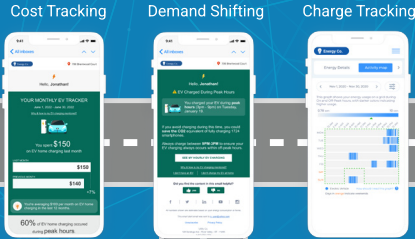




ELECTRIC VEHICLE CUSTOMER JOURNEY

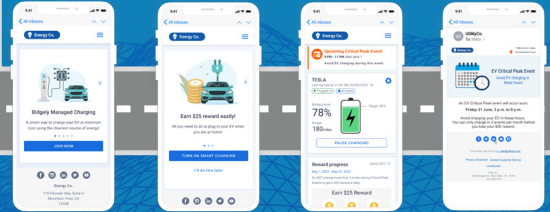


PASSIVE MANAGED CHARGING



Welcome

ONBOARDING



ACTIVE MANAGED CHARGING

EV ACTIVE MANAGED CHARGING WITH TELEMATICS

BIDGELY'S ACTIVE MANAGED CHARGING SOLUTION AT A GLANCE

- Bidgely's Active Managed Charging solution—also known as Direct Load Control—is part of an electric vehicle (EV) **engagement platform** that also includes: EV Detection & Targeting, EV Passive Managed Charging (Behavioral Load Shift), and EV Grid Analytics.
- Turn-key solution that can be launched in weeks without data integration as a standalone application. Or, for greater targeting and engagement, enhance the solution with AMI data.
- Over 25 OEMs are available for data connection with 7 available for active control: **Ford, Hyundai, Jaguar, Land Rover, Toyota, Tesla, VW.**
- Active control for EVSE chargers through Enel and Chargepoint.
- Vehicle-to-Grid (V2G) ready.
- Fully-integrated, mobile-first web application for easy integration and streamlined user experiences. **No app required**, but can be integrated into existing apps.
- **Intuitive utility dashboards** designed for program managers deliver all the data they need, including: load shift realization, incentives management, program performance.
- **Program ROI of up to 300%** through precision EV targeting.

TRANSFORM EVs ON YOUR GRID INTO FULLY ENABLED DERs

The IEA [predicts](#) an “electric car fleet of over 300 million in 2030 and electric cars accounting for 60% of new car sales,” making EVs “the key technology to decarbonise road transport, a sector that accounts for 16% of global emissions.” That’s a lot of EVs on the roads, not pumping out emissions.

But for energy companies, Electric Vehicles (EVs) have the greatest impact on grid reliability and decarbonization when they are sitting still—parked and charging.

Bigdely UtilityAI™ is enabling energy utilities to **transform EVs on the grid into fully enabled Distributed Energy Resources (DERs)** through a suite of EV analytics, owner engagement, and managed charging solutions that turn EV owners into energy partners.

This brief focuses on Bigdely’s Active Managed Charging solution, designed to recruit, enroll, connect, and incentivize EV owners for participation and then actively control their vehicle charging through telematics—delivering the greatest value on both sides of the meter.

IDENTIFY & TARGET: FOCUS ON YOUR HIGHEST-VALUE EV OWNERS

Bigdely’s UtilityAI™ Analytics Platform powers our EV Solution, enabling energy providers to detect EVs on the grid with over 90% accuracy, using AI-enabled behind-the-meter EV disaggregation technology that requires no hardware, historical DMV data, or customer self-reporting.

This appliance-level grid visibility—an advantage of Bigdely’s solution—gives utilities unparalleled program targeting. Consider the following scenario ...

As EV penetration moves toward 10% and beyond, providers will need a better tool than blanket incentives for all EV owners, due to explosive costs. At \$200+ per car to enroll in managed charging, costs remain under control while penetration is in the 2-3% range, but if 100k EV owners enroll at \$200+ per car, that’s not cost effective—and the problem grows as more EVs come onto the grid.

NO TWO CUSTOMERS ARE THE SAME.

Not every EV customer can provide the same level of load-shift to the grid because consumers don’t all use energy in a uniform way.

Some customers have charging behaviors that are more grid friendly than others.

Bigdely’s EV solution helps you target and engage these highest-value customers for your EV load-shift program.

