



Charge Station Management Systems Technical Specification

EVCAN Webinar

July 15, 2025

Webinar Logistics

- Recording will be posted on EVCAN.org
- Mute until Q&A
- Q&A for questions, chat for technical issues



 Record



Camera



Mic



Q&A



Chat

Speakers



Carolyn Weiner
Program Director



Levin Nock
Senior Technical Manager

Agenda

- **Introduction to EVCAN**
- **CSMS Specification**
- **Application and Evaluation Process**
- **Next Steps**
- **Q&A**

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- **CSMS Specification**
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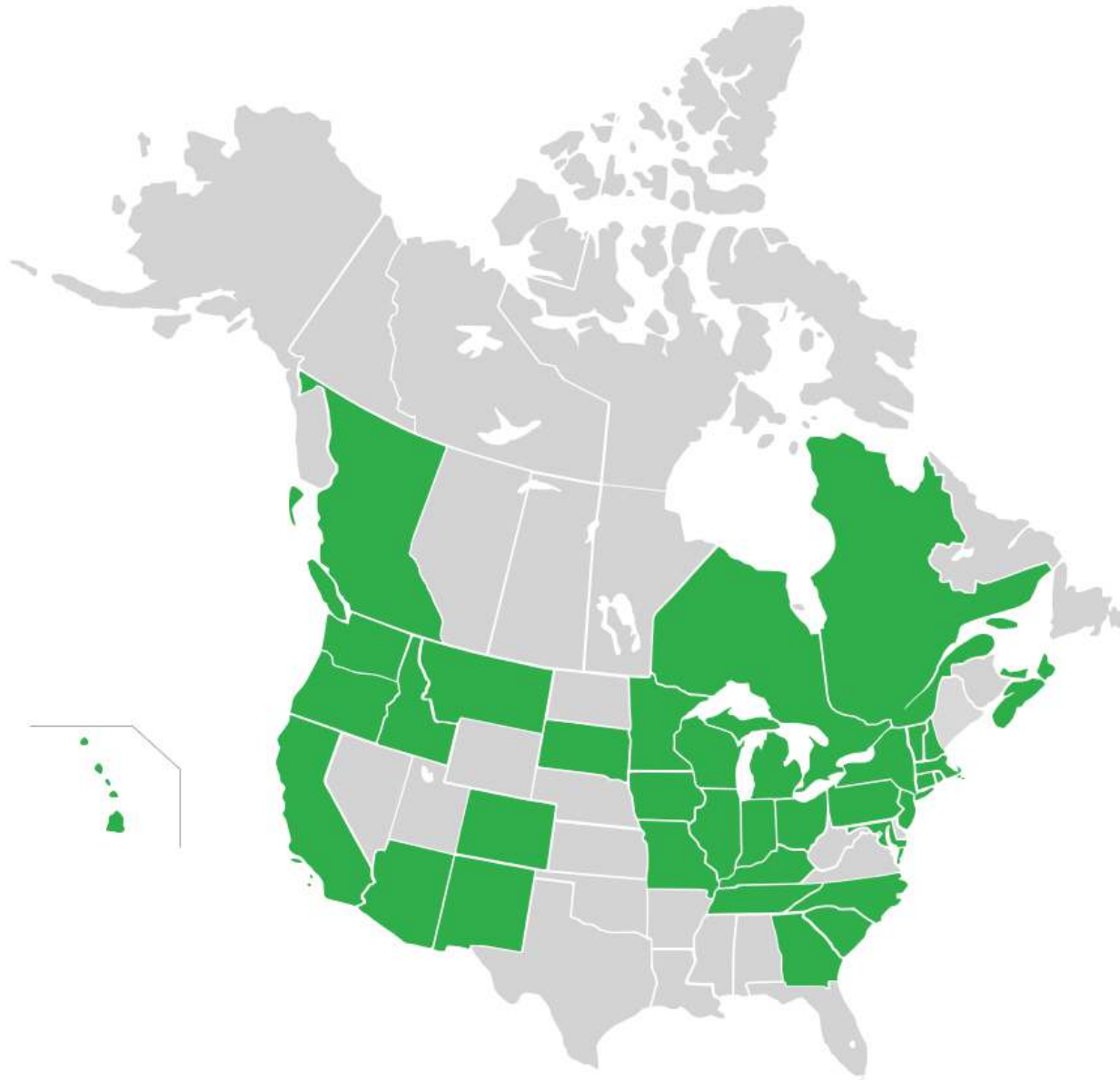
Efficiency
FORWARD INC.

