



IEA-EPRI workshop on Electrification

"The role of charging"

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ChargePoint Key Figures



Industry Pioneers

- + >10 years of experience
- + 100 percent focused on EV charging
- + Innovation driver
- + > 50 patents
- + Partnering with major industry players
- + Policy thought leader and influencer



Market Leader

- + >5,500 customers
- + >50,000 charging spots
- + >780 DC fast spots
- + >1,100 ports added every month
- + >1 million charges per month
- + >37 million charges delivered
- + Every 2 seconds a driver plugs into the ChargePoint Network



Fast Growing

- + ~\$300 million in funding
- + >70% share of commercial smart charging in US
- + Global expansion in full swing



Europe

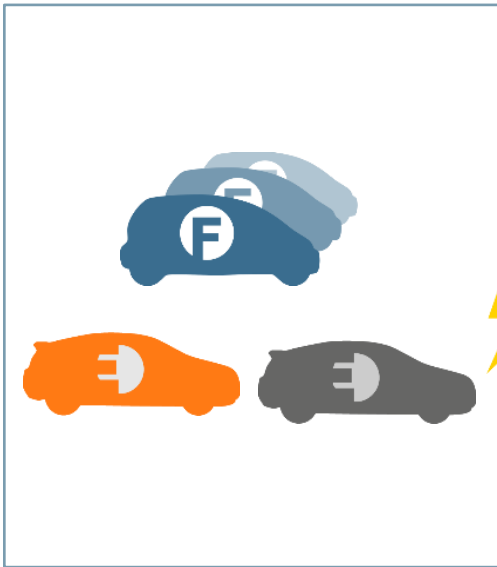
- + Strategic investments from Daimler, Siemens, BMW
- + Offices in 3 EU countries
- + Customer Service in 4 languages
- + 100+ DC Fast Chargers deployed in Europe; More than 500 by end 2018

Mobility Is Driving Change



The “Fleetification” of Everything

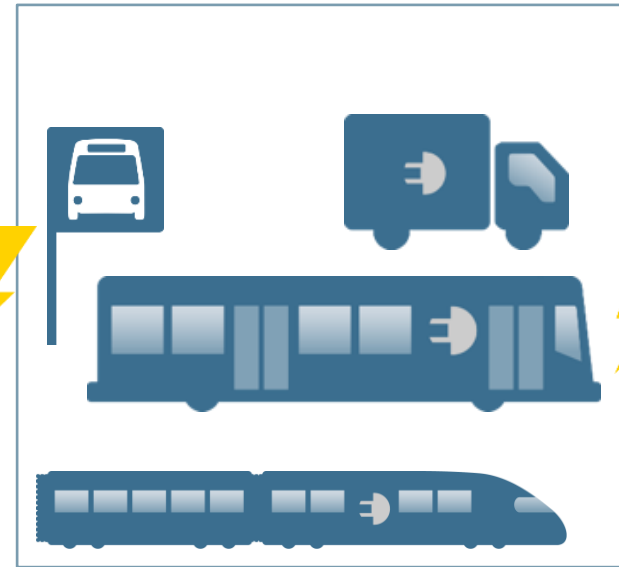
Transportation as a Service (TaaS)



