

# SMART CHARGING AND V2X

Agreements regarding Smart Charging and advanced forms of use, e.g. support for charge profiles and return delivery of energy to the power grid.

Sub-category	ID	Subject description	Guideline description	Required; Desired*	Priority**	Comments
Smart Charging	SC1	Collaboration on Smart Charging	The contractor actively participates in Smart Charging initiatives.	Desired	N/A	
Smart Charging	SC2	Supporting protocols	To make Smart Charging possible, at least the following protocols are supported: OCPI, OCPP v1.6 and OSCP. (The time of implementation is dependent on concrete use cases and will be determined together with the client.)	Required	N/A	Future guideline.
Smart Charging	SC3	OSCP	To work with cable forecasts from the grid operator, the back office system supports OSCP I.O.	Required	N/A	
Smart Charging	SC4	OCPI	To support the services of third parties, the latest version of OCPI is implemented in the management system (back office system) of the charging stations.	Required	N/A	
Smart Charging	SC5	Computing power of the controller	The controller is able to receive and send messages at the same time (full duplex/multi-threading). There are no processes in the controller that permanently or temporarily prevent communication with the back office system.	Desired	N/A	
Smart Charging	SC6	Stacking charge profiles	The charging station offers support for prioritising ('stacking') at least six charge profiles of the same type using Charge-point MaxProfile and TxDefaultProfile.	Desired	N/A	
Smart Charging	SC7	Periods	The charging station offers support for 20 periods per charge profile.	Desired	N/A	
Smart Charging	SC8	Local load balancing	The charging station divides the available energy on the basis of the connected load between the two charging points. Software will be required to execute local load balancing.	Desired	N/A	It is up to the subscriber to get the most out of the connection. The solution must always be at least smart enough to ensure the use of the maximum amount of available energy.

For \* and \*\*: definitions on page 7.

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Smart Charging	SC9	Initiating charging regardless of charge profile	If Smart Charging is active through OCPP profiles, charging will always begin within a short amount of time (such as 30 seconds). The charge profile, if any, will then be executed. This allows the user to know that their vehicle has been correctly connected.	Desired	N/A	
Smart Charging	SC10	Flexibility of access	The contractor makes agreements with external parties to create the possibility to ensure flexibility with energy providers and PV parties. This flexibility is then translated into charge profiles. The EV driver should also profit from this flexibility. The USEF framework can be used to ensure this flexibility.	Desired	N/A	
Smart Charging	SC11	Inclusion in a charging area arrangement	The charging station is prepared for any potential future inclusion in a charging area arrangement. In such an arrangement, several charging stations of the same type use one and the same grid connection. The distance between the charging stations must be at least ten metres.	Desired	N/A	This is important in relation to keeping operational costs (including data costs) low. The protocol to be used can be chosen (RS485, Zigbee, and so on).
Smart Charging	SC12	Local load balancing	The charging station divides the available energy on the basis of the connected load between the two charging points. Software will be required to execute local load balancing.	Desired	N/A	This is important in relation to keeping operational costs (including data costs) low. The protocol to be used can be chosen (RS485, Zigbee, and so on).
Technology	SC13	OCPI version for charge profiles	In order to receive charge profiles from an external service provider and to support other services, the contractor must implement the latest version of OCPI in the management system (back office system) of the charging stations.	Required	N/A	
Technology	SC14	Sending charge profiles via OCPI and OCPP	The charge profiles that are sent by the service provider via OCPI must be sent by the back office to the charging stations via OCPP.	Required	N/A	

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Technology	SC15	Alternative protocol:	Even if another (non-OCPI) protocol becomes the standard in the Dutch market for communicating with third parties such as service providers, the contractor must implement this alternative communication protocol free of charge.	Desired	N/A	
V2x	SC16	V2x support	The charging station supports future V2x situations, in which a current runs from the car to the grid or another installation.	Desired	N/A	Future guideline.
V2x	SC17	V2x registration	The meter in the charging station is equipped to register this energy with a separate counter.	Desired	N/A	

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