EV CAN

An Efficiency Forward Initiative



Energy · Quality · ControllabilitySM



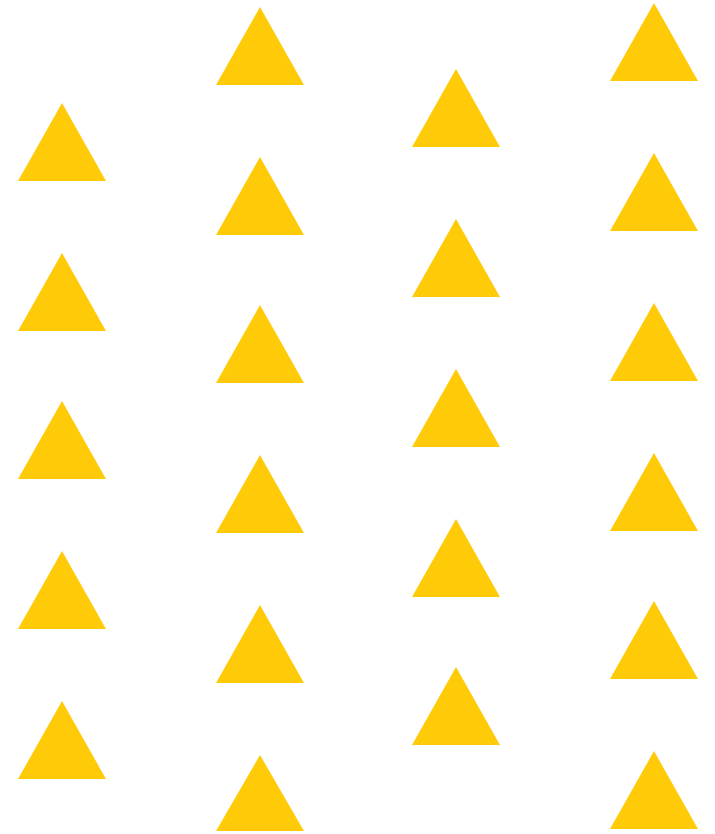
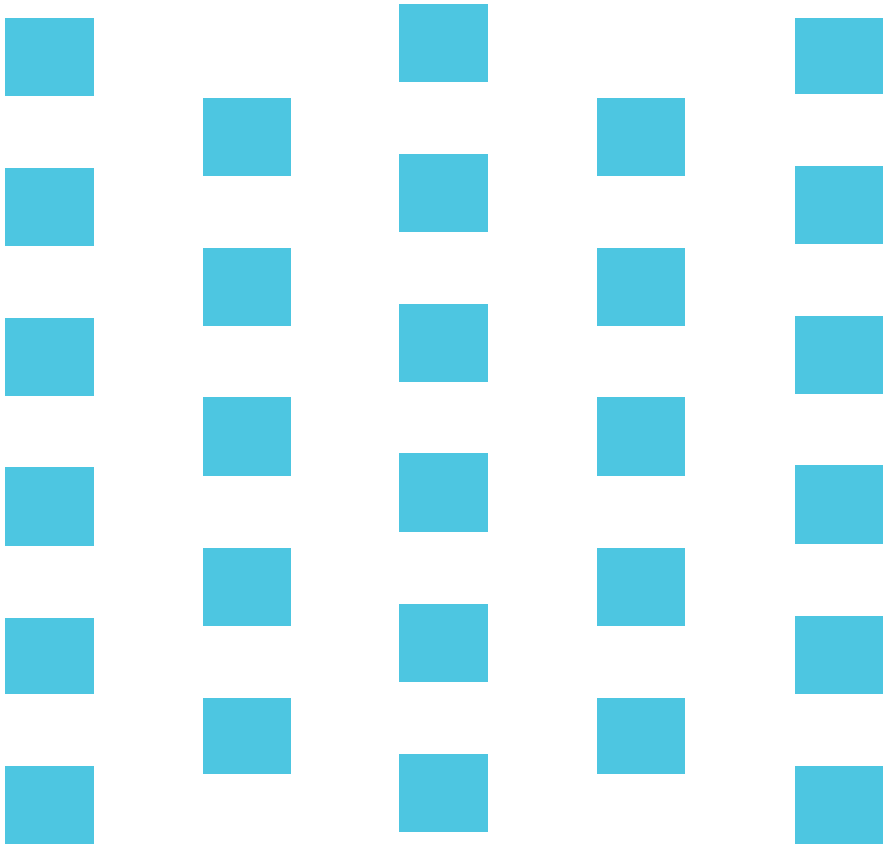
70+ member utility and
municipal programs

700+ non-member
stakeholder organizations
requiring DLC qualified
product lists

DLC Member Programs (Utilities & Municipalities)



DLC Industry Partners (Lighting Manufacturers, Specifiers, Installers)





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.





How we aim to support State and Regional goals for scaled deployment of EV charging...