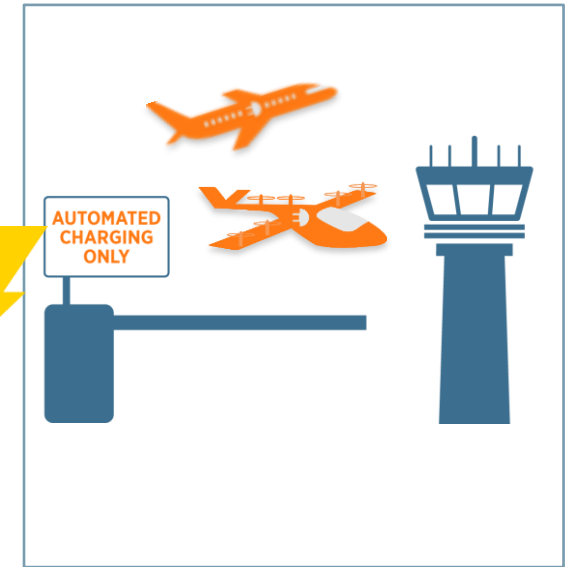
Goods Delivery



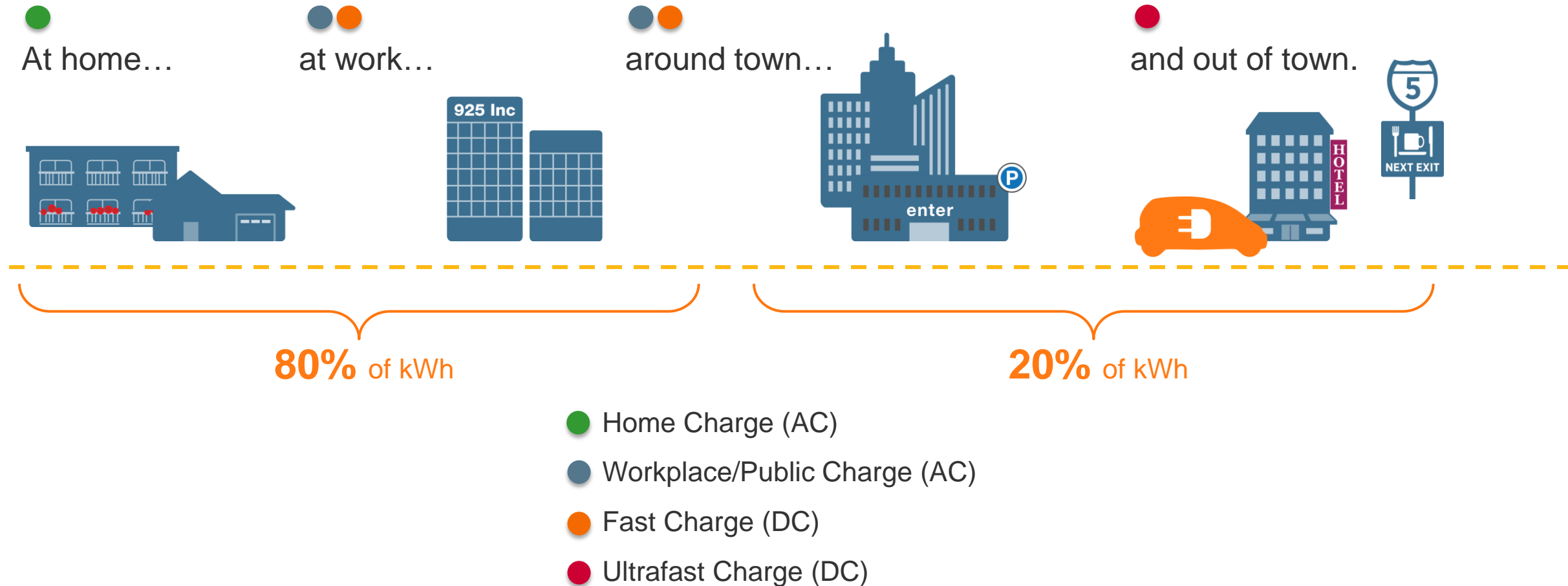
Public Transit



Future Modes



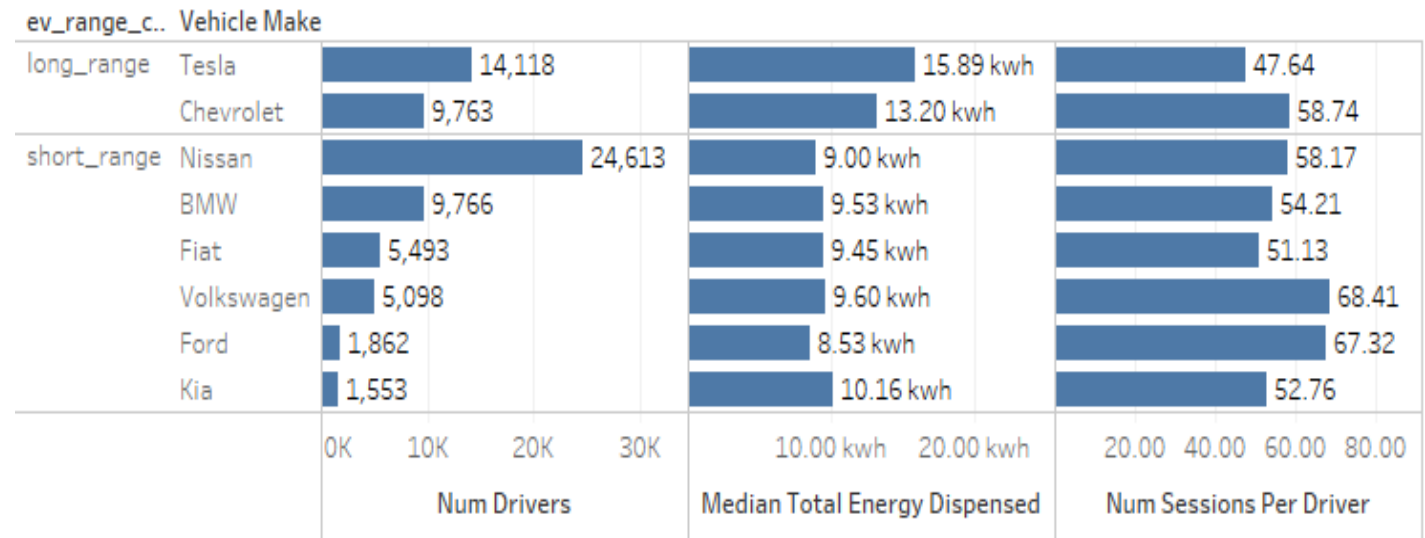
Charging Need Is Situation Dependent



Home Charger Impact on Charging Behaviour

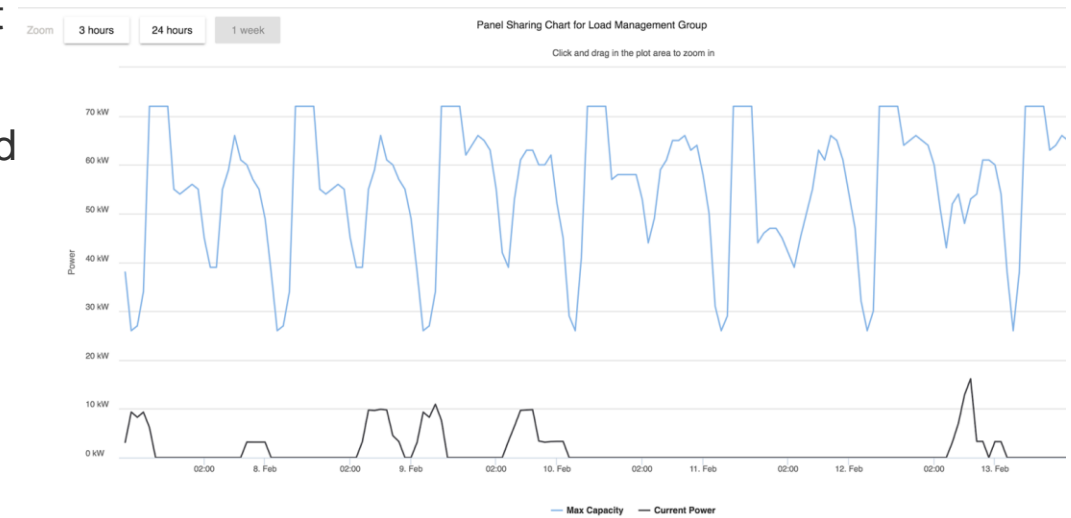
For Drivers with a home chargers:

- Long range BEVs charge less often but charge more energy per session
- BEV Drivers charge 89% at home 6% at work
- Workplace remains primary location outside of home.
- Healthcare, education, municipal, which appear as alternate workplaces.



