

# CHAdEMO proposal for technical scope of Electric Pedal Assist Cycles (EPAC) charging working group

## Why do we need a new group?

Due to the strong market demand in Electric Pedal Assist Cycles (EPAC) from fleet operators, municipalities and power users, the need for public charging using a common connector and charging communication is rising. Against this backdrop, CHAdEMO Association proposes to create a new working group (WG) to evaluate options for a market-oriented and standardised solution aiming at an EPAC charging system.

### Charging power needed:



500 W



5 kW



50 kW

The charging power is roughly one order of magnitude smaller than for e-Motorcycles.

→ Own charging standard is needed.

→ Charging voltage to be fixed to one level for safety and protection reasons.

The group and scope are based on current EPAC systems, but applications are not limited to EPACs as long as it fits into the proposed technical scope. For example, electric kick scooters and monowheels can also be integrated.

The current target regions are Asia, EU, and US markets.

An example of market segmentation and use cases (EU-focused):

Commuting improves health	Charging outside of office	Revision-proof energy supply	Companies
Marketing for retailers	Vitalization of city centers	Bike & ride stations	Cities
Increase sales (hotels/bars/etc.)	Direct crowds	Positioning of destinations	Tourism



## Objectives and draft scope

The aim of the new WG is to specify a common connector and communication as well as related requirements for the charging equipment and the vehicle. Find below more details.

### Starting point:

Existing documents such as

- ISO TS 4210-10 (SCOPE focused on EPAC)
- Working documents of IEC TS 61851-3-series (SCOPE is broad on light electric vehicles in general, 0 - 120 V)

### Key points of the scope to be defined:

Power	max. 500 - 800 W
Voltage	36 V nominal, max/ 42.0 – 43.5 V
Current	max. 15-20 A
Connector	common mechanical connector to fulfil above requirements
Communication	CAN based communication; protocol to be derived from IEC 61851-24
Other	electrical safety and mechanical requirements, external requirements like EMC, noise, temperature range, IP class, etc. (to be discussed)

Please note that CHAdEMO REGULAR membership is a prerequisite to participate in this WG. You will find the membership types and how to become our member from [here](#).

CHAdEMO Association invites all parties interested in joining or in need of further information to send an email to the EU Secretariat ([info@chademo.eu](mailto:info@chademo.eu)) with your contact information.