Cultivate collaboration between Utilities and Industry

Build alignment on technical criteria for EV charging solutions

Advocate for quality, energy resiliency, and safety

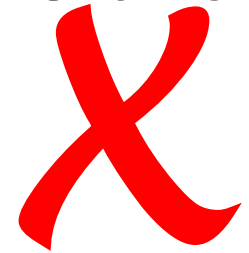
What EVCAN does

- Is a 501(c3) nonprofit
- Liaison between Utilities and Industry
- Collaboration on learnings with scaling EV charging infrastructure
- Promotes industry standards and best practices



and does not do

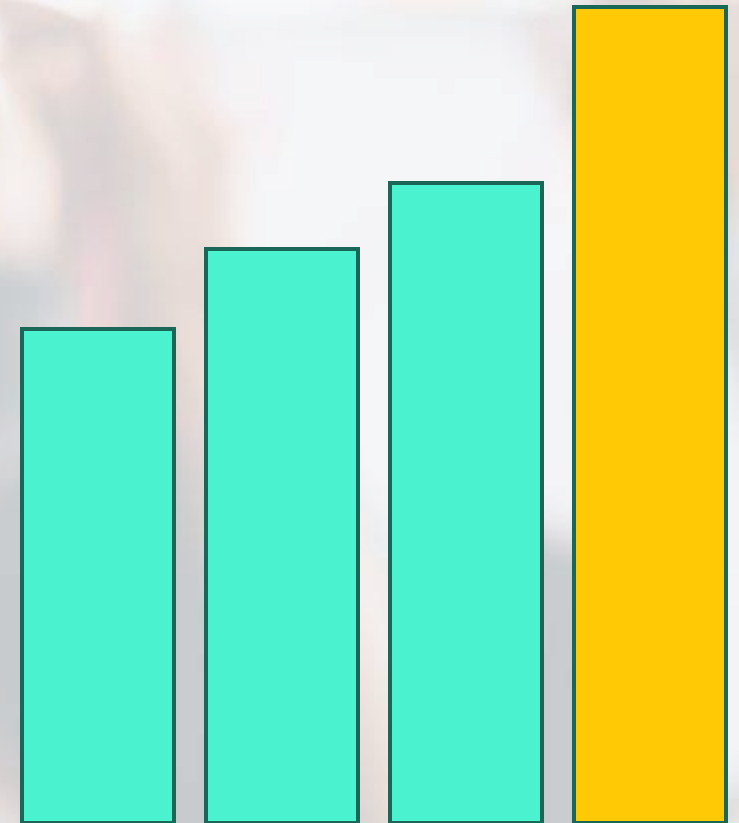
- Is not a certification body
- Does not create standards
- Does not test or sell products
- Does not purchase or incentivize CSMS directly



Utility Working Group prioritized charge management systems

Collaborated on minimum functions and capabilities – safety, interoperability, reliability, connectivity

**Charge
Management
Systems**



Goals for Charge Station Management Systems



Set expectations for safety, reliability, connectivity



Advance interoperability standardization

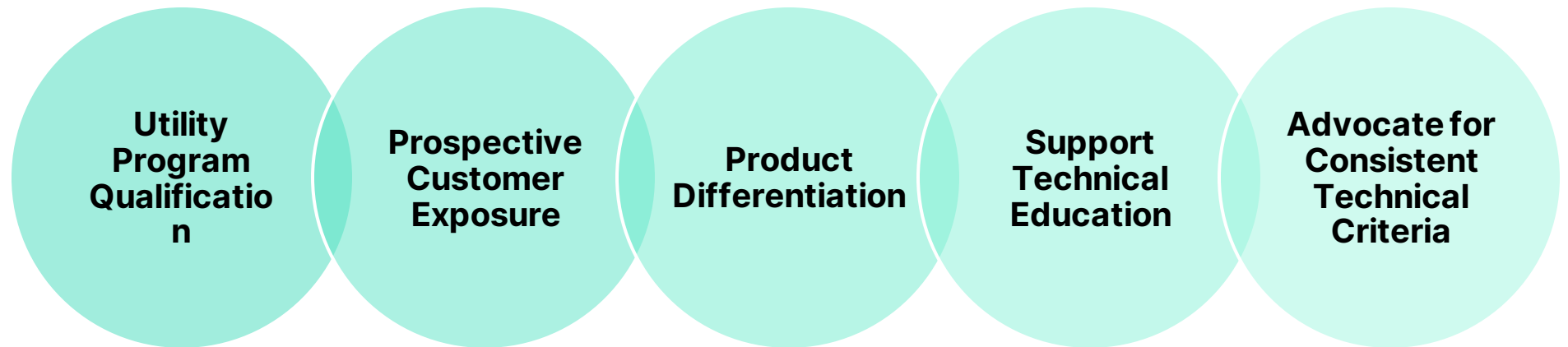


Build awareness of key functions to stakeholders

Ways you can engage...



