UNLOCKING SMARTER CHARGING WEBINAR

EVCAN'S CSMS SPEC AND OCA'S GLOBAL STANDARD SET A NEW BENCHMARK

JANUARY 8, 2026

EVCAN

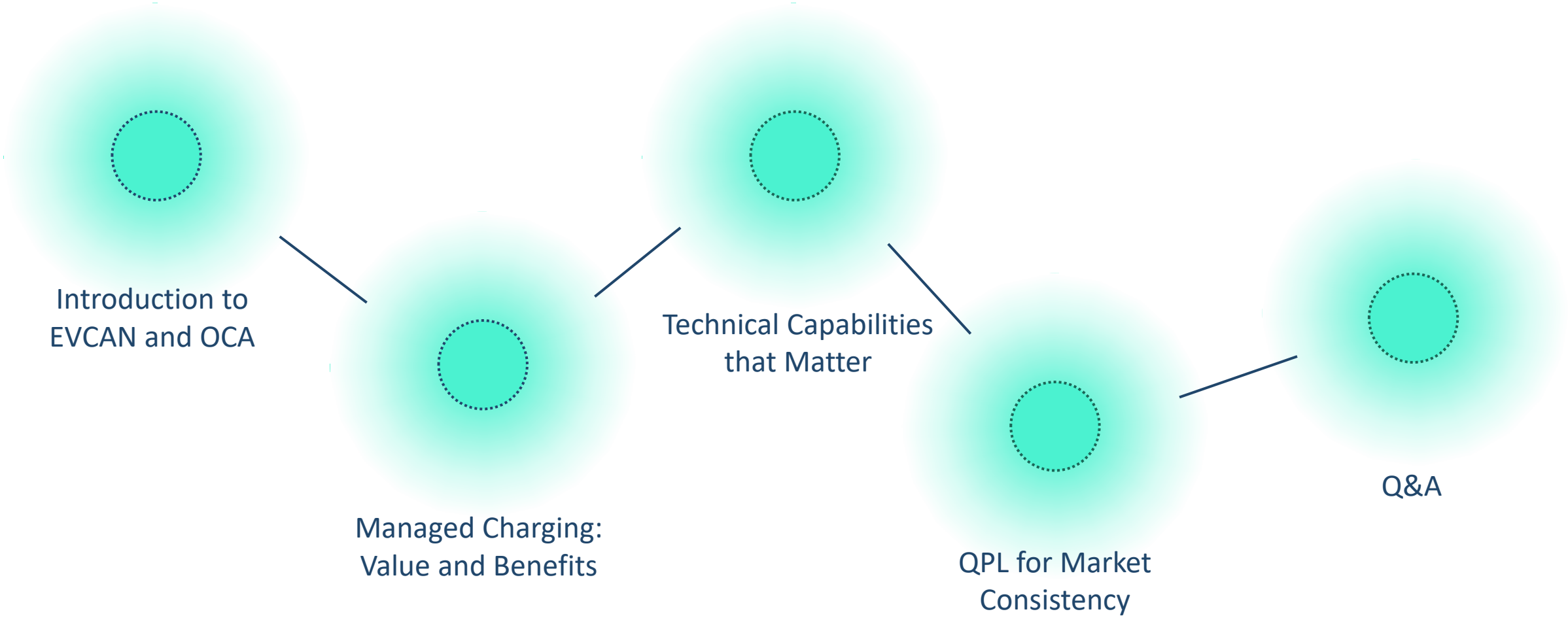
Webinar Logistics

Recording will be posted on EVCAN.org

Mute until Q&A

Q&A for questions, chat for technical issues

Agenda


Introduction to EVCAN and OCA
Managed Charging: Value and Benefits
Technical Capabilities that Matter
QPL for Market Consistency
Q&A

Carolyn Weiner
Program Director
EVCAN

Lonneke Driessen
Executive Director
Open Charge Alliance

EVCAN

An Efficiency Forward Initiative

We are a 501c3 nonprofit organization with deep roots in energy efficiency and decarbonization

Our Vision is to make electric vehicle charging accessible and easy, wherever the journey goes.

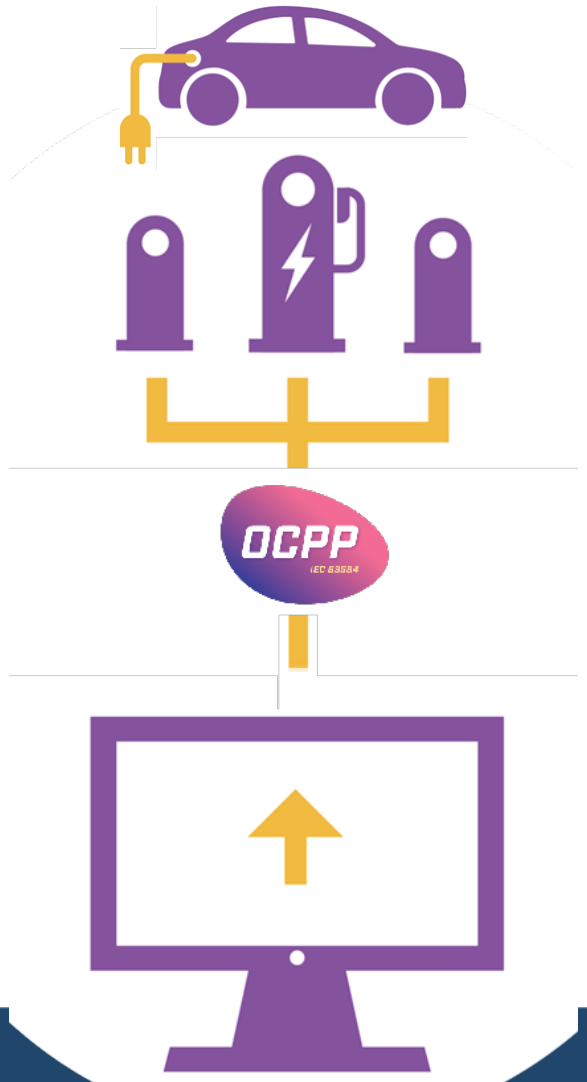
Our Mission is to accelerate deployment of reliable and connected EV charging across North America through stakeholder engagement and access to impartial tools and resources.

Introduction to OCA and OCPP

The Open Charge Alliance (OCA) is the industry alliance governing OCPP

- OCA is a nonprofit foundation, founded in 2014 under Dutch law
- OCA's goal is to help the EV charging industry accelerate
- OCA holds the copyrights on the OCPP specifications and has made OCPP available under a Creative Commons Public License ("no derivatives").
- OCA promotes OCPP, develops OCPP, develops a testing and certification program.

OCPP (Open Charge Point Protocol)



- OCPP describes the information exchange between a charging station and a charging station management system
- It describes for example:
  - How to authorize, start and stop a charging session
  - How to manage the energy flow (smart and bidirectional charging)
  - How to monitor the status and health of the charging station
- OCPP has been developed by the industry over the past 15 years, following the need of the growing industry and incorporating field experience

OCPP is an open-source standard

- The OCPP specifications can be downloaded by anyone free of charge
- OCPP is an open protocol for unrestricted use by any interested party with no requirement for licensing, payment, or registration
- You can become a participant of OCA to contribute to the OCPP specification, the certification program and get discounts – but you do not have to

Managed Charging: Value and Benefits

The future of transportation continues to be electric

“As of July 2024, state public utility commissions have approved investments totaling more than $4.2 billion dedicated to charging infrastructure.”

RMI

EV Loads Are Coming — Here’s How They’ll Affect the Grid

Future EV load growth will create a need for distribution system upgrades. Here's how utilities can plan for it.

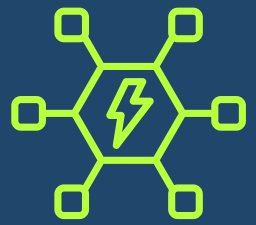
April 28, 2025

By Ben Shapiro, Aradhana Gahlaut, Nick Pesta

Managed Charging is foundational for scaled deployment

Unmanaged EV load creates risk

As EV adoption grows, unmanaged charging increases peak demand, strains local distribution assets, and raises long-term system costs



Managed charging adds flexibility by design

EVs can be a controllable resource rather than a fixed load.

