



DOER Electric Vehicle Summit & Workshop

Kristen Helsel & Frank Wong
EV Solutions

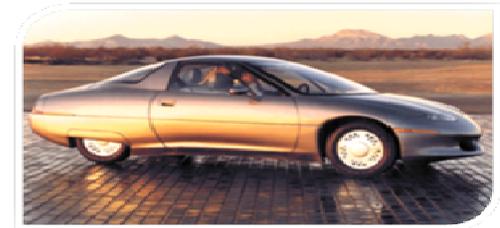


These materials represent selected available information and potential business scenarios researched by AeroVironment as of October 2010, and no warranties or claims are made as to its accuracy or completeness. Numerous factors will affect EV Charging Infrastructure deployment. AeroVironment reserves the right to revise the information presented at any time.

AeroVironment

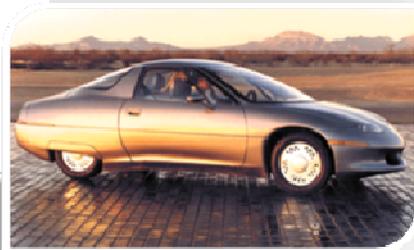
Quietly Advancing Clean Transportation for 40 Years

- AV develops, manufactures, and markets **Efficient Energy Systems and Unmanned Aircraft Systems**
- **A unique record of achievement**
 - Industrial PosiCharge™, market-leading **industrial EV charging system**
 - Leading provider of **testing and simulation systems** to EV, PHEV, and advanced battery and fuel cell developers
 - Seven vehicles in the **Smithsonian**
 - Conceived and developed the GM Impact, the **first modern EV**
 - Helios Solar Airplane, **world altitude record holder** at nearly 100,000 feet
 - Global Observer, first **liquid-hydrogen powered** unmanned aircraft system



AV and Our Role in the Revolution

The first modern EV



1989

Industrial EV Charging



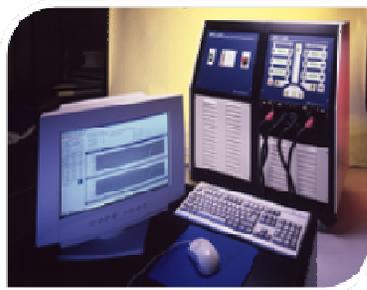
Fleet EV Solutions



2010



"Gen 1"
Public EV Chargers



EV Testing and Simulation



"Gen 2"
Public EV Fast Chargers



Home Charging Solutions

The EVSE Total Package

End-to-End Solutions That Address Every Need

■ The Hardware: Full Suite of EVSE Products

- For the home...
- For smart grid...
- For electrified fleets...
- For public deployment...
- For apartments, condos, dealerships...
- Private-Label or Co-Brand Ready Solutions.

■ The Software

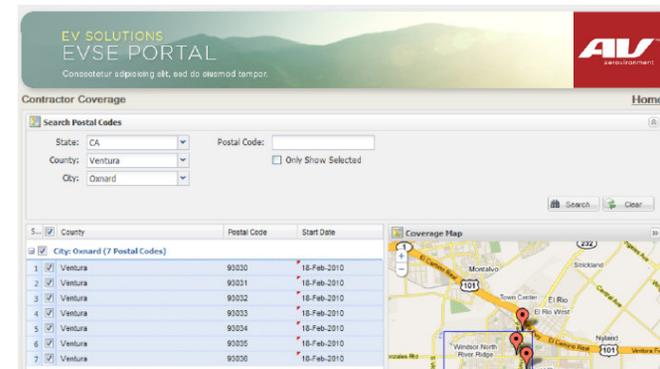
- Customizable EV DATA package
- Patented smart-grid communication technology

■ The Services

- Application studies
- Site assessment and permitting services
- Installation services

■ The IT Infrastructure

- Web-based, customizable customer portal
- Quoting, e-commerce, record management, CRM
- Plugged into installer network and supply chain ERP



The EVSE Hardware

Application Breadth, Functionality Depth



Home



Smart Home



Dealerships



Fleets, public, long-dwell retail

EVSE-RS

Base EVSE configuration
Wall or pedestal mount
Indoor or outdoor
Single-phase up to 30A
1 comm module option

EVSE-LS

All the functionality of RS
Up to 3 comm modules
(WiFi, Zigbee, Ethernet
Powerline, Cellular)

EVSE-Multi

Dual configuration
Quad configuration
All functionality of RS
Reduced install cost
Weather resistant