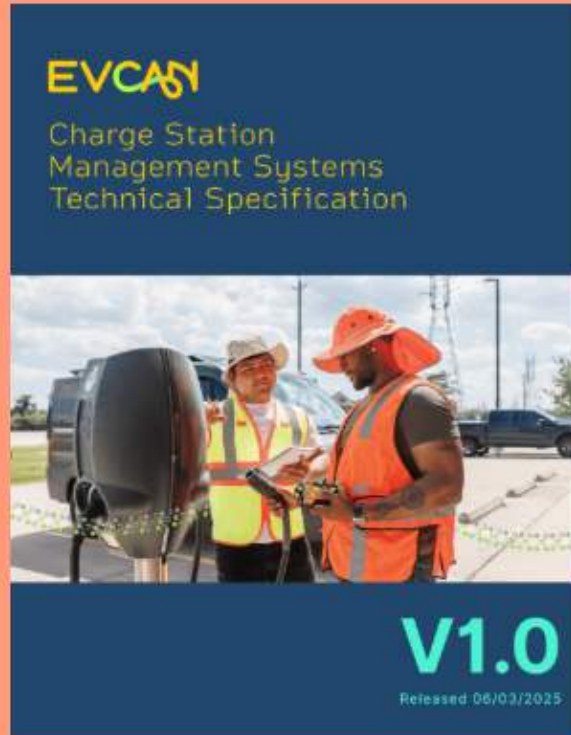
Benefits of engagement...



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<https://www.evcan.org/manufacturers-nsps/specifications/>

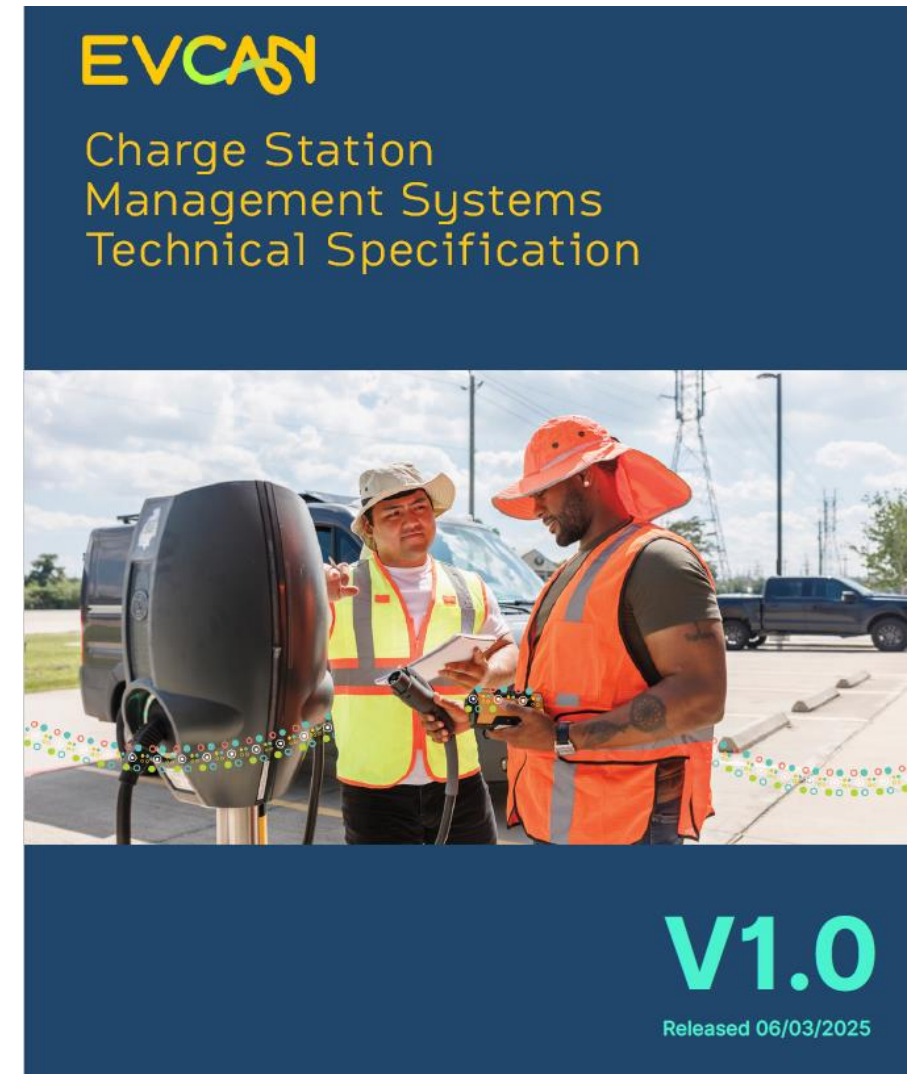


EV Charge Station Management Systems Specification (EVCMS1.0)