In multifamilies- Power your Drive project

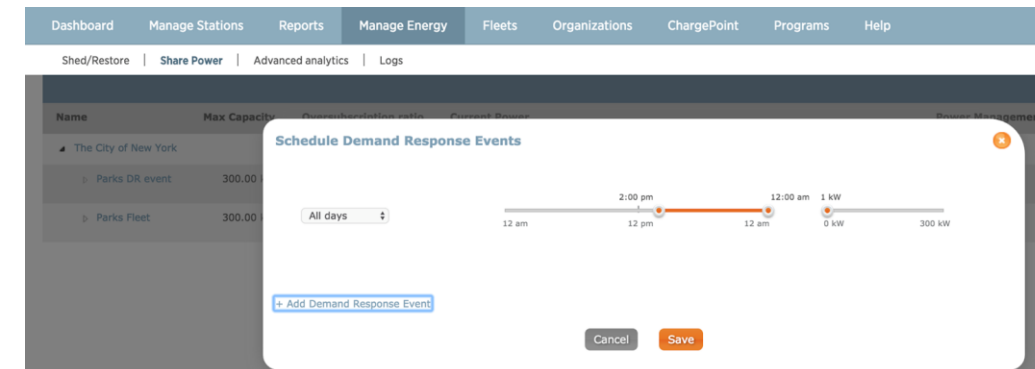
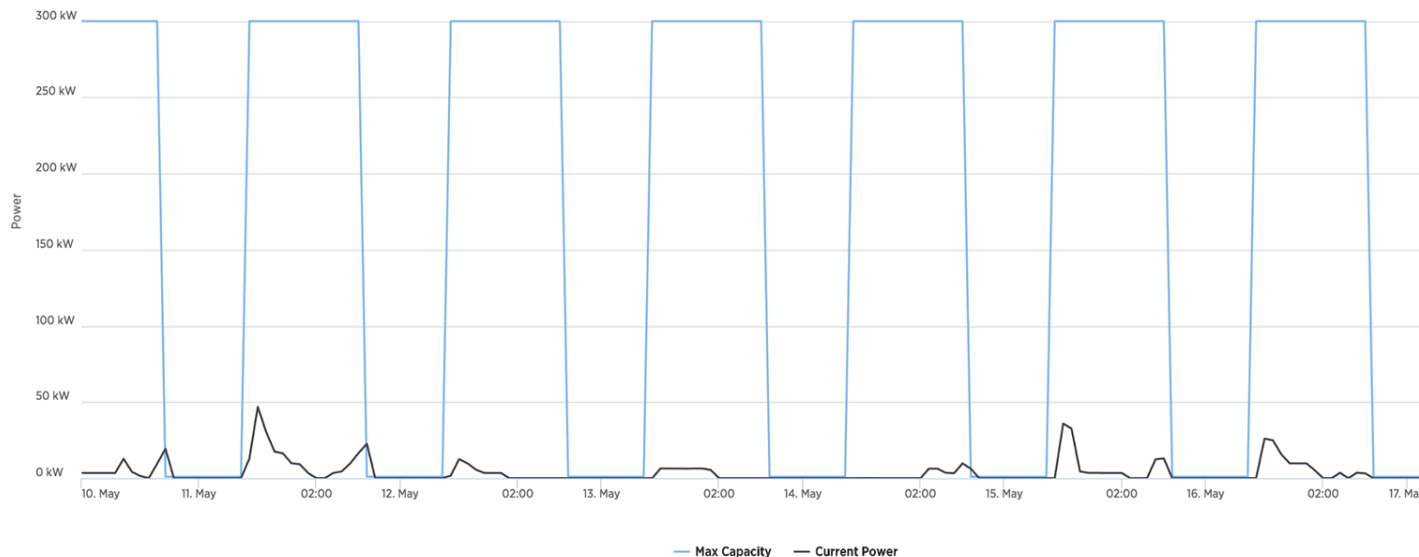
- + This project is in collaboration with **San Diego Gas & electric.**
- + The objective is to **dynamically manage (via API) the power and pricing** of the chargers according to the day-ahead forecast of the utility.
- + Every day the power limit and pricing of the chargers are updated for the day after, with an **hourly variation**, and according to the hourly price of the electricity.



