

### Theme: **Public charging infrastructure - how to bring charging stations into the streets most effectively**

#### **Introduction**

The most significant for use of EVs in cities are shorter distances with parking on the street where there is the most suitable time for EV charging. What is common for this kind of usage of EVs is that the EVs are usually parked next to the public lighting poles. The idea of integrating the distribution network with public lighting poles could support and enhance the construction of connection points for the future use for EV charging. PREdi together with the city of Prague named this integrated solution “EV ready lamp”.

Recommended target for penetration of charging points is at minimum one public charging point for every ten electric cars. Thanks to above mentioned synergy between distribution network (owned and maintained by PREdi) and public lighting network owned by the City of Prague (HMP) is reaching of this goal much more realizable and cost efficient.

#### **Who is behind this initiative?**

PREdistribuce, a.s. (PREdi) is the owner and operator of the distribution system in Prague, capital city of Czech Republic. The main mission is to provide a reliable and safe supply of electrical energy to all of its customers. Due to the growing demands for continuity and the quality of electricity supply as well as growing share of new technologies such as electromobility, smart metering or accumulation, the company aims to ensure well in advance readiness of the distribution system for the arrival of modern energy trends. PREdi proudly embraces the principles of sustainable development and through its projects, it strives to contribute to the improvement of the standards of living in the region it operates in.

#### **What is the challenge for public charging?**

The challenge is to create within the boundaries of existing, historic city that has been built for almost a thousand years appropriate numbers of public chargers without too much interference in the public space. Together with this it needs to be done in a way that is technically sound and is in accordance with safe operation of distribution network and with reasonable investments.

- What is the anticipated increase of EVs in Prague in next decade(s)?
- What is the necessary number of public charging stations in Prague to cover the needs of these EVs?
- What are the possible solutions for ensuring public charging concerning the synergy between public lighting and DSO?
- What is the suitable design for this solution if we want to achieve the maximal possible efficiency?

#### **Relevant considerations for the challenge / theme:**

Implementation of the EV ready lamp could ensure a sufficient number of charging points as well as the requirement of sufficient power to supply public charging points for current and soon-produced electric cars by bringing the distribution network within the public lighting pole, even with regard to investment. It is advised to focus on specific conditions in Czech Republic.

#### **Relevant links:**

<https://www.pre.cz/cs/profil-spolecnosti/media/zakaznicke-casopisy/dalsi-vydani-prefora/> (PREforum 24/2020 – Smart public lamps with charging potential)

[https://www.praha.eu/jnp/cz/o\\_meste/magistrat/tiskovy\\_servis/tiskove\\_zpravy/v\\_praze\\_se\\_elektromobily\\_budou\\_nabijet.html](https://www.praha.eu/jnp/cz/o_meste/magistrat/tiskovy_servis/tiskove_zpravy/v_praze_se_elektromobily_budou_nabijet.html)

[https://prazsky.denik.cz/zpravy\\_region/elektromobil-nabijecka-lampa-sloup-litacka-led-osvetleni.html](https://prazsky.denik.cz/zpravy_region/elektromobil-nabijecka-lampa-sloup-litacka-led-osvetleni.html)

<https://www.ckcired.cz/konference-cired/konference-ck-cired-2021-29/o-konferenci.html>