Managed Charging delivers measurable Grid and Cost Benefits

Shifts load off-peak and reduces grid stress

Real-world deployments show managed charging can move ~60% of EV charging to off-peak hours and cut peak demand by up to 30%*.

Defers infrastructure investment

By shaping load instead of reacting to it, utilities can delay or avoid costly distribution upgrades while supporting EV adoption.

**EnergyHub, "New Data Confirms the Value of Managed EV Charging for Utilities" (2024)*

EVCAN

Managed Charging works best when it’s Standard Practice

Pilots prove value but scale requires consistency

Pilots demonstrate managed charging can support peak reduction and solar alignment, but bespoke designs limit broader impact.

Standardized capabilities enable scale

Common technical expectations, interoperable CSMS platforms, and consistent data reporting are needed to make managed charging repeatable and reliable across programs.

EVCAN

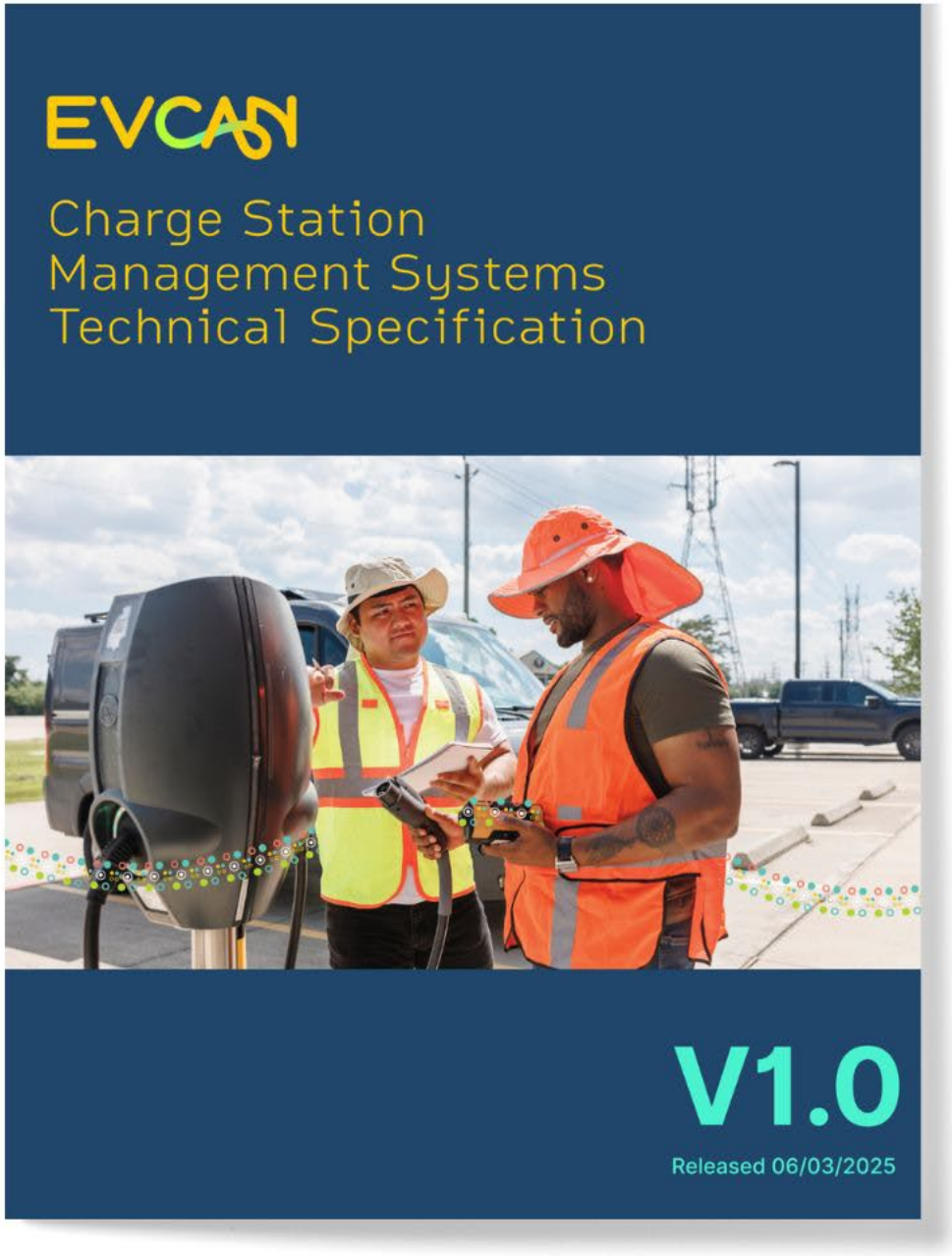
Technical Capabilities that Matter

Scaling new technologies is successful when there's…

- ✓ Broad adoption of industry wide standards
- ✓ Third-party testing to confirm performance
- ✓ Support in verification of compliance to standards

EVCAN published a technical specification focused on Charge Station Management System Capabilities.

A shared language for minimum and optional technical criteria to operationalize smart charge management for Utility and End User benefits.



Scope of Specification

eMSP
E-Mobility Service Provider

Utility Programs
EV and DR Program Mgmt

Utility Ops, Aggregator, DERMS, DRMS
Distributed Energy Resource, Demand Response

OCPI

API/CSV

IEEE 2030.5

OpenADR

CSMS
Charge Station Management System

MODBUS
DNP3

BACnet

OCPP

EVSE
Electric Vehicle Supply Equipment

EMS
Energy Management System

BMS
Building Management System

Scope of Specification

eMSP
E-Mobility Service Provider

Utility Programs
EV and DR Program Mgmt

Utility Ops,
Aggregator,
DERMS, DRMS
Distributed Energy Resource,
Demand Response

