Media release

# eLoaded: Advanced technology to increase mobility value!

Neusäß, 05th February 2021

**eLoaded has developed a unique charging systems that, reduce energy losses between grid / power source charging plug). This makes not only the operation of charging stations more efficient but also the use of battery electric vehicles (BEV).**

On most sites, operators are struggling with profitability. In consequence, charging fees are increasing, what unfortunately jeopardizes sufficient station utilization. Therefore, increased charging fees can not be the solution on a long term. Meanwhile, the community wonders about price levels of up to 1.09 euros / kWh, while the typical green energy at home does usually not cost more than 35Cent per kWh. As per the energy expert eLoaded, this dilemma can be solved. In a consumer-friendly and sustainable way. Based on this ambition, eLoaded has developed its own software and hardware solutions that make it possible to monitor and optimize the entire energy value chain which enables sustainable business models.

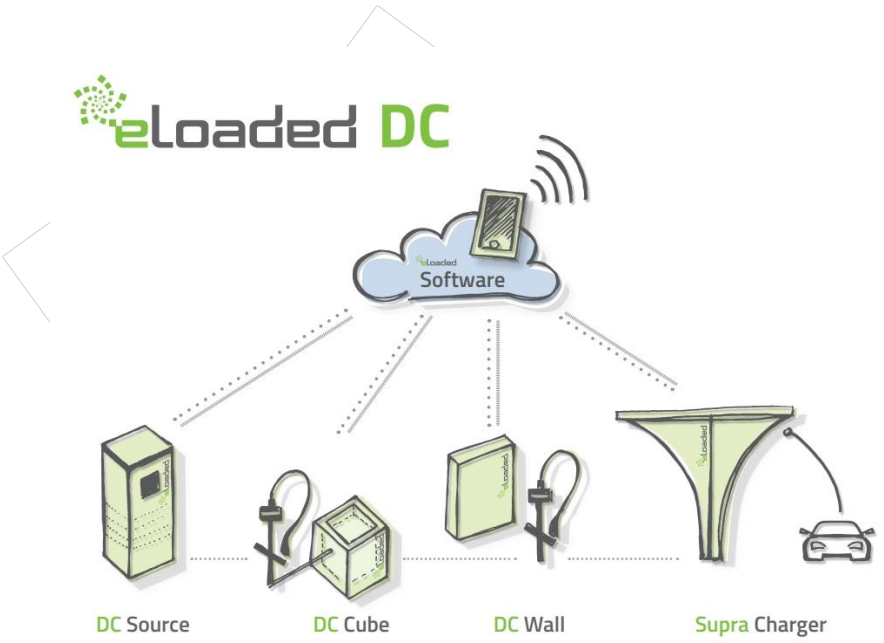


*Abbildung 1: eLoaded DC Charging network: DCSource, DCCube, DCWall und SupraCharger – supplemented by self-developed ai software solutions*