Pricing Rules										
Pricing Policies										
Apply Pricing										
Tax Rules										
Tax Rule Summary										
Show/Hide Columns										
Org Name	Rule Name	Reservation	Price	Description	Application	Last Update Time (CST)	Updated By	Version	Used By (No. of Pricing Policies)	Applied To (No. of Stations)
IBEW Local 569 SDGE PYD	PricingRule_SDGE_100012831	Energy				2018-02-13 04:00:38	Andrew McKencher	281	2	5
All Days										
12am - 1am \$0.17346/kWh										
1am - 2am \$0.17128/kWh										
2am - 3am \$0.16958/kWh										
3am - 4am \$0.17061/kWh										
4am - 5am \$0.17202/kWh										
5am - 6am \$0.17980/kWh										
6am - 7am \$0.19420/kWh										
7am - 8am \$0.21460/kWh										
8am - 9am \$0.19614/kWh										
9am - 10am \$0.18090/kWh										
10am - 11am \$0.18245/kWh										
11am - 12pm \$0.18104/kWh										
12pm - 1pm \$0.17866/kWh										
1pm - 2pm \$0.17954/kWh										
2pm - 3pm \$0.17812/kWh										
3pm - 4pm \$0.18364/kWh										
4pm - 5pm \$0.18954/kWh										
5pm - 6pm \$0.20467/kWh										
6pm - 7pm \$0.23009/kWh										
7pm - 8pm \$0.20623/kWh										
8pm - 9pm \$0.20439/kWh										
9pm - 10pm \$0.18744/kWh										
10pm - 11pm \$0.18164/kWh										
11pm - 12am \$0.17410/kWh										
Min / Max Fees										
Flat Fee Free										
Min \$0.00										
Max \$0.00 per session										

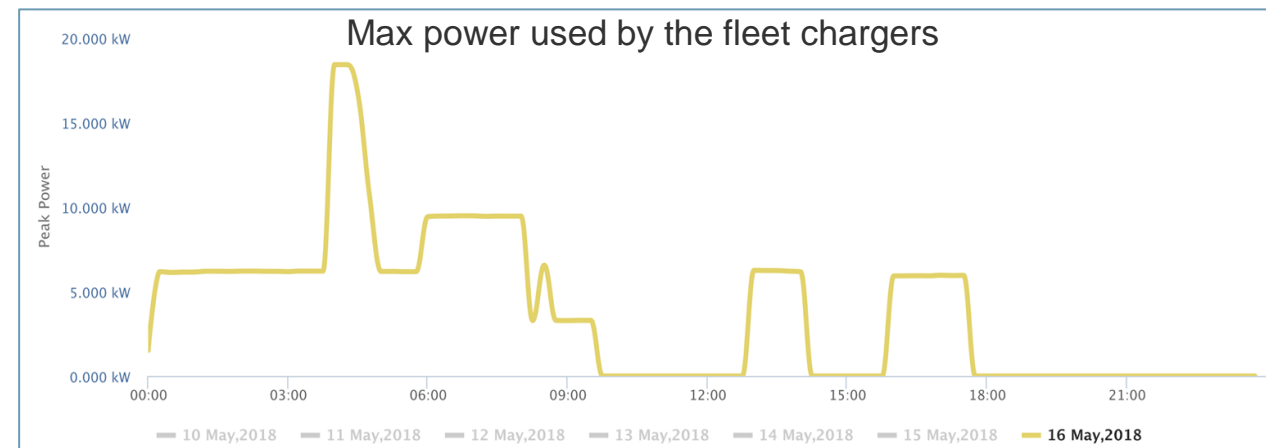
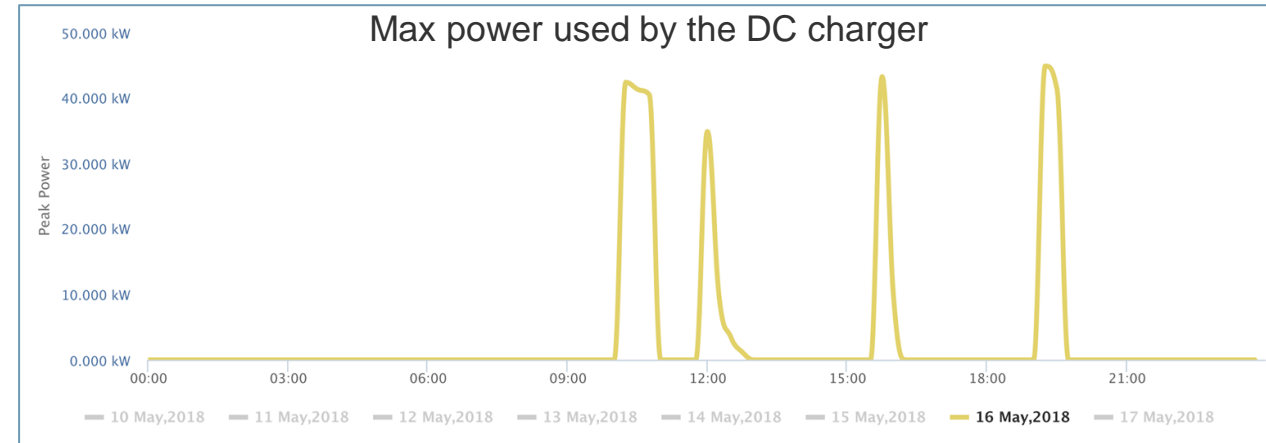
At the workplace – EV fleet of a city