OCPI

API

IEEE 2030.5

OpenADR

CSMS
Charge Station
Management System

MODBUS
DNP3

BACnet

OCPP

EVSE
Electric Vehicle Supply Equipment

EMS
Energy Management System

BMS
Building Management System

Architectures for Charge Station Management Systems

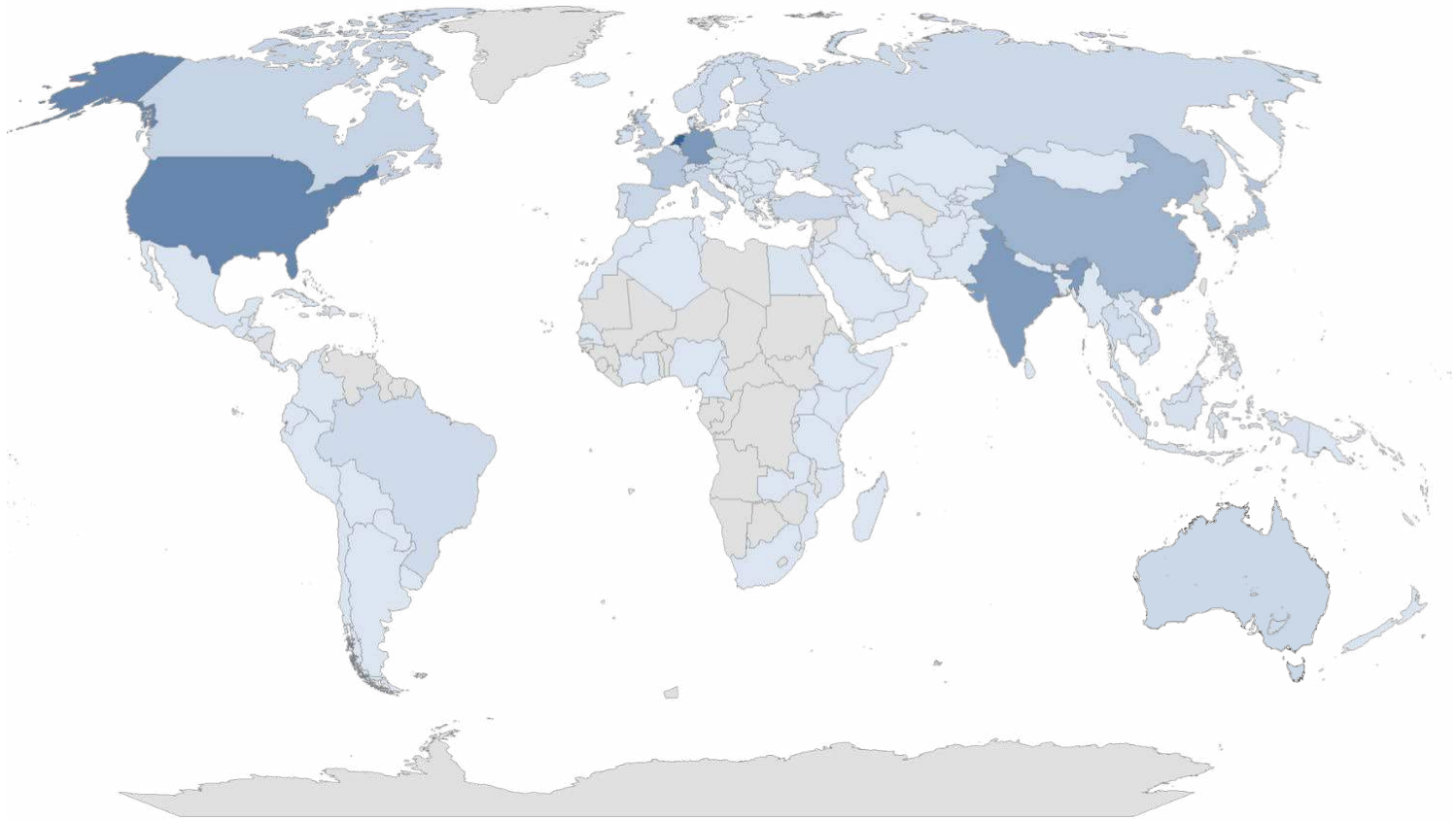
Cloud-based Charge Management Software

Local Load Management Hardware

EVSE-integrated Charge Management

Hybrid Systems

OCPP is helping the development of charging infrastructure globally



OCPP2.x downloads
Jan‘24–Aug’25

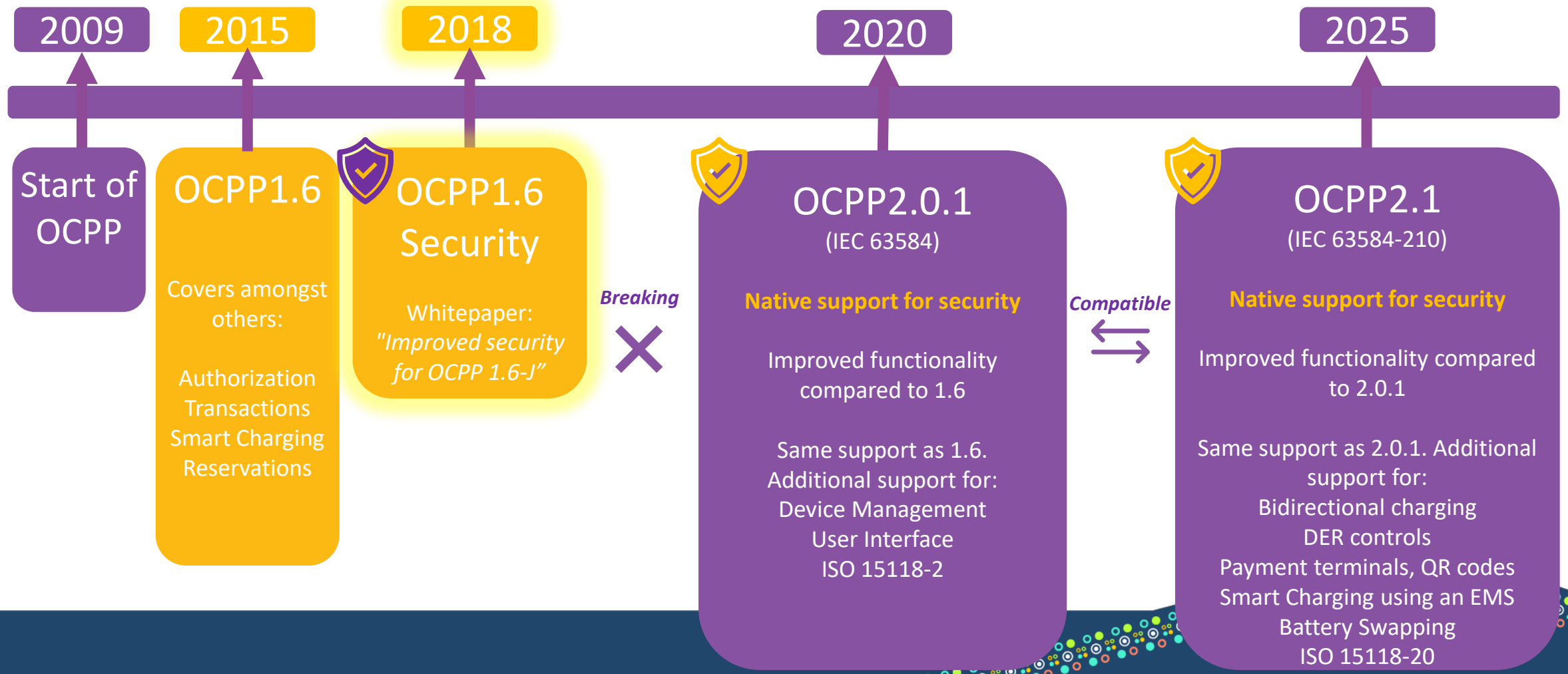
OCPP provides a blueprint for how to set up charging infrastructure; it shares lessons learned with emerging markets, letting them stand on top of shoulders.

OCPP opens up markets, offering choice and diversity.

Why do we believe in a standard?

- **Freedom** for buyers/operators of equipment and services **to migrate charging stations** to another network - in case of market exit or contract termination (prevention of stranded assets);
- Freedom for **new players** to enter the Charging Industry and establishing a competitive and open market;
- Establishing a minimum set of **guaranteed functionalities** in Charging Infrastructure for all stakeholders;
- **Guaranteeing** a minimum set of relevant static and dynamic **available data** for regulators and other data consumers.

OCPP developed following the need of the industry and incorporating field experience



OCPP1.6 (released 2015) is in maintenance mode and will no longer evolve

OCPP1.6

- ✓ **Errata management**
- ✓ **Test Tool (OCTT) support**
- ✓ **Certification Program**
- ✓ **Whitepapers**

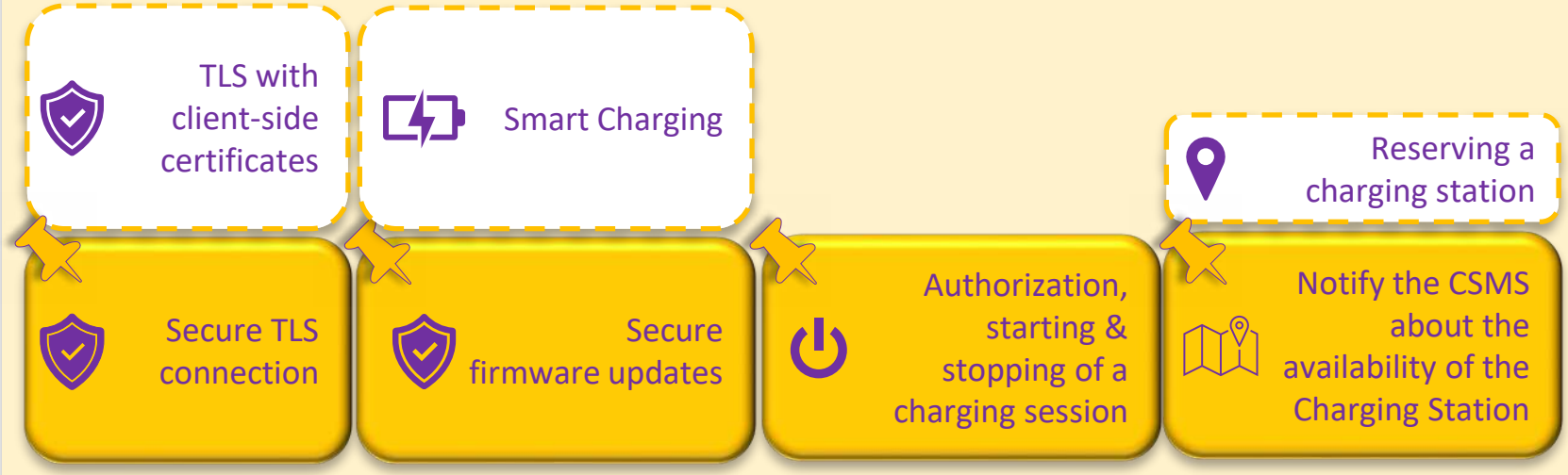
OCPP2.X
(IEC 63584)