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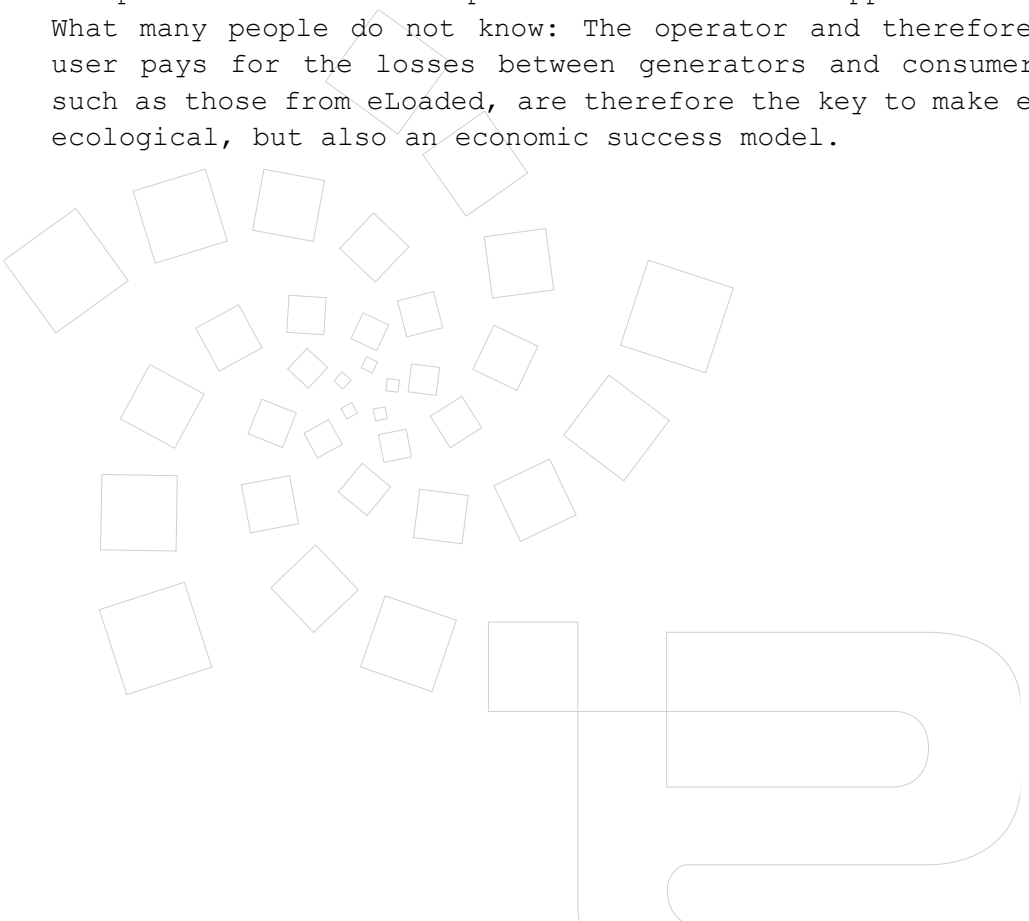
Sophisticated software solutions are used to harmonize station utilization with the utilization of surrounding industrial and business units and, at the same time, with local power generation. Economically as well as energetically.
However, this is by far not enough. Even more important than increasing utilization and turnover is cost optimization. Because costs, that do not incur don’t need to be paid.

This highlights the need for a holistic approach. Joint project development is the solution for eLoaded to tackle such tasks with its customers from industry, trade and transport.

In detail:
Today, the public power grid worldwide is based on alternating current (AC). This is in contrast to the fact that almost all sustainable green power generators as well as consumers operate on direct current (DC). Thus, between energy source and consumer, it gets usually switched between DC and AC various times, while any switch burns valuable energy by physically limited energy conversion efficiency.

Few years ago, this was the beginning of eLoaded R&D activities that finally born a DC-based area network. Rectification and alternation between power sources and power consumers is kept to a minimum. This approach is unique on the market. What many people do not know: The operator and therefore also the e-mobility user pays for the losses between generators and consumers. Clever solutions, such as those from eLoaded, are therefore the key to make e-mobility not only an ecological, but also an economic success model.



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Calculation:

To supply 1.000kW charging power – roughly the power of 6 fast chargers (HPC) at 50% simultaneity – in conventional charging grids up to 1.272kW must be generated (see example calculation). This means that between generator and consumer approx. 272kW get lost on the grid. With 6 of those HPC chargers, 50% simultaneity, 2.000 operating hours p.a. and an assumed clearing price of 20 cents/kWh, this currently corresponds to a monetary equivalent of 218.240 € per year.

Same calculation with eLoaded solution impressively shows the potential for significant savings:
Within the eLoaded charging network, much fewer transformation processes take place. The remaining processes are highly efficient and even make most of heat loss usable as thermal energy for other applications. All this increases the overall system efficiency. Using the same calculation as in the example above, the use of eLoaded charging technology saves 162 kW in power loss. This power loss is reflected in an additional mobility value of 324 megawatt-hours or 64.880€ per year for the same operating parameters. In other words, the saved energy equals the consumption of 130 two-person households. All this already at a small, compact but well-utilized charging site. If this is scaled to a bus depot, for example, the potential is extremely considerable.
Further added value results from an outstanding area utilization thanks to smallest footprint, combined with minimal installation effort. As easy it is to integrate eLoaded charging solutions compared to usual solutions is shown in the sketch of an example charging location.