Download CSMS Specification V1.0

Main Headings

1. Background and Goals
2. Definitions
3. Specification Scope
4. Technical Requirements
5. References and Appendices

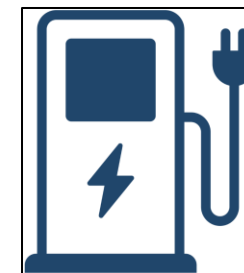


Specification is about CSMS software
that monitors and controls EVSE hardware



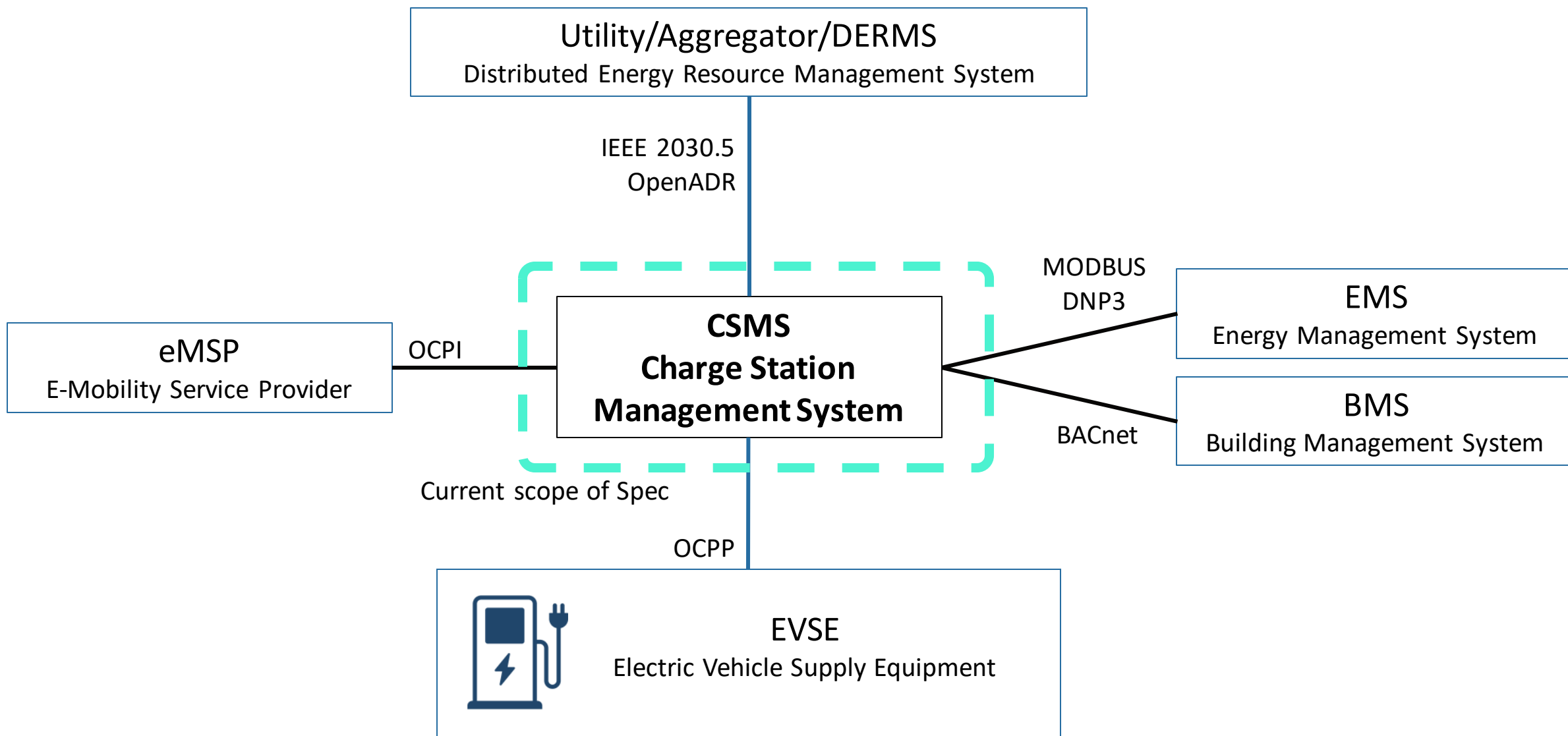
In scope
CSMS

Charge Station Management System



Out of scope
EVSE

Electric Vehicle Supply Equipment



Each Capability is

“Required”

or

“Reported”



What kinds of topics are “Reported”?