- ✓ **Feature development**
- ✓ **IEC publication & maintenance**
- ✓ **Errata management**
- ✓ **Test Tool (OCTT) support**
- ✓ **Certification Program**
- ✓ **Whitepapers**

Our industry is not yet in maintenance mode…we are only getting started…so at some point, OCPP1.6 will no longer suffice, and for future installations you will need to move forward

OCPP1.6 versions & features

OCPP 1.6 (2015)



OCPP2.X versions & features

OCPP 2.1 (2025)

- Utility DER control
- V2X
- Smart charging with an EMS present
- Battery swapping
- ISO 15118-20 Smart Charging
- ISO15118-20 PnC
- Dynamic QR code
- Payment Terminal
- Prepaid charging
- Real time data

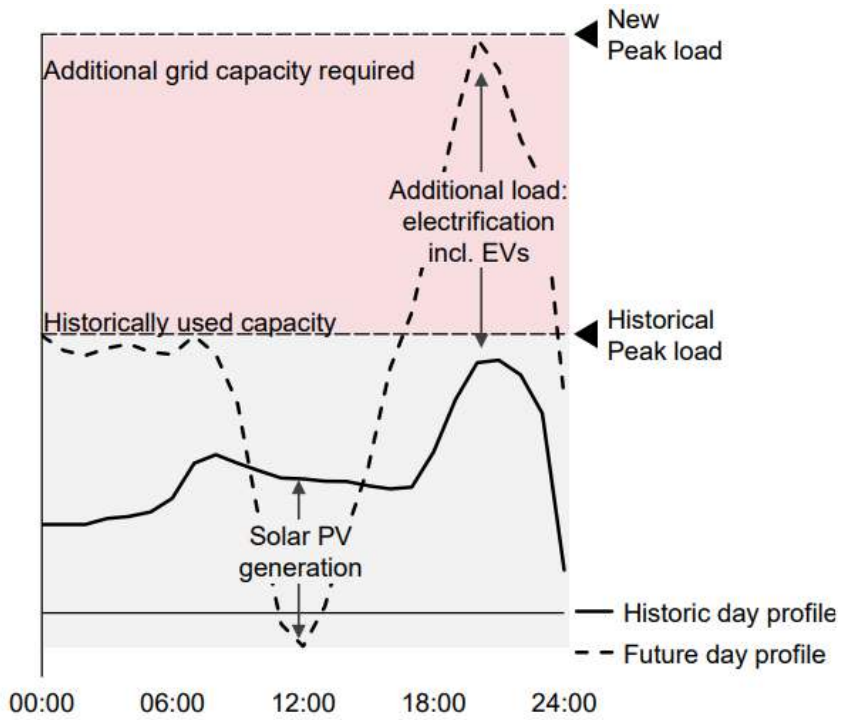
OCPP 2.0.1 (2020)

- ISO 15118-2 Smart Charging
- ISO15118-2 PnC
- Show information on the display of a Charging Station
- TLS with client-side certificates
- Smart Charging
- Multiple options for authorization, starting & stopping of a charging session
- Monitoring of a Charging Station
- Reserving a charging station
- Secure TLS connection
- Secure firmware updates
- Authorization, starting & stopping of a charging session
- Notify the CSMS about the availability of the Charging Station
- Migration of a Charging Station to a new CSMS

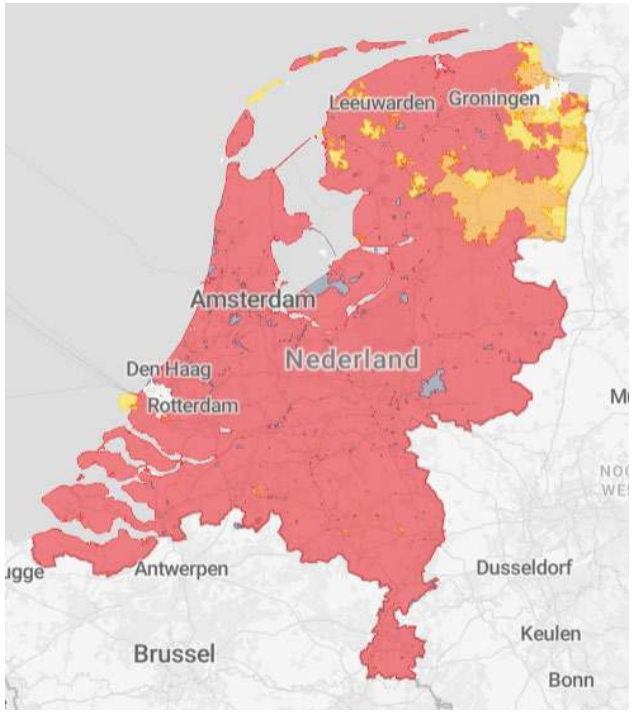
OCPP Version evolution to unlock value for Utilities

	OCPP 1.6 2015	OCPP 2.0.1 2020	OCPP 2.1 2025
Managed Charging	☑	☑	☑
Bidirectional charging – DER control	☒	☒	☑
Switching CSMS Networks	Whitepaper	☑	☑
Security	Whitepaper	☑	☑
Status and Health Monitoring	☒	☑	☑

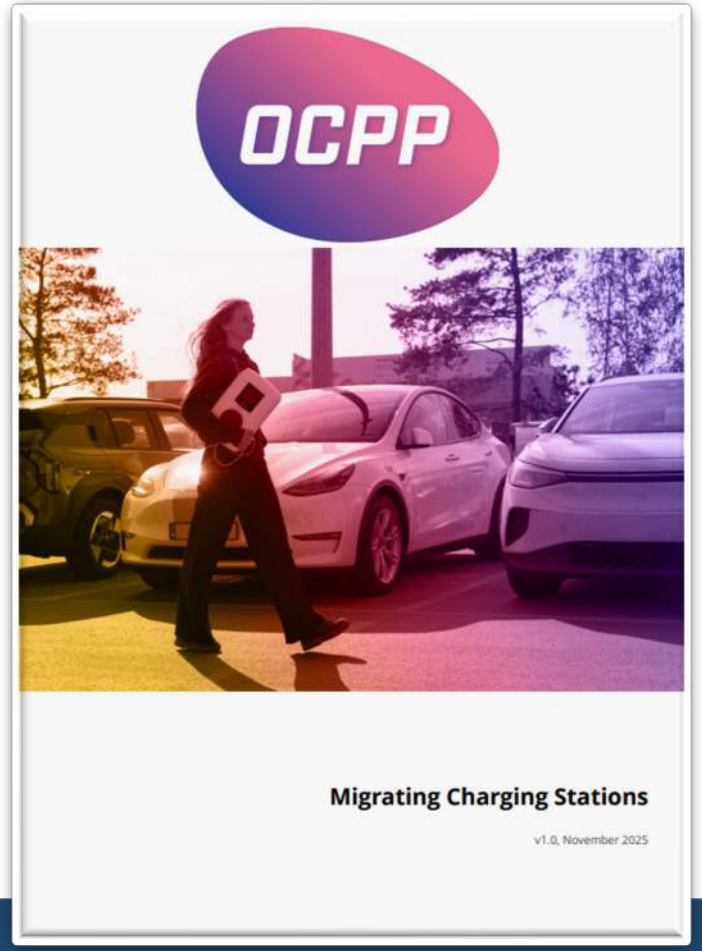
Utilities Requirements & OCPP
Managed Charging



Dutch Grid Capacity (Industrial Customers)



Utilities Requirements & OCPP
Migrating Charging Stations



- Network configuration for backoffice connection
- SIM cards
- QR/NFC stickers
- Payment service provider contracts
- Payment terminal configuration
- Signage
- User accounts
- CPO as eMSP

Utilities Requirements & OCPP
Bidirectional charging – DER control

Utility | Charging Station Operator | Charging Station | EV

IEEE 1547 - Standard for Interconnection and Interoperability of Distributed Energy Resources with associated Electric Power Systems Interfaces

