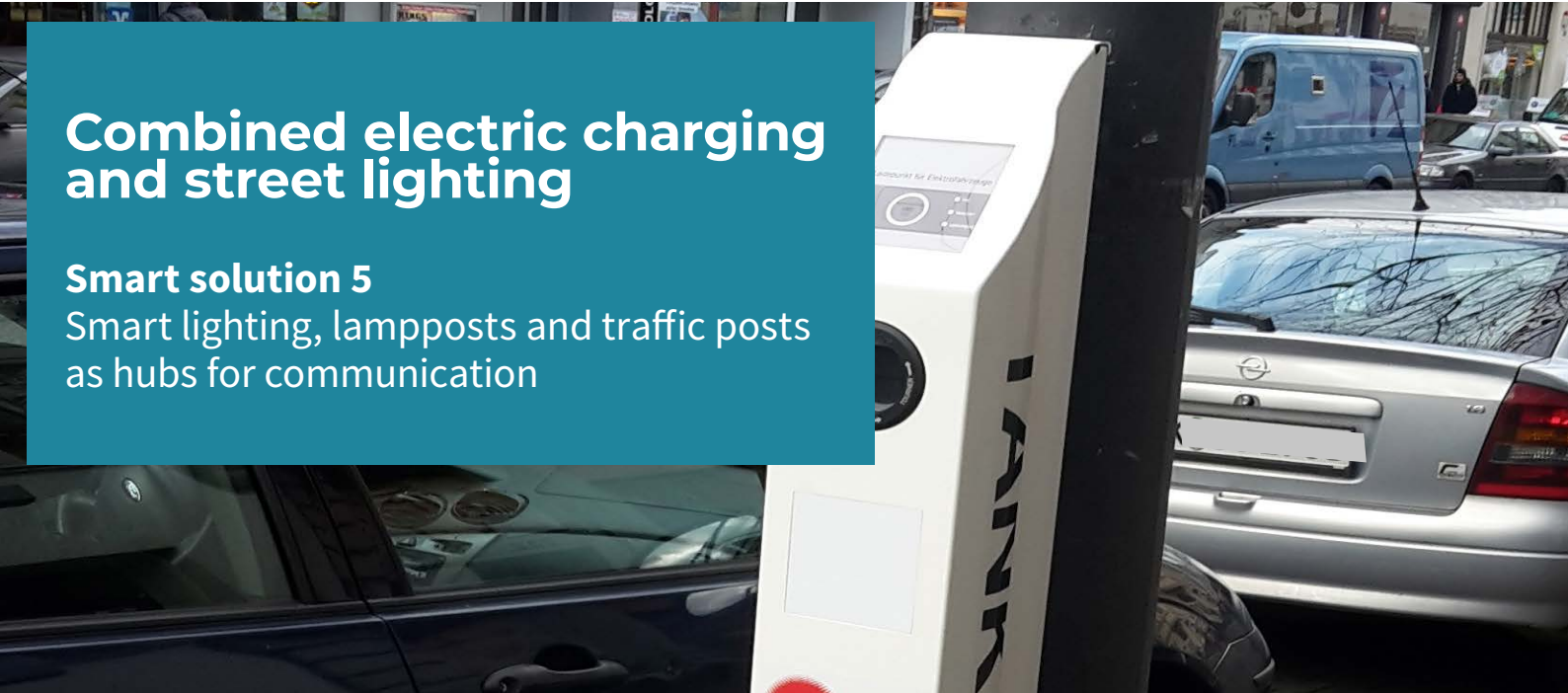# Combined electric charging and street lighting

Smart solution 5
Smart lighting, lampposts and traffic posts as hubs for communication

Measured impacts

10
Ton CO_2 reduction annually

3
Charging points

14.000
kWh yearly loading volume

Cologne

Technical partners

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What is it?

Lampposts are no longer only a source of light, but have become multifunctional, smart or "Humble Lampposts", which can also be used to provide electrical charging points and act as WiFi hotspots. Using existing lampposts in this way, provides operational savings, delivers better services to citizens and offers the potential for additional revenue for cities.

What did GrowSmarter do?

In Cologne, the industry partner RheinEnergie installed three electric charging stations to existing lampposts in the "Klimastraße", which is part of the initiative SmartCity Cologne where RheinEnergie tests innovative technologies. The lampposts had already been fitted out with a Wi-Fi hotspots. The aim is to enable a shared sensing infrastructure in the open street spaces of the city and make urban areas universally connected.

Rhein Energie owns and operates the lampposts used in GrowSmarter and

GrowSmarter
Transforming cities for a smart, sustainable Europe
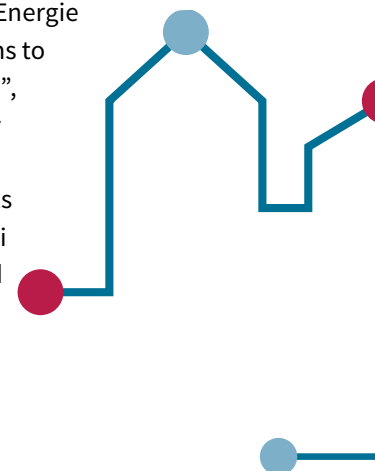
was able to implement the charging stations without major difficulties once a suitable location was found.

The charging stations are all open to the public and have a maximum charging capacity of 11kW.

Lessons learnt

In cases such as Cologne, where city furniture such as street lampposts belong to the same company that installs the charging stations, implementation of this solution is not particularly difficult. New manufacturers can pose some solvable challenges such as connections to the lanterns and technical problems with the back-end connections.

Finding suitable locations is not easy and many different parameters must be considered, such as ownership or the network situation on site.

On a technical level, it is important, that the space in the lantern cavities is sufficient to allow the cable installation. In addition, the lantern structure must be strong enough to withstand the additional load from the charging station.

Lampposts no longer provide light only, but turn "humble lampposts" into smart and multi-functional city furnishing

Upscaling & replication potential

An essential precondition for successful implementation was the advantage that the lanterns belonged to RheinEnergie and this facilitated the entire installation process. In other cities this may not be the case and the installation process could therefore be more costly and less feasible.

How did the measure work?

Technical feasibility ● ● ○

The measure is feasible, but some technical challenges - such as space in the lantern cavities and finding suitable locations - will have to be dealt with.

Economic feasibility ● ● ○

Within GrowSmarter it was possible for the electric vehicles to use the charging stations without payment. If a suitable (near parking etc.) location is found, charging a fee will improve the economic feasibility

Replication potential ● ● ○

Replication can be eased significantly by a single operator being in control of both the lanterns and the power grid.