Apply to some use cases, but not others

New developments, not broadly available yet

Some might become “Required” eventually

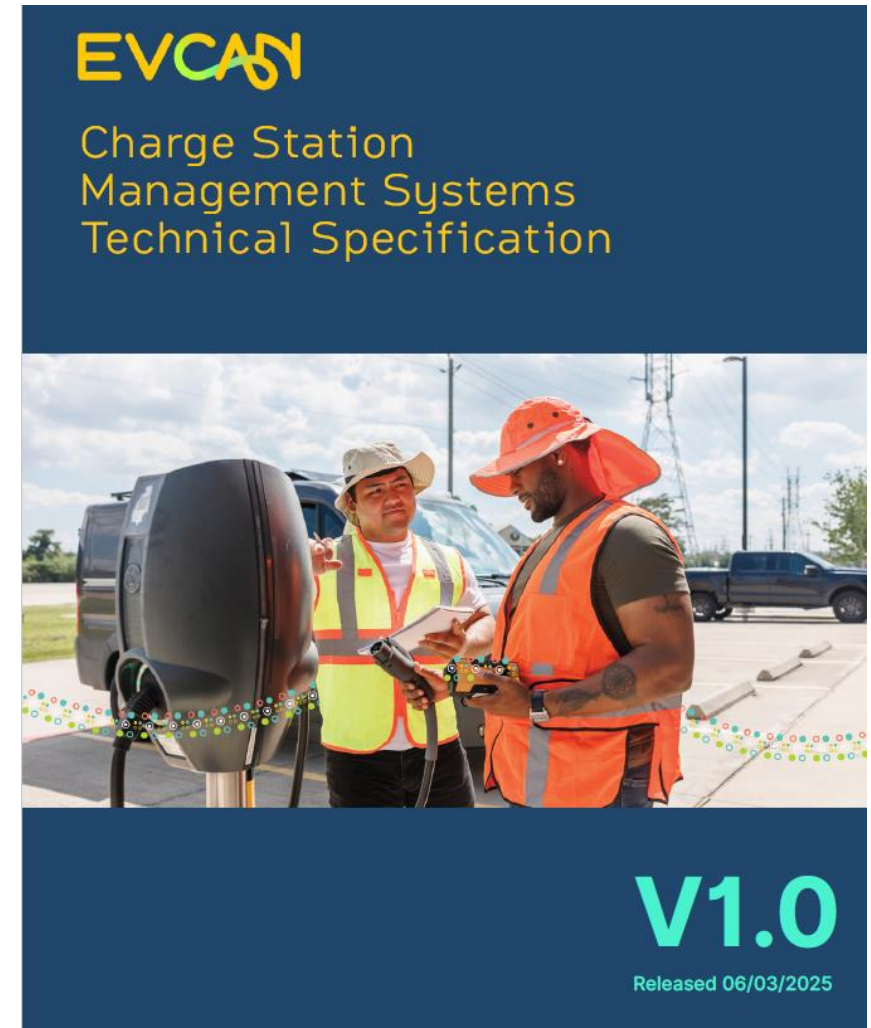


We want to promote these CSMSs with you



Focus Areas of Technical Requirements

1. Use of Interoperability Standards
2. Cybersecurity Standards
3. Monitoring and Control
4. Energy Management
5. Data Analytics & Reporting
6. Operations, Safety and Reliability
7. Technical Resources



Interoperability

Make friends and
Play well with others



1. Interoperability Standards Required



Capability	Details
CSMS – EVSE communication	Pathway 1: OCPP v1.6 full certificate
	Pathway 2: OCPP v2.0.1 core certificate

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

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	Pathway 1: Sunspec IEEE 2030.5 certification
	Pathway 2: OpenADR v2.0b certification
	Pathway 3: OpenADR v3.0 certification

Interoperability

Make friends and
Play well with others



Cybersecurity

Don't talk to strangers!



2. Cybersecurity Required



Cybersecurity Type	Description
Process	Certification
Cloud Services	Certification if applicable
Payment Services	Certification If applicable



2. Cybersecurity Standards Recognized

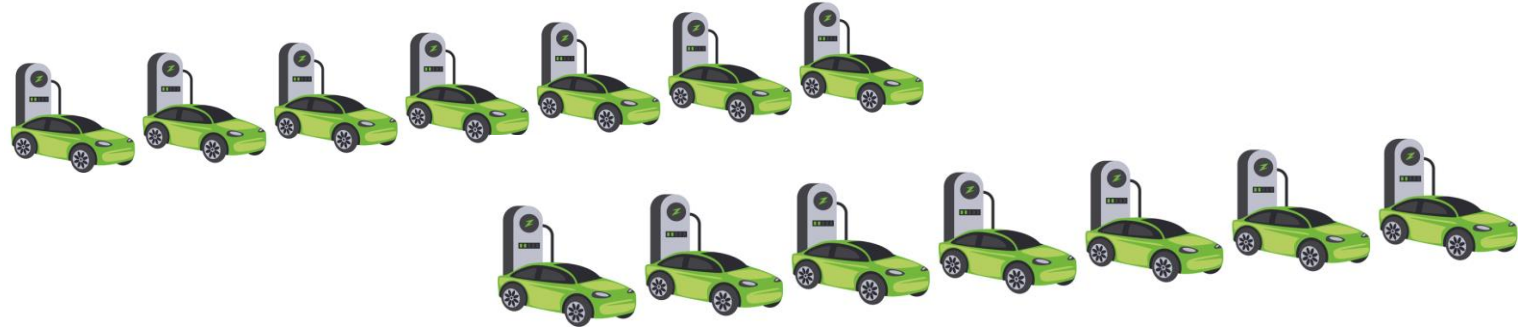
Standard	Process (all)	Cloud Services (if used)	Payment (if used)
ANSI/UL 2900-1	Y		
ANSI/ISA/IEC 62443-4-1	Y		
CSA/ANSI T200	Y		
SOC 2	Y	Y	
ISO 27001	Y		
ISO 27017		Y	
FedRAMP		Y	
CSA STAR		Y	
PCI DSS			Y

