of the Global Project

 <p><b>(2014 -2017)</b></p> <p>Linking countries BE, DE, SK and CZ with charging infrastructure. 307 new stations in the EU charging network.</p> <p>Fast E (SK/CZ) – ZSE (E.ON SVK) coordinator</p> <ul style="list-style-type: none"> <li>• CZ &amp; SK (29 DC)</li> </ul> <p>Fast E (BE/DE)</p> <ul style="list-style-type: none"> <li>• Sister project fast-E (DE/BE)</li> <li>• 278 fast charging stations in BE (37) and DE (241)</li> </ul>	 <p><b>(2016 – 2018)</b></p> <p>EAST-E will electrify TEN-T's core corridors in CZ, SK, HR connecting to existing deployments.</p> <ul style="list-style-type: none"> <li>• An international project by consortium of companies ZSE (SK), GO4 (SK), E.ON Czech Republic (CZ) and HEP (CRO)</li> <li>• 62 charging stations along the core TEN-T corridors</li> <li>• HR (27), CZ (15), SK (15 DC+ 5 AC)</li> </ul>	 <p><b>(2016 – 2018)</b></p> <ul style="list-style-type: none"> <li>• 25 ultra charging stations: (4 AT, 4 BE, 12 DE, 5 NL) -&gt; Continuous UC station network.</li> <li>• Network planning for 500 UC in Europe</li> <li>• Studies on market &amp; business model, consumer attitudes, policy support</li> <li>• Total budget: ~ 13 mio. €</li> <li>• Project duration until 2018 e.o.p.</li> </ul>	<p><b>Other projects:</b></p>  <p>CEGC: Fast Charging Infrastructure for EVs in AT, SK, SI, DE, HR (ZSE/E.ON, Nissan, Renault, BMW and Volkswagen, PETROL operates the infrastructure in Slovenia).</p>  <p>AVANT2GO: platform to reserve, activate and to use an electric car in Ljubljana via a smartphone app.</p>  <p>SpinCity: pilot for EV car-sharing in Croatia, lacking charging infrastructure.</p>  <p>VIBRATE: enabling intercity travelling between two EU capital cities - Vienna and Bratislava.</p>
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