Generic Programs +\$1020

Bulk Power Operational System Benefit	\$100
Bulk System Investment Cost Reduction	\$600
Avoided Distribution System Investments	\$300
Reduced Renewable Curtailment	\$20
Total Value	\$1,020

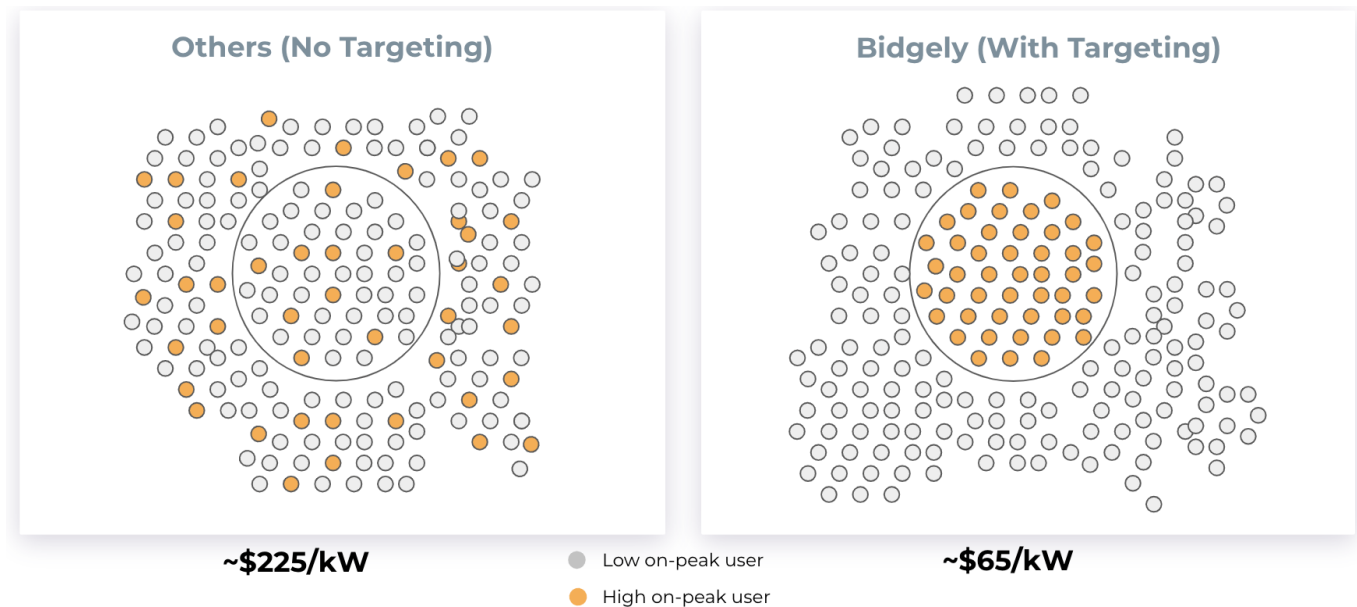
Targeted Programs -\$250

Customer Incentive/Benefit	\$200
Utility Admin	\$15
Software Cost	\$35
Total Value	\$250

ROI
308%

Bidgely's precision EV targeting enables utilities to understand charging behaviors at the customer level, so they can target the highest value candidates for "peak to off-peak" dynamic EV programs, deliver the right messages and incentives, and provide EV rate coaching.

Now, with EV targeting you can control not only who is eligible for incentives but also your grid's future.



Knowing the individual charging behaviors of each EV owner on your grid eliminates the need for broadcast-marketing-based recruitment programs and finds the best candidates for active managed charging programs. This granularity in targeting yields more kWh shift for the same incentive paid out!

RECRUIT & ONBOARD: SIMPLIFY PARTNERSHIP WITH EV OWNERS

Bidgely's Platform makes recruitment for Active Managed Charging a natural progression in the customer journey, embedding right-time, right-context recommendations across existing communications for maximum repetition and visibility.

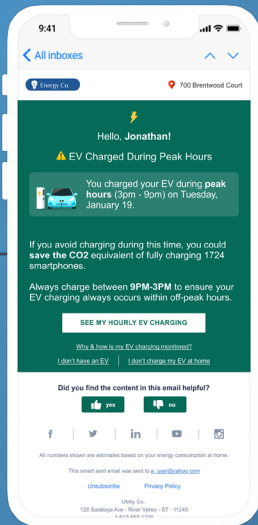
For example, personalized prompts for Managed Charging programs appear in the context of actual peak usage, providing a customized experience to each customer based on their individual ability to contribute to load-shifting efforts.