- + The city concerned has an EV fleet for the police, the municipality, ... and 655 ports.
- + The city wants to take advantage of the utility (ConEd) incentive program
- + The program brings:
 - 0.05\$/kWh used for charging during off-peak hours (from midnight to 8AM)
 - 20\$/month from June to September to stop the charge during weekdays from 2PM to 6PM
- + The city schedules the power delivered on its ports. The stations are shut down from 2PM to midnight.



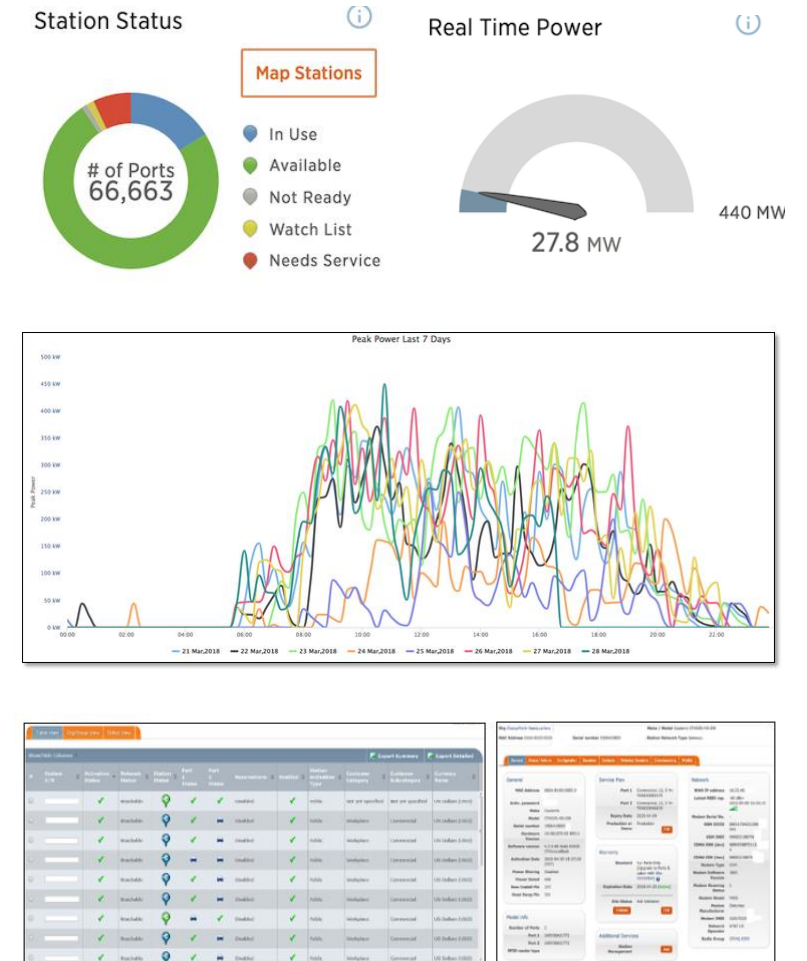
In Municipalities

- + The municipality has expensive demand charges from their utility (PG&E), so **every kW that they can avoid saves them money.**
- + They have 133 ports, and **one 50kW DC charger.**
- + **When the DC charger is drawing power,** the power delivered by their AC stations is lowered in order to compensate the power used by the DC charger.
- + **First,** they lower the **fleet chargers** power. If these stations are drawing less than 50kW, **then** they lower the remaining power from the **public stations.**
- + This mechanism is integrated thanks to our APIs.