OCA is publishing the OCPP Security Operations Guide – **for OCPP and beyond**

59 pages of security requirements for EV Charging infrastructure

- Regulations vs. security measures (RED, CRA, MID, NIS2, NCCS, ENCS Security Requirements, CMMC, NIST Handbook 44, CCPA
- Guidance for both Charging Stations and Charging Stations Management Systems
- TLS versions and security policies
- Securing other services
- Restricting access to critical operations.
- TLS policies for OCPP
- Overview of security issues found in Charging Stations

OCA is participating in Pwn2Own Automotive ‘26,
the world’s largest zero-day vulnerability discovery contest

- Tesla car
- Alpitronic DC charger
- ChargePoint AC charger
- Phoenix Contact AC charger
- Ford AC charger
- Grizll-E AC charger
- Emporia AC charger
- Tesla wall connector
- Autel AC charger
- Ubiquity AC charger

OCA is joining…

- To promote the OCPP Security Operations Guide
- To walk the talk: OCA is participating with the OCPP testing tool OCTT

1. Interoperability Standards Required

Capability	Description
CSMS – EVSE communication	**Pathway 1:** OCPP v1.6 full certificate
	Pathway 2: OCPP v2.0.1 core certificate
CSMS – EVSE interoperability	OCPP-certified EVSE's from 3+ manufacturers
DERMS / DRMS communication Distributed Energy Resource / Demand Response	**Pathway 1:** Sunspec IEEE 2030.5 certification
	Pathway 2: OpenADR v2.0b certification
	Pathway 3: OpenADR v3.0 certification

2. Cybersecurity Standards Recognized

Standard	Process (all)	Cloud Services (if used)	Payment (if used)
ANSI/UL 2900-1	Y		
ANSI/ISA/IEC 62443-4-1	Y		
CSA/ANSI T200	Y		
SOC 2	Y	Y	
ISO 27001	Y		
ISO 27017		Y	
FedRAMP		Y	
CSA STAR		Y	
PCI DSS			Y

© Efficiency Forward, 2025

3. EVSE Monitoring and Control: Monitoring Required

Capability	Description
EVSE Status Monitoring	- EVSE Status - Connector Status - EVSE Network Status (Online/Offline)

EVSE Measurement Monitoring	- Imported/Exported
	  - Current
	  - Active Energy
	  - Active Power
	  - Power Factor or Reactive Power
	- State of Charge (SoC)
	- Voltage
	- Current Offered or Power Offered

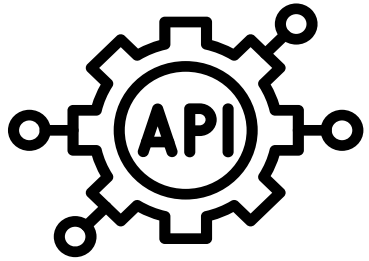
© Efficiency Forward, 2025

4. Energy Management Required

Capability	Description
Demand Response Capabilities	Reduce or shift charging loads in response to an external sign from an entity such as a grid operator, aggregator, or controller (e.g., EMS/MGC/BMS).
Dynamic Load Management	Dynamically allocate and adjust the distribution of electrical power among multiple EVSE units in real-time… balancing charging demands with grid constraints.

© Efficiency Forward, 2025

5. Data Analytics and Reporting Required



Capability	Description
API Data Example	Secure access to authorized third parties, to access historical data through an API
CSV Data Example	Secure access to authorized third parties, to access historical data through CSV files

In addition, the Specification includes a comprehensive list of **42+ data parameters** for reporting

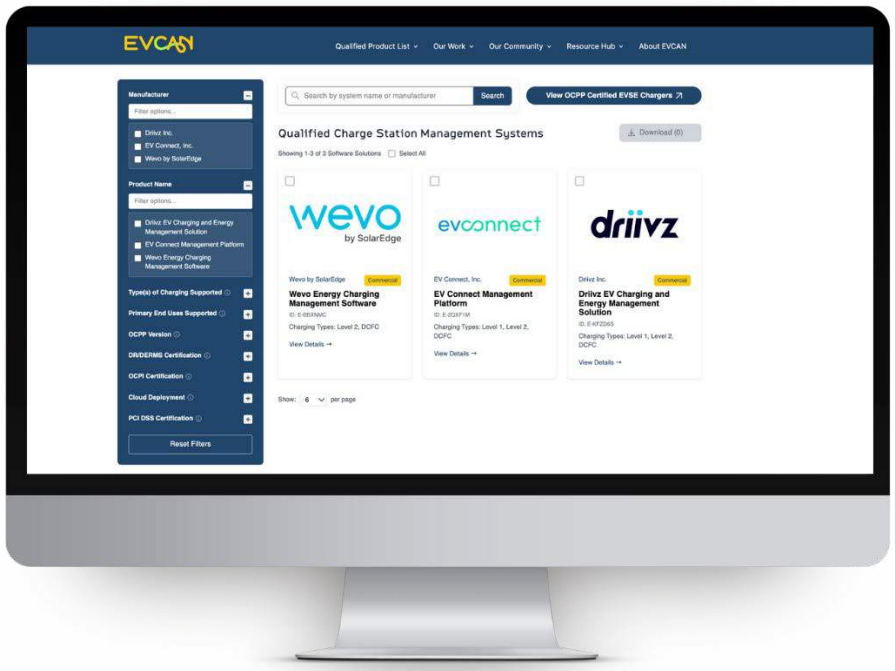
© Efficiency Forward, 2025

Additional Requirements and Reported Capabilities

- Check market availability of product
- Screen for additional capabilities where established standards may not exist yet
- Screen for use case specific capabilities (i.e. payment authentication)

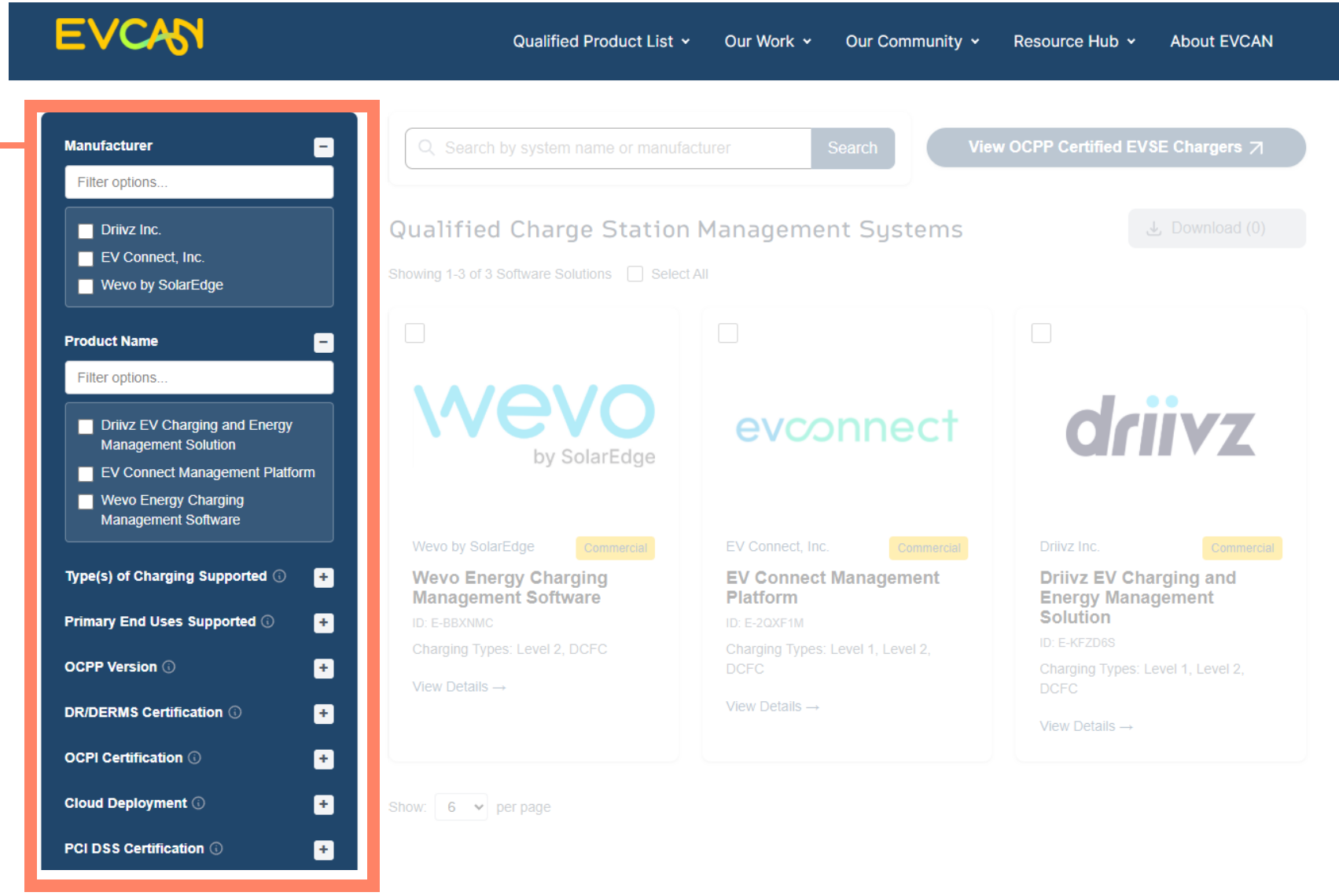
QPL for Market Consistency

A trusted list of charge station management systems that meet shared performance expectations