Once customers follow the prompt, a streamlined enrollment sequence guides customers through enrollment and onboarding:

MASS MARKETING IS EXPENSIVE, NOISY AND LEADS TO A LOW CONVERSION RATE.

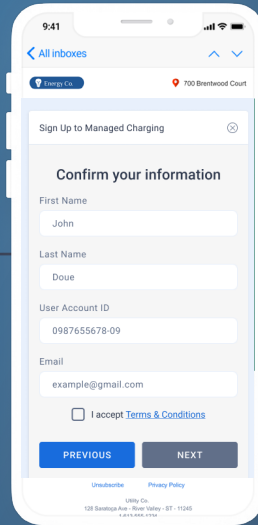
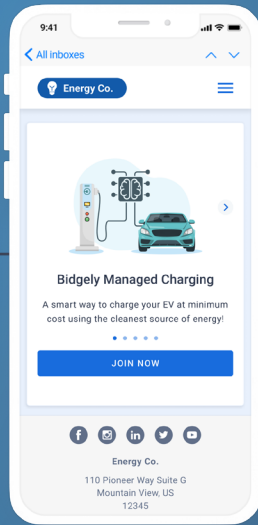
Many standalone recruitment programs struggle to hit recruitment targets due to their broadscale marketing approach. Bidgely's approach drives ROI for EV load shift programs by focusing program investment on the highest potential load-shift customers.

Education

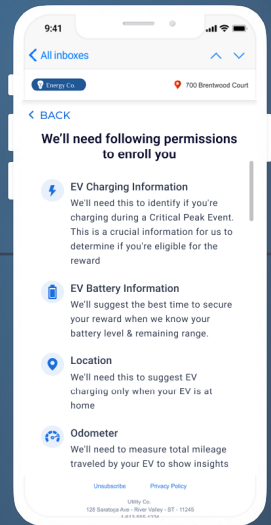


Education: Place enrollment prompts in the context of relevant touch-points, such as peak event notifications.

Enrollment



Enrollment: Streamline sign-up, terms of service, and permissions capture.



Step 1: Educate & Enroll - Educate customers about the program within existing channels or independently, explain incentives, confirm their information, and capture consent for active control.

Step 2: Connect - Guide participants seamlessly through connecting their EVs, including vehicle-based permissions such as location, battery status and, most importantly for active managed charging programs, the ability to start and stop their vehicle charging.

Over 25 OEMs are available for data connection with 7 available for control:

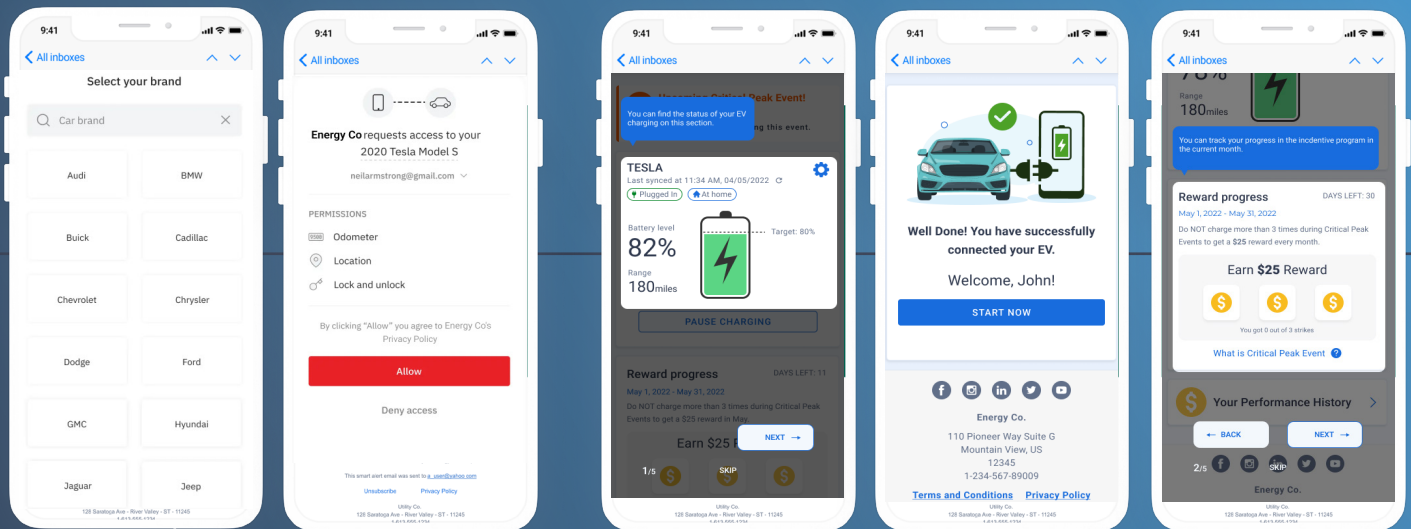
FORD	LAND ROVER	VW
HYUNDAI	TOYOTA	
JAGUAR	TESLA	

