Dear hardware manufacturers,

The electricity grid as it stands today, was not built to support the ongoing increase of the electricity demand, and we're now facing a future where we need to do something to address the issue of an imbalanced grid. These imbalances are caused by the volatility of renewable energy production and the changes in consumption patterns. Monta is currently building a service called PowerBank, which allows charge point owners to contribute and meet the grid's balancing needs in exchange for an incentive.

Monta does this by briefly pausing ongoing charges for PowerBank-enabled charge points whenever an imbalance is detected, allowing the charge points to enter balancing and flexibility markets. They will become valuable assets for the grid's ancillary services, creating a new revenue stream everyone can benefit from.

Monta is building the technology to deliver primary reserve (FCR), where precise data monitoring and response times are crucial. PowerBank's ability to balance the grid depends on the speed and precision of the power updates coming from each charge point. At the same time, data traffic should be minimised for manufacturers as well as Monta. The technical specifications can be seen in page 2, but here is an overview:

- Power values should be measured locally once per second and forwarded to Monta as close to 1 second as possible.
- In order to avoid too much data traffic between servers we suggest building a filter and sending these power updates whenever a configurable change in power has been detected (e.g. 200 W), or at a configurable frequency (e.g. every 15 minutes) if there is no change.

We are currently building PowerBank with the charge point brands that already fulfil, are close to fulfilling, or are working to fulfil these requirements. But, we want to include all our hardware manufacturing partners.

We believe PowerBank is a market breaking technology, and we want to be the first ones out there. Our solution is constantly receiving new signups, and we have already received positive feedback from charge point owners.

Please contact us if you are interested in making your charge points able to support PowerBank and offer flexibility services to the grid. We are also happy to facilitate more information and willing to help in any way we can to make it happen.

We look forward to hearing from you,

Best,

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Appendix - Technical specifications

Abbreviation table can be found at the end of the document.

In order for a CS to participate in grid flexibility markets, three requirements must ideally be met:

1. During a charging transaction, the power meter values for each of its EVSEs must be able to be measured locally at least once per second.
2. During a charging transaction, the power meter values for each of its EVSEs must be forwarded to the CSMS within one second whenever a configurable change in power has been detected, down to a minimal configurable change of 100 Watts.
3. During a charging transaction, the power meter values for each of its EVSEs must be forwarded to the CSMS at a configurable interval down to once per 5 minutes.

Requirement 1 is a prerequisite for requirement 2 and 3 and is not directly visible in OCPP protocol implementations.

Depending on the OCPP standard used, we suggest to map requirements 2 and 3 to OCPP as follows:

OCPP 1.6

Requirement 2

OCPP 1.6 does not, out of the box, support configuring a CS to send meter values whenever a configurable change in power has been detected.

We suggest that manufacturers add the following writable configuration key:

Key: MeterValuePowerActiveImportDeltaTrigger
Type: Integer
Unit: Watts
Description: The change in value in Watts of the *overall* **Power.Active.Import** measurand required in order to trigger a **MeterValues.req** PDU from the CS to the CSMS. A value of 0 turns the trigger off.

Manufacturers should support the trigger to send a **MeterValues.req** PDU to the CSMS at least **once per second** when the configuration is active and a charging transaction is active.

Manufacturers should support setting a delta value down to **100** (Watts).

The delta value signifies the value change in the overall **Power.Active.Import** since the last time a **MeterValue** class was sent (in a **MeterValues.req** or **StopTransaction.req** PDU) containing the overall **Power.Active.Import** measurand or one of the phase **Power.Active.Import** measurands.

Requirement 3

OCPP 1.6 already supports configuring a CS to send meter values at set intervals using the **ChangeConfiguration.req** PDU (OCPP 1.6, section 6.9) with the following configuration key:

MeterValueSampleInterval (OCPP 1.6, section 9.1.19.) along with **MeterValuesSampledData** (OCPP 1.6, section 9.1.17.) for sending meter values within transactions at set intervals.

Manufacturers should support **MeterValueSampleInterval** down to **300** (seconds).

Manufacturers should support the measurand **Power.Active.Import** (OCPP 1.6, section 7.31).

OCPP 2.0.1

Requirement 2 and 3

OCPP 2.0.1 supports advanced monitoring using the Device Management Monitoring feature (OCPP 2.0.1, Part 1, section 4.4.). This allows a CSMS to set both periodic and delta-based monitoring on the power of each EVSE of a CS, if supported by the manufacturer.

Manufacturers should therefore support the following Device Management Monitoring features (see (OCPP 2.0.1, Part 2, section N.2.):

- **N02 Get Monitoring report**
- **N04 Set Variable Monitoring** on the variable **Power** of each **EVSE** of a CS (OCPP 2.0.1, Part 2, appendix 3.2.30.) with the **Delta** and **Periodic** monitor types (OCPP 2.0.1, Part 2, section 3.55).
- **N06 Clear / Remove Monitoring**
- **N07 Alert Event**
- **N08 Periodic Event**

Manufacturers should support setting the periodic interval down to **300 seconds** and the delta value down to **100 Watts**.

Manufacturers should support the delta trigger to send a **NotifyEventRequest.req** PDU to the CSMS at least **once per second** during a charging transaction when the monitoring is active.

Abbreviations

Abbreviation	Term	Meaning
EV	Electrical Vehicle	A battery-powered vehicle that uses one or more electrical motors for propulsion.
CS	Charging Station	The physical system where an EV can be charged. A Charging Station has one or more EVSEs.
EVSE	Electric Vehicle Supply Equipment	An EVSE is considered as an independently operated and managed part of the Charging Station that can deliver energy to one EV at a time.
CSMS	Charging Station Management System	Manages Charging Stations and has the information for authorising Users for using its Charging Stations.

Source: OCPP 2.0.1 Part 0 Introduction