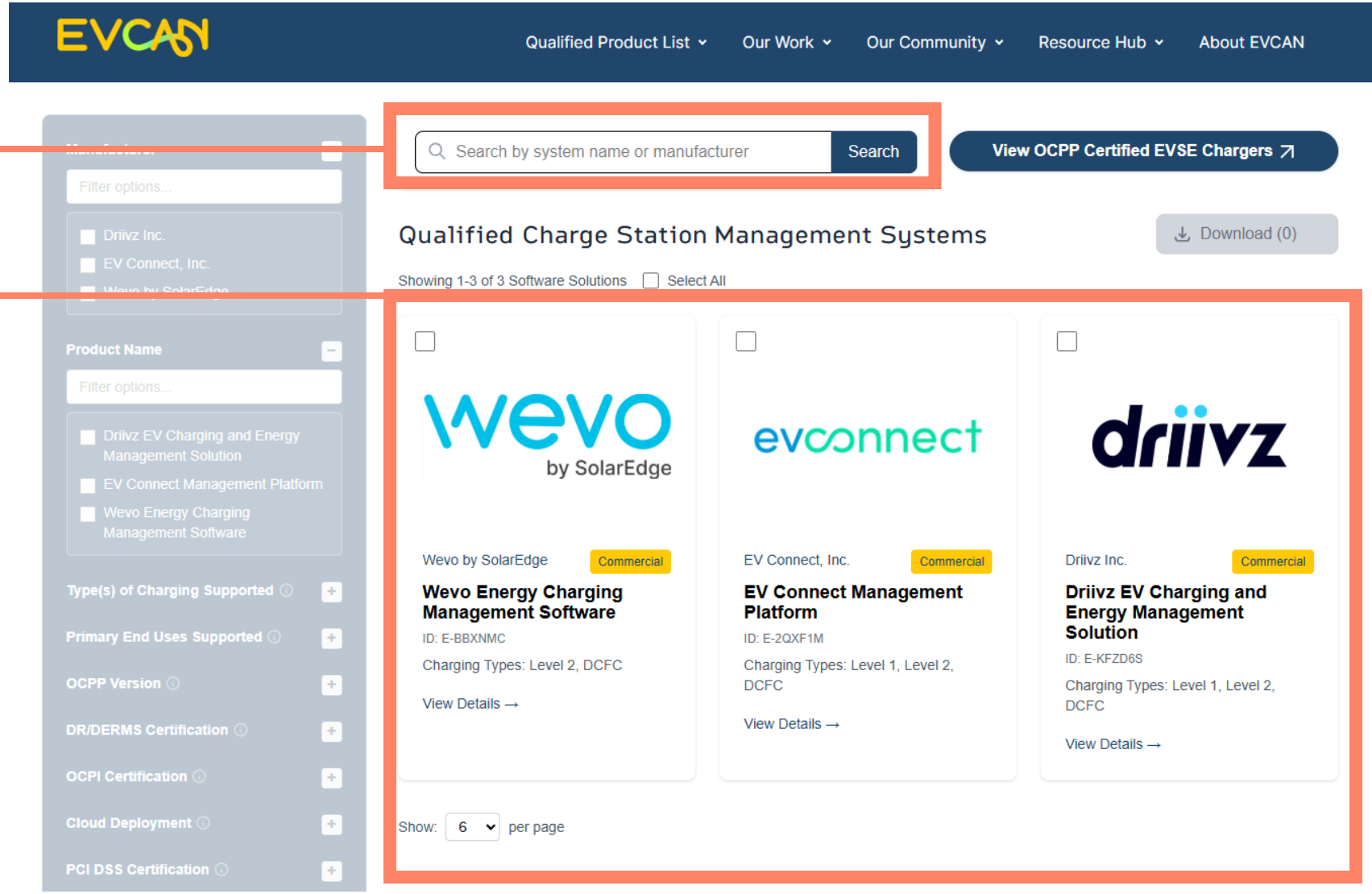
- Identifies charging network solutions that meet shared, stakeholder-informed expectations.
- Based on the EVCAN CSMS Specification, focused on real-world program needs.
- Designed to evolve as programs, standards, and technology change.