Data-only OEM connections:

AUDI	CRYSLER	MINI
BMW	JEEP	NISSAN
CADILLAC	LINCOLN	VOLVO
CHEVROLET	MERCEDES-BENZ	

Connection

Enablement



Car Connect: Make connecting to EV telematics a self-serve experience.

Enablement: Guide participants through their new Managed Charging experience, and equip them for active engagement.

Step 3: Enable - Focus participants on key features of the interface to ensure they have a positive experience and receive value immediately.

TELEMATICS JUST A CLICK AWAY

Bigdely makes it easy for energy providers to deploy Active Managed Charging—either as part of existing customer journeys on the Bigdely engagement platform or as a standalone mobile-responsive telematics website with one-click validation (“easy login”)—so that managed charging is ever present within routine touchpoints. No need to install a separate mobile app.

WHAT IS TELEMATICS?

The automotive industry uses telematics to describe **onboard communications services and applications** used in cars, trucks, buses and other vehicles using GPS receivers and telematics devices installed in each vehicle. With a customer’s permission, Bigdely can access the vehicle’s data (vehicle attributes, battery level, location, etc.) and know who is charging when and by how much. Active control of the EV charging is also possible for some vehicles, which allows us to control EV charging behavior and provide incentives valued by the EV owners. With connections in place through OEM and customer permissions, the foundation is laid for vehicle-to-grid (V2G) management in the future as utility programs mature.

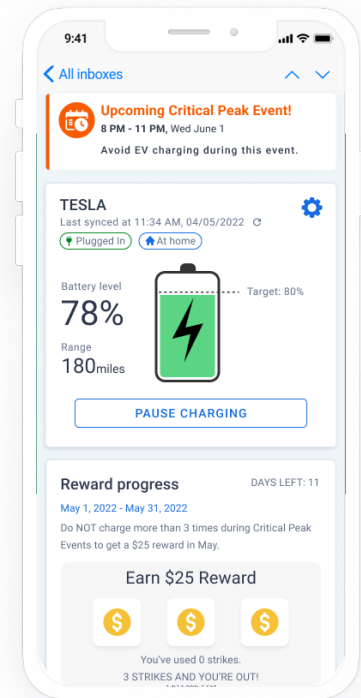
OPTIMIZE CHARGING: MANAGE & INCENTIVIZE FRICTIONLESS EV LOAD CONTROL

With customers onboarded and their vehicles connected to the Bidgely platform, charging can be automated and optimized flexibly to fit a utility's objectives—including the two most common optimization schemes: critical peak events and time of use.

Critical peak events can be handled in a similar fashion to traditional demand response—but with the utility able to automatically stop charging during the event period.

Time of use rates can predictably (daily or other cadence defined by the utility) allow regular, automated curation of the customer's vehicle charging.

In both scenarios the customer can override the managed charging, ensuring a positive experience is maintained. To reduce overrides, Bidgely uses **gamification**—a strikes and rewards-based approach that directly connects incentives to consumer actions.



Incentives Management

As a comprehensive EV solution, Bidgely's EV Active Managed Charging includes incentive calculation—which customers are in or out of compliance over time—and disbursement of incentives across a variety of choices, including Paypal or Venmo and gift cards.

Program Measurement & Verification

Traditionally, Measurement and Verification (M&V) occurs after a program is complete, leaving no opportunity to steer the program in the direction of success. However, Bidgely's EV solutions platform enables program managers to monitor program performance in real-time through dashboards built for EV program managers, allowing them to make program alterations in order to meet their goals.