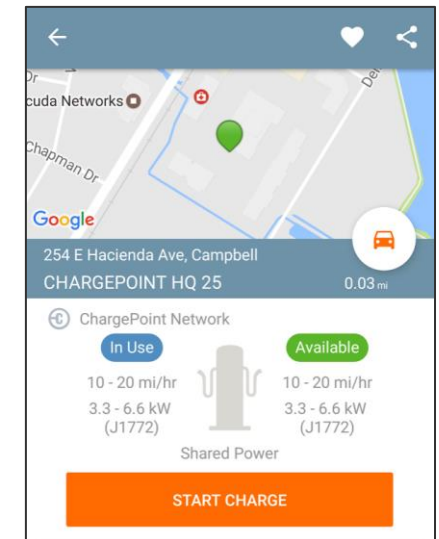
Charger Management

- + The charging system is now a critical component of vehicle operations
- + Chargers and grid service devices need to be networked for proactive monitoring and to ensure system uptime
- + Large depot monitoring comprises remote back up servers, sophisticated cyber security, performance monitoring at component level
- + Multi system integration including with vehicle telematics, fleet and depot management platforms are required



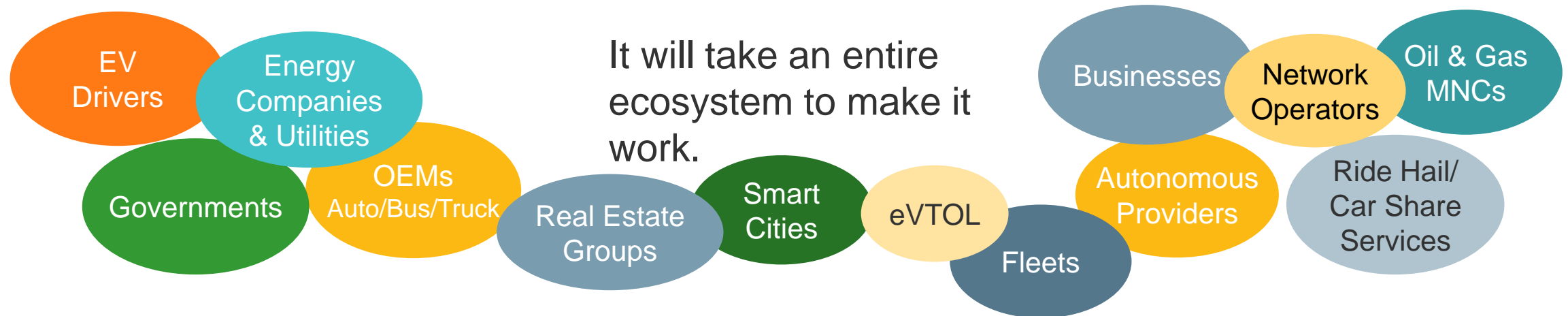
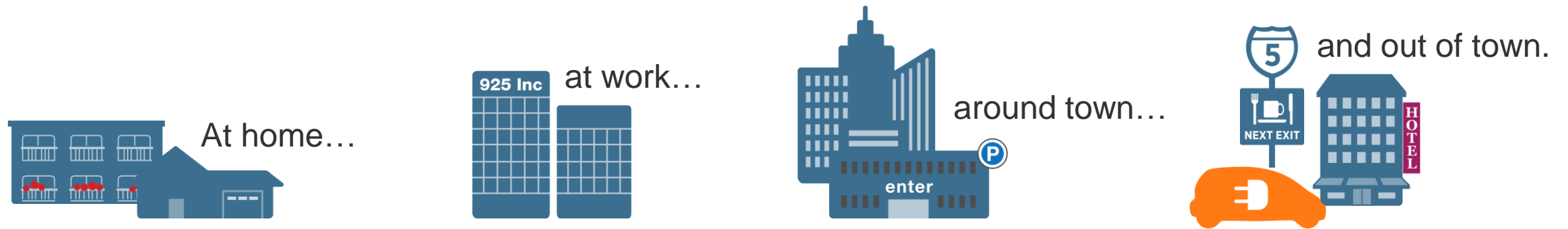
Driver Experience