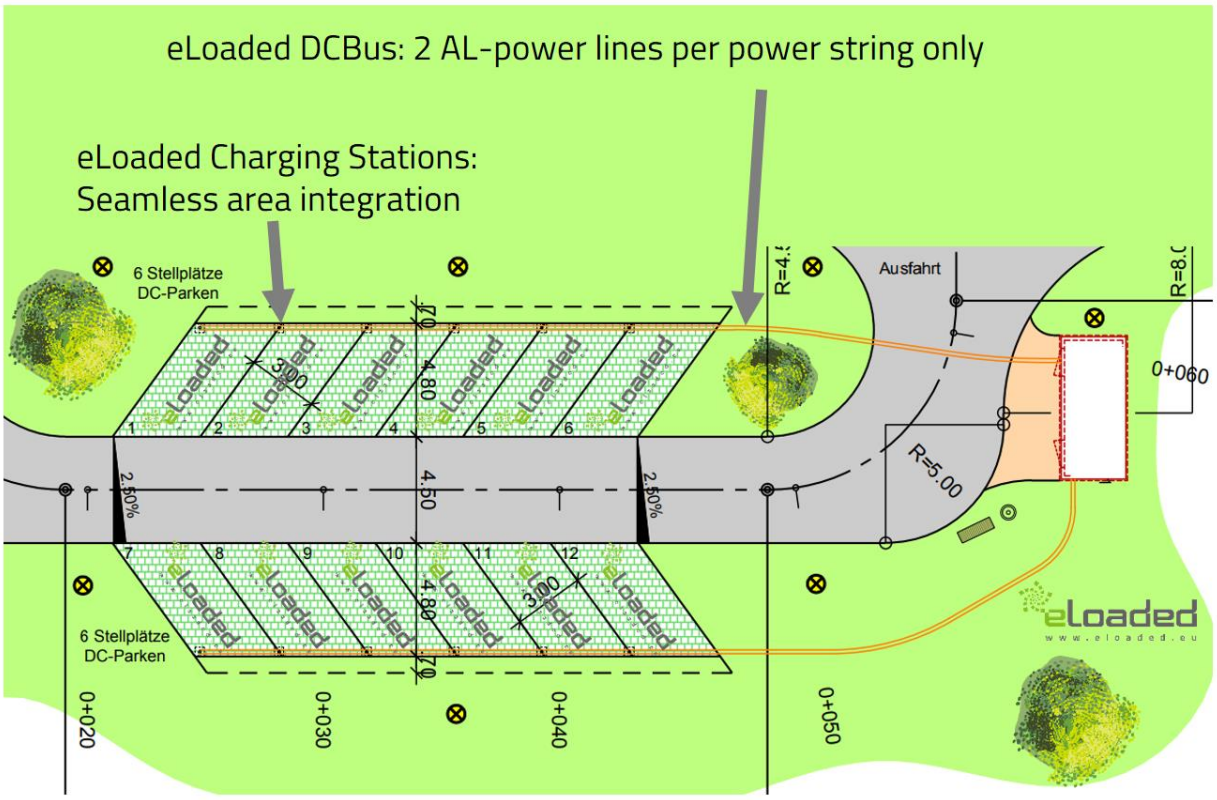


*Abbildung 2: eLoaded DC: 94,9% efficiency*

Added mobility value for customers and operators. eLoaded makes it possible.

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Contact: eLoaded GmbH
Fabrikstr. 1, D-86356 Neusäß
Phone: +49 (0) 821 20817841
E-Mail: info@eloaded.eu

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External Links:
www.eloaded.eu

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About eLoaded GmbH:

Expert for small and large holistic mobility and energy networks creates a new value chain with self-developed technology and software solutions. eLoaded offers complete concepts from a single source with its strong partner network: business model development, site assessment, site planning, structural implementation, commissioning, maintenance & service, strategy consulting and more.