Bidgely's M&V solution allows you to keep a proactive approach instead of a reactive approach to your program performance.

WHY BIDGELY'S EV SOLUTION?

Comprehensive

Only Bidgely's turn-key EV solution offers end-to-end EV management enabled by behind-the-meter intelligence, proven engagement channels, and active managed charging:

- EV Identification & Targeting
 - Detect EVs with 90%+ accuracy
 - Understand charging behavior for each EV owner
 - Target the highest load-shift value customers for programs
- EV Recruitment & Onboarding
 - Educate and drive enrollment through existing customer touchpoints
 - Easily capture permissions
 - Streamline vehicle connection
- EV Charging Optimization
 - Control load directly through telematics and EVSE chargers
 - Manage and disperse incentives
 - Leverage EVs for Peak Event mitigation
 - Increase TOU rate performance through automation
- Incentive Management
 - Incentive calculation
 - Incentive disbursement through popular channels like PayPal, Venmo, gift cards
- Program Measurement & Verification
 - Monitor program performance in near-real time
 - Make changes on the fly to ensure program results
- EV-Focused Grid Analytics
 - Plan for EV adoption at the feeder level
 - Enhance Non-Wires Alternatives and DER Management

Product Type/ Solution Category	Bidgely	Telematics Vendors	DERMS Vendor	Energy Platform Vendor	Technology Vendors
EV Detection (AMI)	✓	x or Low Fidelity	x	x	Low Fidelity
Enrollment	Targeted (\$)	Non-Targeted (\$\$\$)			
Recruitment	Self Marketing (\$)	Social Marketing (\$\$\$)			
EV TOU Engagement	✓	x	x	x	x
EV Managed Charging	Native Build	Native Build	Native Build	Native Build	Partner
Incentive Management	Automated	Manual	Unknown	Unknown	Unknown
Program M&V	✓	x	x	x	x
Cost at Scale	\$/kW	\$\$\$ /kW	\$\$\$ /kW	\$\$\$ /kW	\$\$\$ /kW
End-to-End Solution	100%	~30%	~30%	~30%	~30%
Grid Planning for EV Growth	✓	x	x	x	x
Optimization Capabilities	Grid, EV, Whole- Home (solar, TOU, batteries, EV)	EV Only	EV Only	EV Only	EV Only

Increase Innovation While Reducing Interruption

Bigdely's EV Active Managed Charging is a turn-key solution that can be launched in weeks without data integration as a standalone application. Or, for greater targeting and engagement, enhance the solution with AMI data.

For utilities already on the Bigdely platform, Active Managed Charging is the best integrated CX + EV solution, integrating seamlessly into existing customer journeys.

For utilities not yet on the Bigdely platform, Active Managed Charging offers a non-disruptive way to get EV direct load control today, with flexibility for tomorrow through a portfolio of proven solutions across EV, Peak Optimization, TOU rates, Demand-Side Management, Customer Experience, and much more.

Trusted

Bigdely is a trusted analytics partner to over 40 utilities worldwide, empowering over 30M households with hyper-personalized customer engagement solutions that deliver energy savings, boost CSAT rates and increase program ROI.

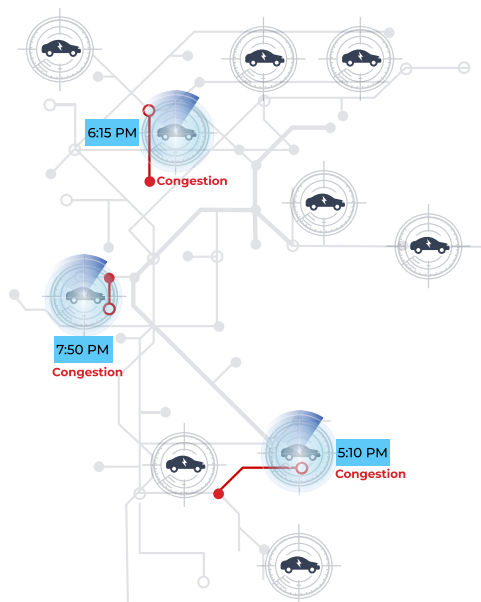
Bigdely has been recognized for customer experience and smart meter analytics. Guidehouse Insights named Bigdely a **Leader in the Home Energy Management** space. Likewise, Bigdely earned a Leader designation in IDC's **Worldwide Digital Customer Engagement for utilities**.