Product Type and Capability Filters

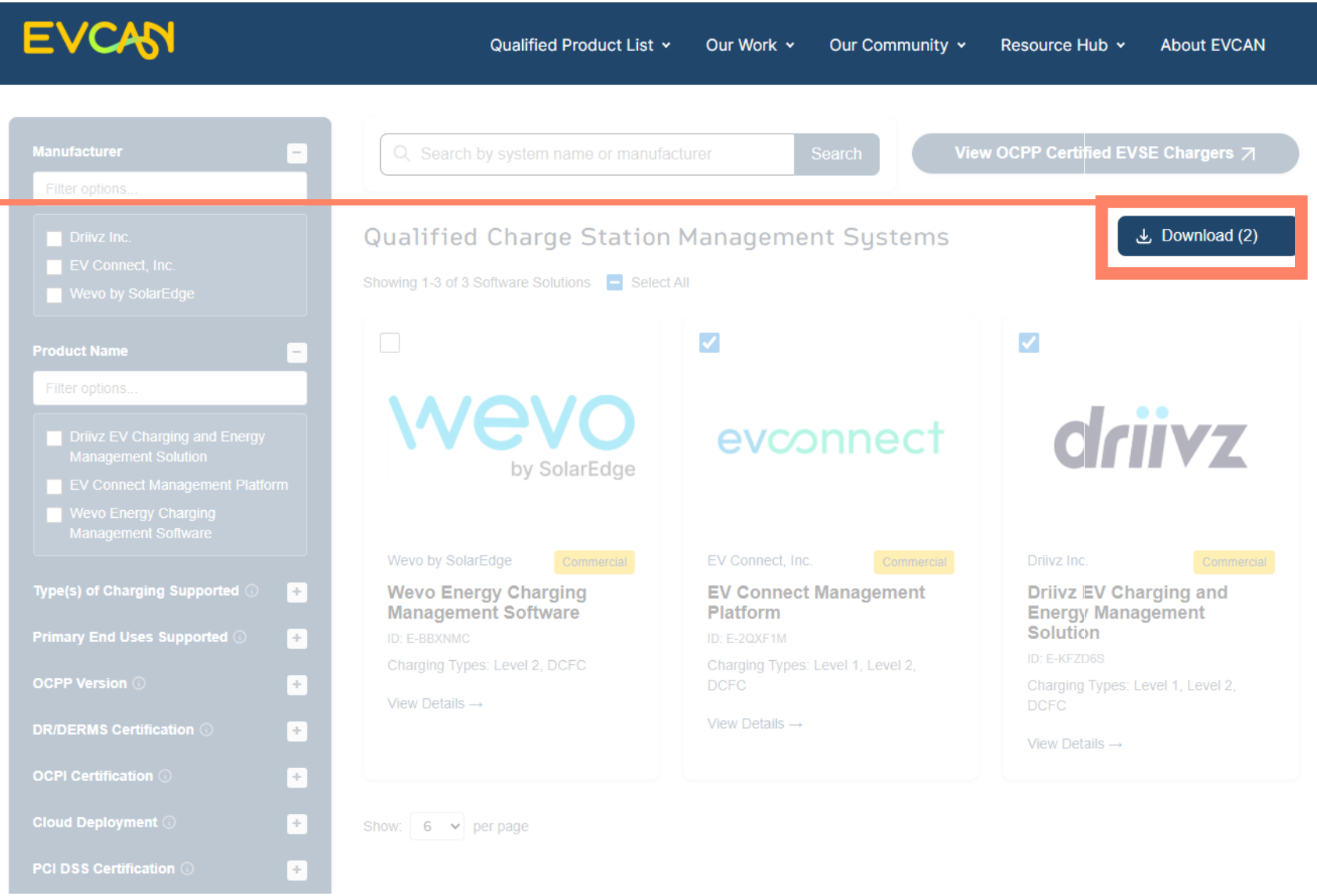


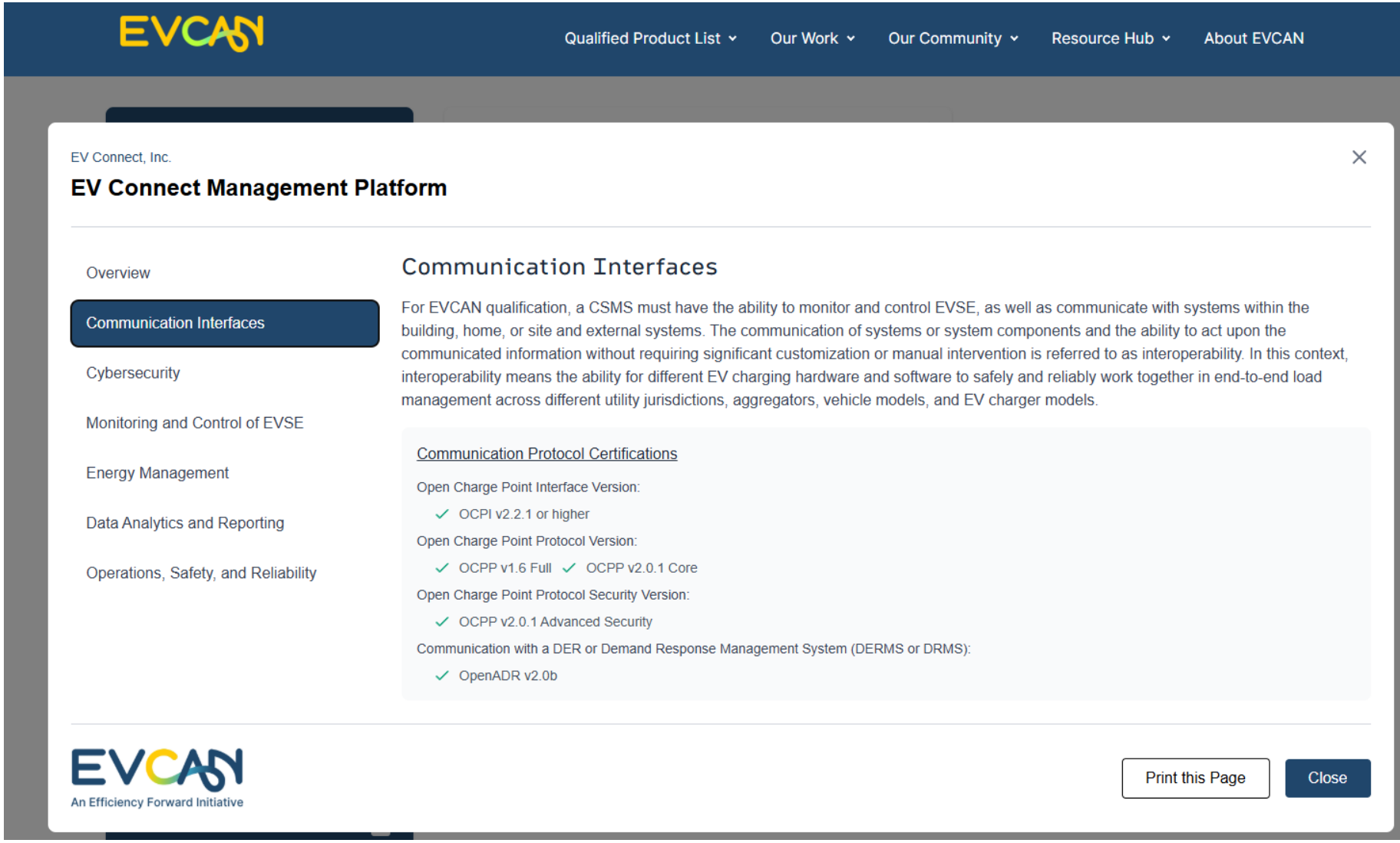
Quick Search

Clean, Easy to Read Product List

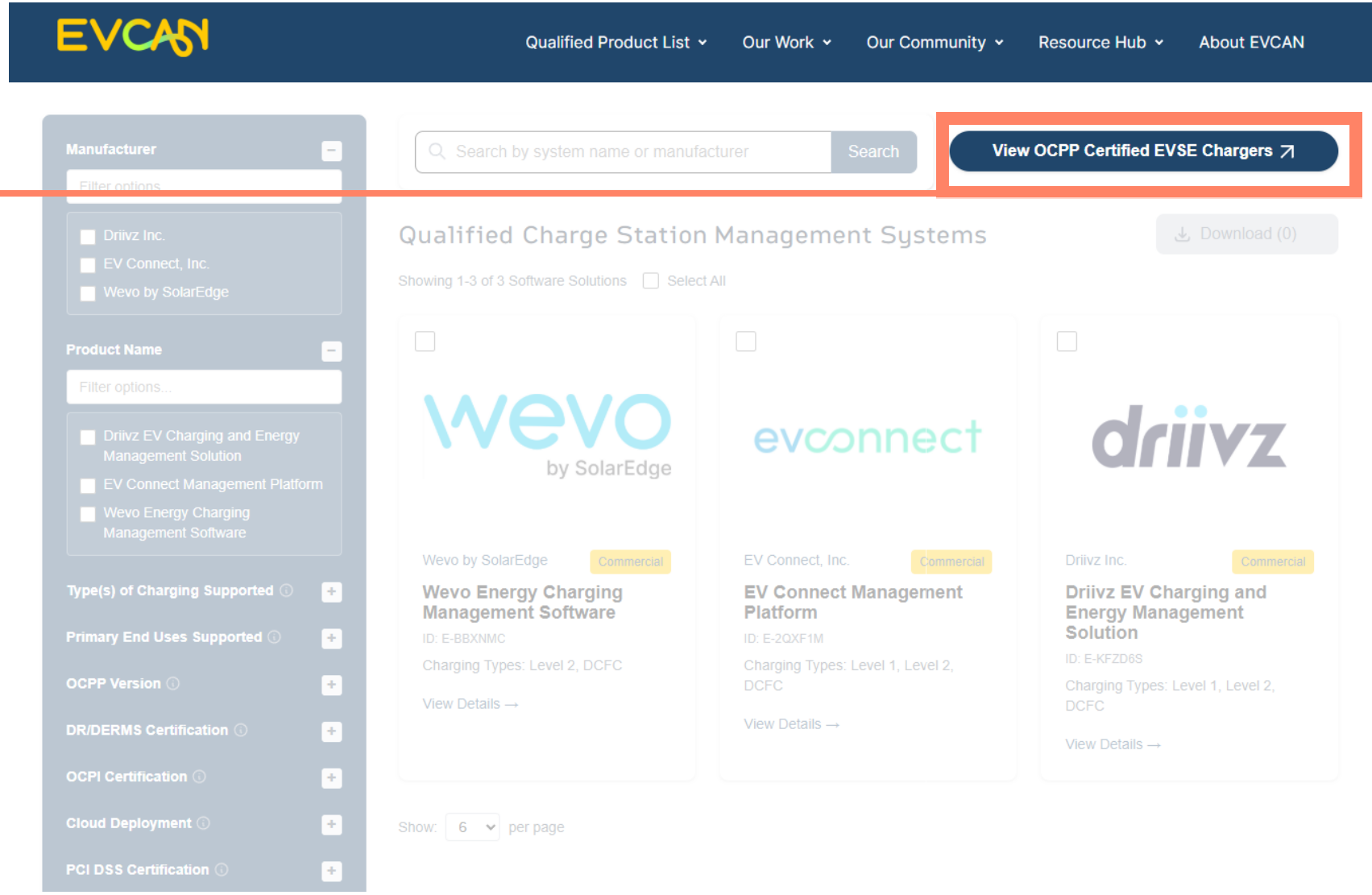


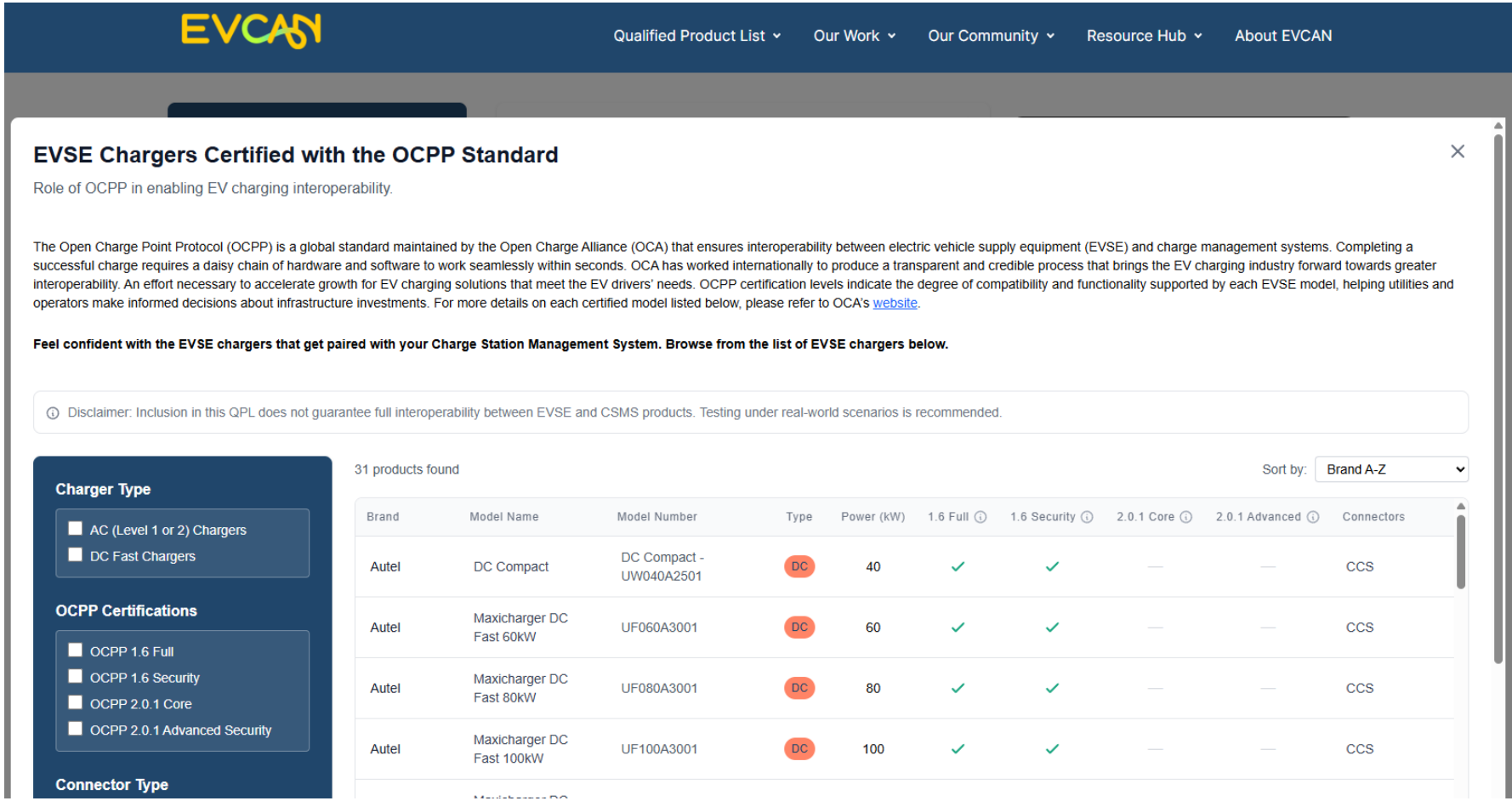
Quick Download of Evaluated Product Information




EVCAN
Qualified Product List
Our Work
Our Community
Resource Hub
About EVCAN
EV Connect, Inc.
EV Connect Management Platform
Overview
Communication Interfaces
Cybersecurity
Monitoring and Control of EVSE
Energy Management
Data Analytics and Reporting
Operations, Safety, and Reliability
Communication Interfaces
For EVCAN qualification, a CSMS must have the ability to monitor and control EVSE, as well as communicate with systems within the building, home, or site and external systems. The communication of systems or system components and the ability to act upon the communicated information without requiring significant customization or manual intervention is referred to as interoperability. In this context, interoperability means the ability for different EV charging hardware and software to safely and reliably work together in end-to-end load management across different utility jurisdictions, aggregators, vehicle models, and EV charger models.
Communication Protocol Certifications
Open Charge Point Interface Version:
OCPI v2.2.1 or higher
Open Charge Point Protocol Version:
OCPP v1.6 Full
OCPP v2.0.1 Core
Open Charge Point Protocol Security Version:
OCPP v2.0.1 Advanced Security
Communication with a DER or Demand Response Management System (DERMS or DRMS):
OpenADR v2.0b
EVCAN
An Efficiency Forward Initiative
Print this Page
Close

Access OCPP Certified EVSE Chargers




EVCAN
Qualified Product List
Our Work
Our Community
Resource Hub
About EVCAN
EVSE Chargers Certified with the OCPP Standard
Role of OCPP in enabling EV charging interoperability.
The Open Charge Point Protocol (OCPP) is a global standard maintained by the Open Charge Alliance (OCA) that ensures interoperability between electric vehicle supply equipment (EVSE) and charge management systems. Completing a successful charge requires a daisy chain of hardware and software to work seamlessly within seconds. OCA has worked internationally to produce a transparent and credible process that brings the EV