- + Power Management features have been built with Driver Experience in mind
- + The driver sees on the mobile app and station UI that station is power shared
- + The driver gets a notification on their phone that they have plugged into a station that's sharing power or has special pricing scheme's applies
- + The driver can also monitor real-time charging activity on the mobile app or driver website



A New Fueling Network...

Charging happens wherever cars are parked:



Questions?

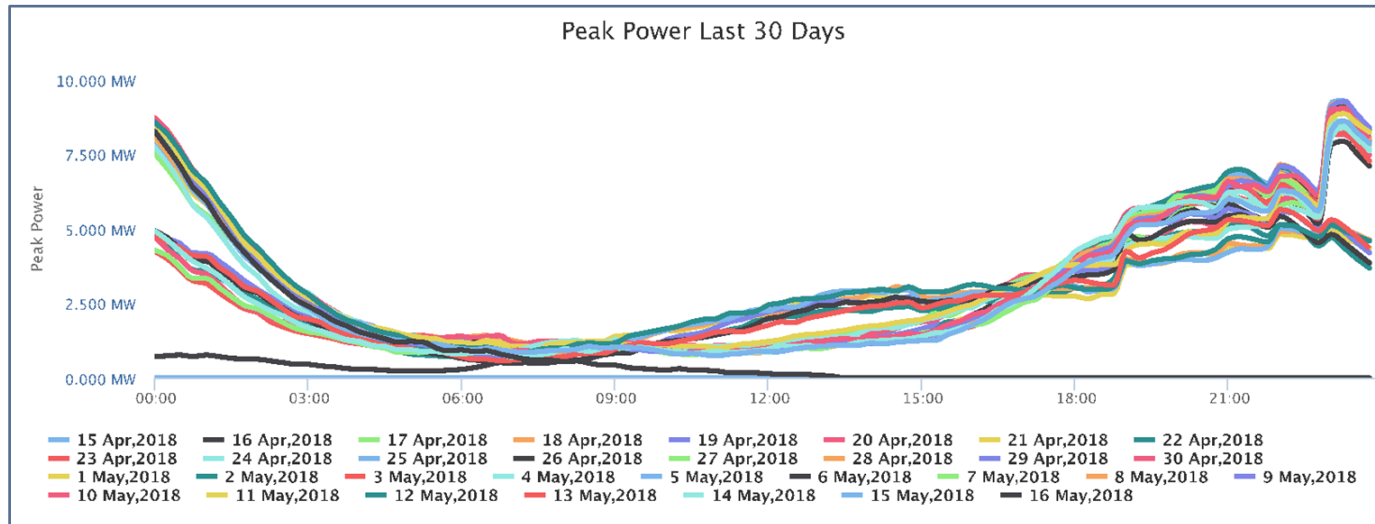
Joury.dereuver@chargepoint.com



Back-up

At home

- + The driver uses the app to manage the home charger and:
 - Schedule the charge at off-peak hours, when electricity is the cheapest
 - Choose to be informed when his EV should be charging
 - Today, more than 9,500 home chargers are connected to the ChargePoint cloud



← Schedule

To charge at certain times, set a schedule and plug in. Charging at off-peak hours saves you money.

Schedule ☒

Turn off the schedule in your car

Based on PG&E, E7 [CHANGE](#)

WEEKDAYS

Starts	11:00 PM
Ends	7:00 AM

WEEKENDS

Starts	5:00 PM
Ends	7:00 AM

← Home Charger

Starts charging at 11pm

Start Charging Now

Schedule On >

Remind me to plug in Off >

Settings >