DOCKETED	
Docket Number:	22-EVI-06
Project Title:	Vehicle-Grid Integration
TN #:	256590
Document Title:	Network Roaming Workshop - Hubject Presentation
Description:	N/A
Filer:	Jeffrey Lu
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	5/30/2024 8:50:30 AM
Docketed Date:	5/30/2024

Designing a seamless charging experience

CEC <> Network Roaming Workshop

IRVINE, CA

SPRING 2024

TRISHAN PERUMA | CEO, NORTH AMERICA

Hubject operates the largest global roaming network and Plug&Charge ecosystem

Irvine, California
North American headquarters

125+
employees globally

12 years of experience
est. in 2012

600k+
connected charge points

2k+
fully integrated EV companies globally

$1B+
global transaction volume in 2023

Key challenges for Californian EV drivers

accessibility

Drivers are limited in finding and accessing chargers

reliability

Charger availability and uptime varies by network & location

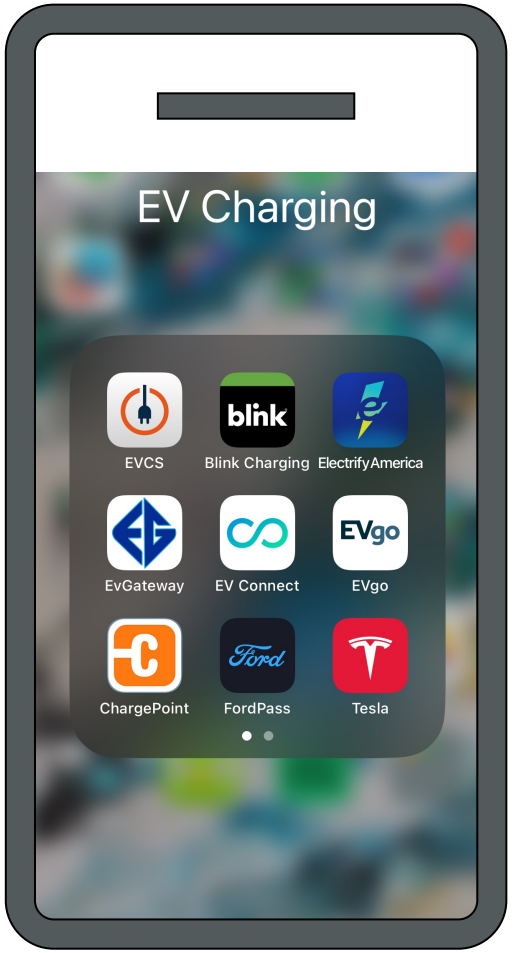
data quality

POI data is inconsistent lending towards variable experiences

interoperability

Hardware and software lacks compatibility

Key challenges for Californian EV drivers

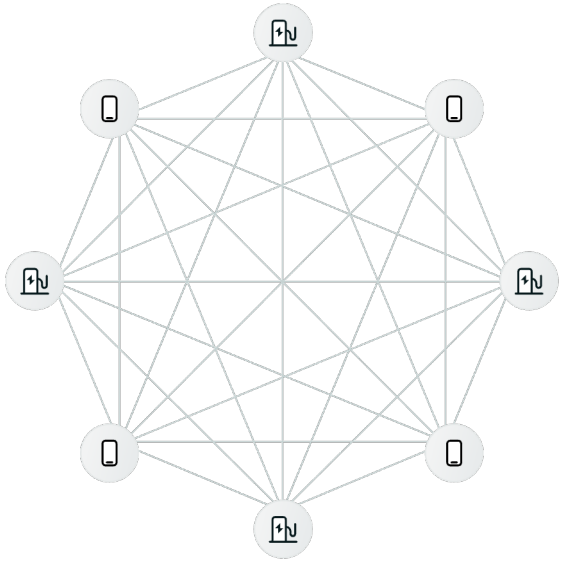


Seamless EV charging at scale

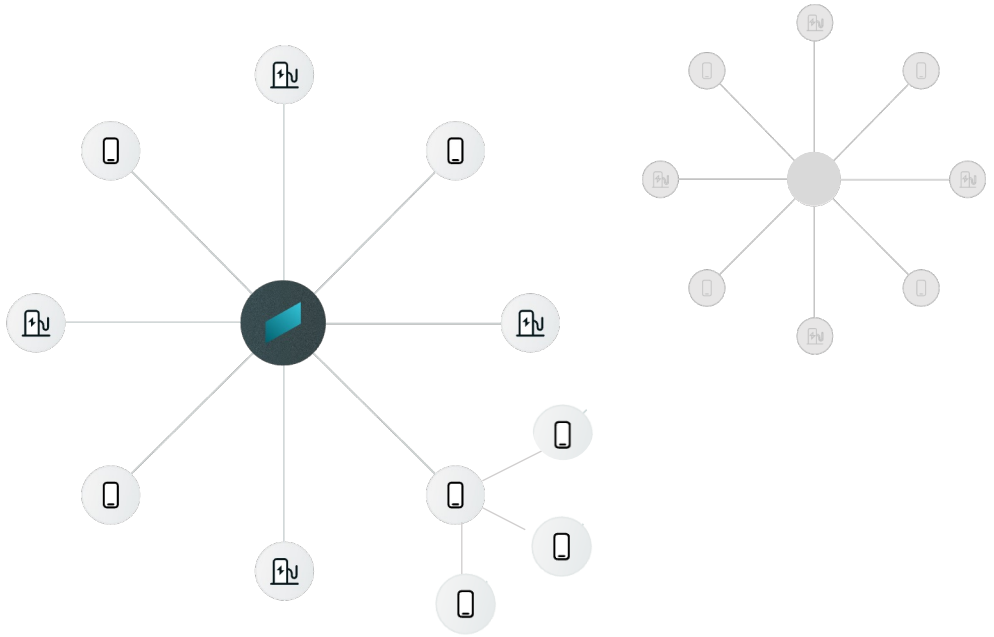
What does the ideal charging experience look like?

- **Driver choice,** enabling the driver to choose how they find, use, and pay for charging
- **Seamless, secure, and reliable** authentication and authorization
- **Future-proof** for mass adoption and emerging technologies

Roaming hubs simplify technical and commercial integrations, encouraging connectivity