3. EVSE Monitoring and Control: Monitoring Required

Capability	Description
EVSE Status Monitoring	<ul style="list-style-type: none">- EVSE Status- Connector Status- EVSE Network Status (Online/Offline)
EVSE Measurement Monitoring	<ul style="list-style-type: none">- Imported/Exported<ul style="list-style-type: none">- Current- Active Energy- Active Power- Power Factor or Reactive Power- State of Charge (SoC)- Voltage- Current Offered or Power Offered

Utilities Need Charge Management

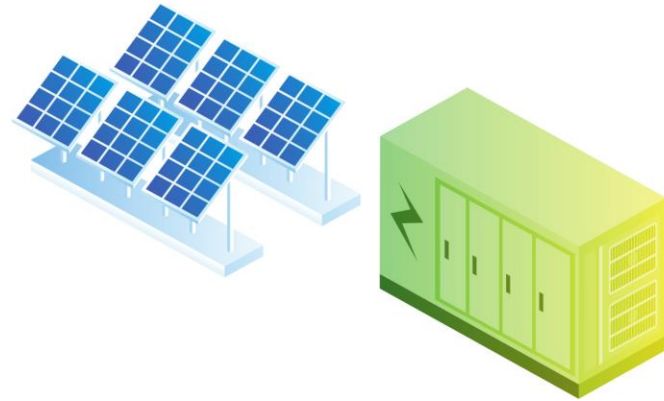
EV Charging



Grid Resources



Onsite DERs (Distributed Energy Resources)



Other Building Loads

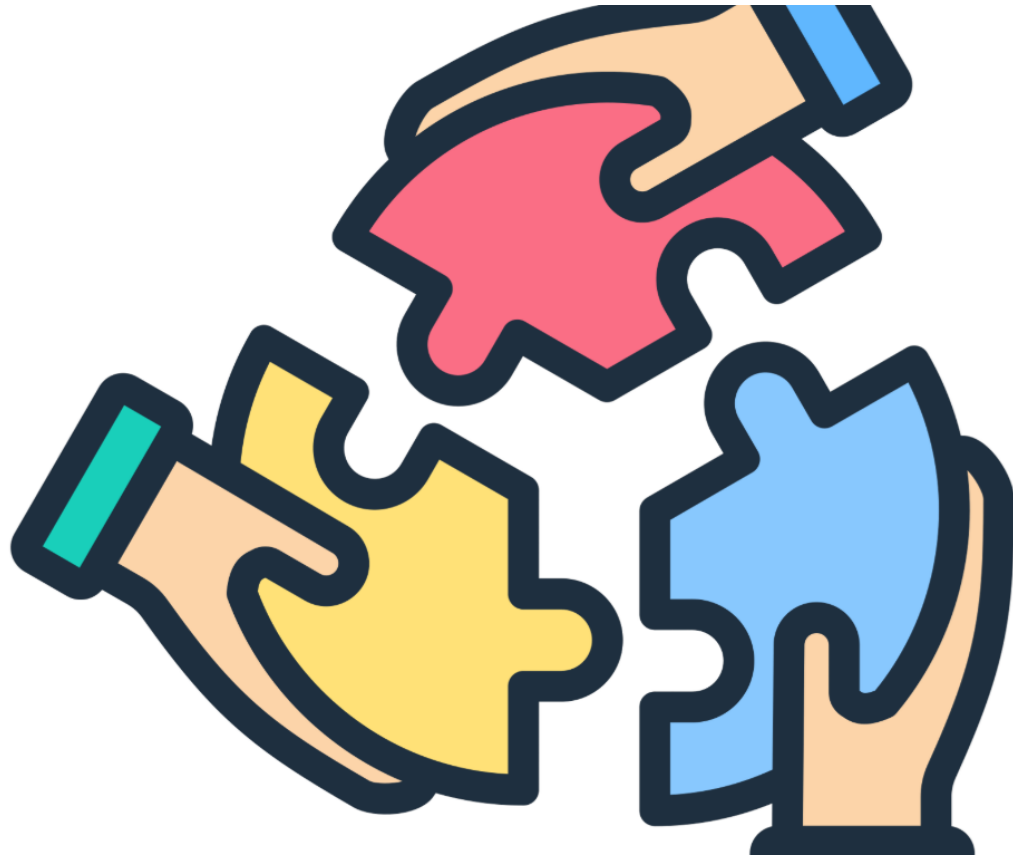


4. Energy Management Required



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.