While our EV solution has earned accolades from **S&P Global Platts** as well as the Smart Energy Consumer Collaborative (SECC), the most important stories are from our customers. For example, one leading investor-owned utility was able to shift 75% of peak charging load with Bigdely's behavioral managed charging, which serves as the basis for our telematics solution.

Increase Program Performance While Reducing Costs

By delivering 90% or better accuracy in finding customers with EVs on your grid and then behind-the-meter visibility into their charging behaviors, Bigdely gives utilities the ability to target the highest-value customers for load-shift programs, reducing program costs from an average of ~\$225/kW to ~\$65/kW.

COMPETITION	BIDGELY EV SOLUTION
<ul style="list-style-type: none">Doesn't know which homes have EVRecruits using open market	<ul style="list-style-type: none">Detects all EVs using disaggregationRecruits using existing CX Solution
CAC: Millions	CAC: \$0
<ul style="list-style-type: none">Incentivizes free riders	<ul style="list-style-type: none">Incentivizes ONLY the right EV (based on geo & time)
Program cost: \$\$\$	Program cost: \$
<ul style="list-style-type: none">Cost ~\$225/kW	<ul style="list-style-type: none">Cost ~\$65/kW







Maximize Your Return on Investment

Leveraging Bidgely's solution to reduce on-peak EV charging brings a broad range of system and operational benefits, including:

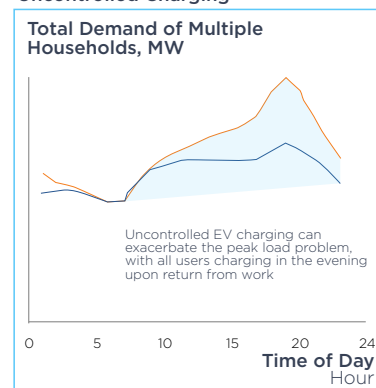
- Minimized system operation costs, for those that are subject to operational constraints (ex. power balance, reserve requirements, transmission network constraints), generation unit constraints, (ex. min. and max generation, ramping capabilities, minimum up and down times), and aggregate EV demand constraints.
- Reduced need for additional generation capacity, thereby reducing bulk system planning, and investment costs, while improving system reliability.
- Reduced risks of grid-asset (i.e. transformer) failure hazards and loss-of-life probability.
- Reduced curtailment of renewables by optimizing charging to occur during renewable heavy periods. This is especially beneficial where there is a high penetration of solar.
- Greenhouse Gas Emissions reduction from internal combustion engines to all electric vehicles. This varies based on the local electric resource generation mix.

These benefits add up to big ROI—a potential 300% based on Bidgely's models.

The National Renewable Energy Laboratory (NREL) [conducted a comprehensive review](#) of the research looking at EV managed charging value—"Across the hundreds of studies reviewed, NREL researchers found significant benefits of EV managed charging, like decreased emissions, improved reliability, supporting large-scale deployment of variable generation, and lower power system costs. Some studies show that EV managed charging could provide thousands of dollars of value per EV every year."

-  **Reduce Bulk System Investments**
\$20 - \$1350 Per EV Every Year
-  **Reduce Bulk Power Costs**
\$15 - \$360 Per EV Every Year
-  **Reduce Renewable Curtailment**
Up to 2400 kWh Per EV Every Year
-  **Reduce Distribution System Investment**
\$5 - \$1090 Per EV Every Year
-  **Increase Hosting Capacity**
30 - 450%

Uncontrolled Charging



Source: Royal Society of Chemistry, [Energy & Environmental Science Journal](#)

Future-Ready

EV innovation is occurring at high speed, as AI, grid-edge computing, and digitalization transform grid management. Bidgely gives you the AI-based data science and engagement solutions to build cutting-edge EV Managed Charging programs today while remaining agile for the years ahead.

Ready to Power Up Your EV Management?

[Contact us](#) to speak with a representative or see a demo of Active Managed Charging in Action.

[Download](#) Bidgely's EV Adoption Playbook to prepare for the four phases of EV adoption.

[Download](#) the comprehensive EV Solution Brief to understand how Active Managed Charging fits into our broader suite of EV management solutions.