charging industry forward towards greater interoperability. An effort necessary to accelerate growth for EV charging solutions that meet the EV drivers' needs. OCPP certification levels indicate the degree of compatibility and functionality supported by each EVSE model, helping utilities and operators make informed decisions about infrastructure investments. For more details on each certified model listed below, please refer to OCA's website.
Feel confident with the EVSE chargers that get paired with your Charge Station Management System. Browse from the list of EVSE chargers below.
Disclaimer: Inclusion in this QPL does not guarantee full interoperability between EVSE and CSMS products. Testing under real-world scenarios is recommended.
Charger Type
AC (Level 1 or 2) Chargers
DC Fast Chargers
OCPP Certifications
OCPP 1.6 Full
OCPP 1.6 Security
OCPP 2.0.1 Core
OCPP 2.0.1 Advanced Security
Connector Type
31 products found
Sort by: Brand A-Z
Brand | Model Name | Model Number | Type | Power (kW) | 1.6 Full | 1.6 Security | 2.0.1 Core | 2.0.1 Advanced | Connectors
Autel | DC Compact | DC Compact - UW040A2501 | DC | 40 | ✓ | ✓ | — | — | CCS
Autel | Maxicharger DC Fast 60kW | UF060A3001 | DC | 60 | ✓ | ✓ | — | — | CCS
Autel | Maxicharger DC Fast 80kW | UF080A3001 | DC | 80 | ✓ | ✓ | — | — | CCS
Autel | Maxicharger DC Fast 100kW | UF100A3001 | DC | 100 | ✓ | ✓ | — | — | CCS

Adopting EVCAN's Charge Station Management System QPL builds consistency in standards adoption

- Encourages broad market interoperability
- Embeds energy management in charge station operations
- Establishes consistent data reporting practices
- Supports transparent uptime and reliability

Managed Charging Is the On-Ramp to V2G and V2X

Adopt the EVCAN QPL

Join EVCAN OCPP Adoption Forums

- V2G and V2X depend the same core capabilities as managed charging.
- Without managed charging, bidirectional use cases can’t scale safely or reliably.
- Building managed charging today prepares utilities and decision makers for future grid services.

Q&A and Contact Information

Email Address
cweiner@evcan.org
info@openchargealliance.org

Helpful Links for Content Shared Today

- https://www.evcan.org/manufacturers-nsps/specifications/
- https://www.evcan.org/access-the-qpl/
- https://openchargealliance.org/