Stronger Infrastructure, Powered by Partnership



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

Additional Requirements Other Than Capabilities

Requirement
Product Information
Warranty or Service Contract
Commercial Availability and Verification
Case Study or Customer Interview



Requirements Covered

1. Use of Interoperability Standards
2. Cybersecurity Standards
3. Monitoring and Control
4. Energy Management
5. Data Analytics & Reporting

Additional Requirements



Capability Category	Reported Capability
1. Interoperability Standards	<ul style="list-style-type: none"> • CSMS-BMS and EMS: BACnet, Modbus, DNP3 • CSMS-eMSP (Roaming): OCPI v2.2.1 or higher • OCPP v1.6 Security Certification • OCPP v2.0.1 Advanced Security Certification
2. Cybersecurity Standards	<ul style="list-style-type: none"> • Ability to claim multiple certifications in each group
3a. EVSE Monitoring and Control	<ul style="list-style-type: none"> • EVSE Reset • Reservation • Unlock connector • Firmware update • Remote Start/Stop • Transaction Measurement Monitoring: pricing & max charge rate
3b. EVSE Monitoring and Reporting	<ul style="list-style-type: none"> • Safety and Reliability
4. Energy Management	<ul style="list-style-type: none"> • IEEE 1547 Functions • Configurable Load Management • Max Power Limit • Device Monitoring
5. Data Analytics and Reporting	<ul style="list-style-type: none"> • Frequency and Length • Historical operations, reliability & transactive data & visualization

Capability Category	Reported Capability
6. Operations, Safety and Reliability	<ul style="list-style-type: none"> • Fail-safe Operation • Proper Safety Load Management • Communication Malfunction Detection • EVSE Diagnostic Monitoring • EVSE Uptime Detection • EVSE Log Accessibility
7. Technical Resources	<ul style="list-style-type: none"> • Operation Documentation • Installation Documentation • Maintenance Documentation • Security Considerations Documentation • Security Configuration Documentation • External Interfaces Documentation • Authentication and Authorization Methods Documentation • Incident Management and Change Control Documentation

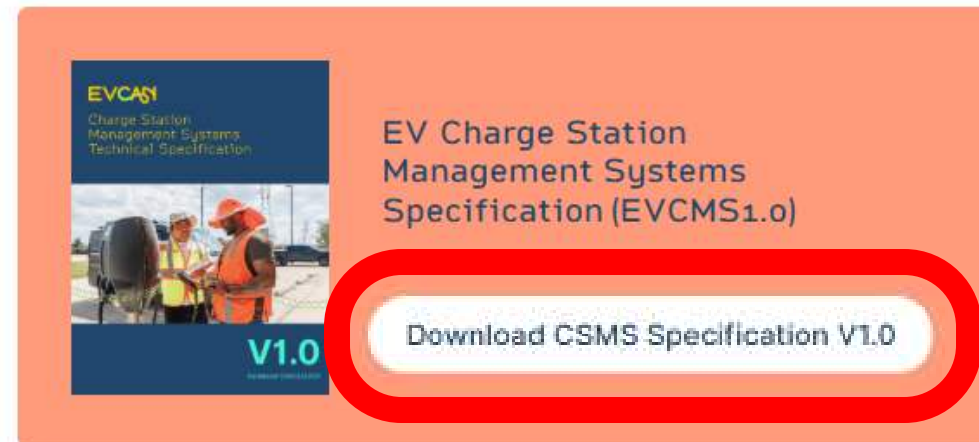
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- [What is the scope of the Specification?](#)
- [What is covered by this edition of the Specification, and what is not?](#)
- [Why is EVCAN qualified to...](#)

Reliable and Connected EV Charging Starts with the Charge Management System



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What to know now

Easy online application

Application fee

Qualified Product List coming





[Home](#) / [For Manufacturers & Network Providers](#)

For Manufacturers and Network Providers: Technical Alignment for Scalable EV Charging

Powering EV Charging That Works for the Market

Through technical screening and product qualification, EVCAN's technical requirements help to align utility expectations for manufacturers and network providers to scale reliable, standards-based charging solutions. Our forthcoming Qualified Product List (QPL) offers a clear, impartial pathway to support broad market participation.



- [Application Portal](#)
- [Product Submission Guide](#)
- [Technical Specification](#)

Methods of Review



Methods of Review



Proof of Certification



Customer Available Information



CSMS Output Data Examples

Application Process

Review Process

Complete & submit application with supporting documentation

EVCAN reviews documentation, issues invoice, compiles questions

Applicant & EVCAN communicate until no questions remain

Publishing and Close Out

Applicant notified by EVCAN: application accepted

Applicant pays invoice

System added to EVCAN online list

EVCAN's Next Steps

Application Portal
EVCAN.org
July 18

Qualified Products
List published
EVCAN.org

Promoting at
conferences, utility
roundtables,
webinars



Hosting technical
webinars and
roundtables



Help Build a Trusted Foundation for smart Charge Management

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