Without Network Roaming Hubs



With Network Roaming Hubs

Legend — Charging Station Operator (CSO) — Apps (EMSP)

Roaming hub marketplaces provide businesses flexibility and opportunities for CSOs and EMSPs to grow

neutral & agnostic

- Neutral network roaming hubs do not operate or own a charging network/CSO
- Neutral network roaming hubs do not provide a driver-facing solution/EMSP

Neutral roaming platforms support CSO and EMSP needs

flexible marketplace

- Roaming marketplaces allow all EMSPs and CSOs to connect regardless of size
- Partners maintain full control of pricing, terms, and choice/flexibility with whom they connect

Marketplace approach enables competition while providing driver choice

standards & conformance

- OCPI (Open Charge Point Interface)
- OCPP 1.6J (Open Charge Point Protocol)
- Implementation of OCPI is required including all relevant modules for roaming

Roaming network hubs support protocol standardization and industry alignment

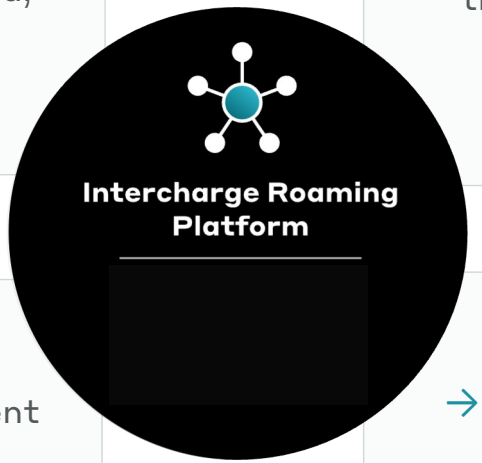
Enabling the digital infrastructure required for EVs charging to scale

accessibility

→ Roaming hubs simplify network integrations, allowing more drivers to find, access, pay and use chargers

reliability

→ Roaming marketplaces increases network transparency and reward high performance



data quality

→ Roaming promotes POI data enhancement via standardized connections and builds industry consensus

interoperability

→ Roaming encourages network interoperability and reduces the need for custom integrations

Thank you

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