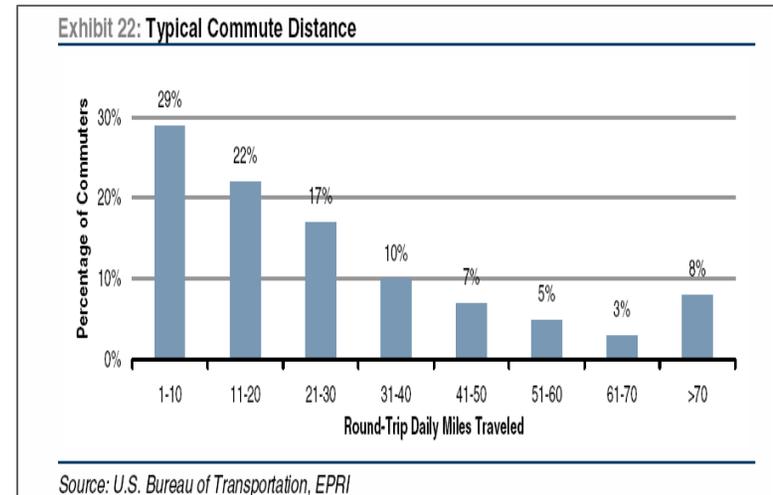
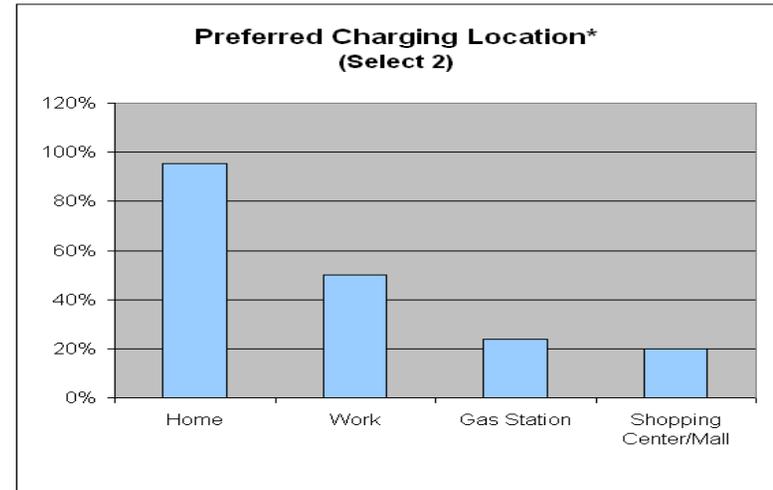
EVSE-CS

Commercial outdoor
Fleets and public charging
POS and cord security
Adaptable 3-phase input
Comm options

Most EV Charging Will Be Done at Home



- **95% of customers prefer home charging (EPRI Report)**
- **78% of US drivers commute less than 40 miles per day; 85% less than 50 miles**
- **Convenient, easy-to-understand process to install home charging will encourage more early EV adoption than public infrastructure (PlaNYC Report)**



*References:

“Electric Vehicles: Characterizing Consumers’ Interest and Infrastructure Expectations,” Final Report, Nov 2009. EPRI / Southern California Edison

“Exploring Electric Vehicle Adoption in New York City,” January 2010 PlaNYC / McKinsey & Company

The EVSE Services

End-to-End Support for All Your Home Charging Needs

■ The Team

- Trained, experienced and exclusive installers/service providers
- Licensed electricians
- Guaranteed availability
- Local codes/permitting knowledge



■ The Installation Services

- Site assessments and application services
- Service upgrades (trenching, panel upgrades)
- EVSE installation
- Complimentary on-site user training

NATIONWIDE NETWORK

Certified technicians

Proprietary troubleshooting tools & services

■ The Post Installation Services

- Call center and help desk support
- Warranty for parts and labor
- On-site troubleshooting
- Proprietary service tool for easy vehicle simulation and troubleshooting (EVSE v. vehicle v. utility service)



The IT Infrastructure

Front-and Back-End Infrastructure Waiting for You to Plug In

■ The Users

- Consumers/drivers
- Your management team
- AV certified installation/service network
- AV forward and reverse logistics
- Dealers and other 3rd party partners

■ Functionality

- User appointment scheduling
- Automatic service provider assignments
- User profile repositories
- Purchase tracking
- Private label or co-brand ready
- E-commerce
- Full, rich CRM capability

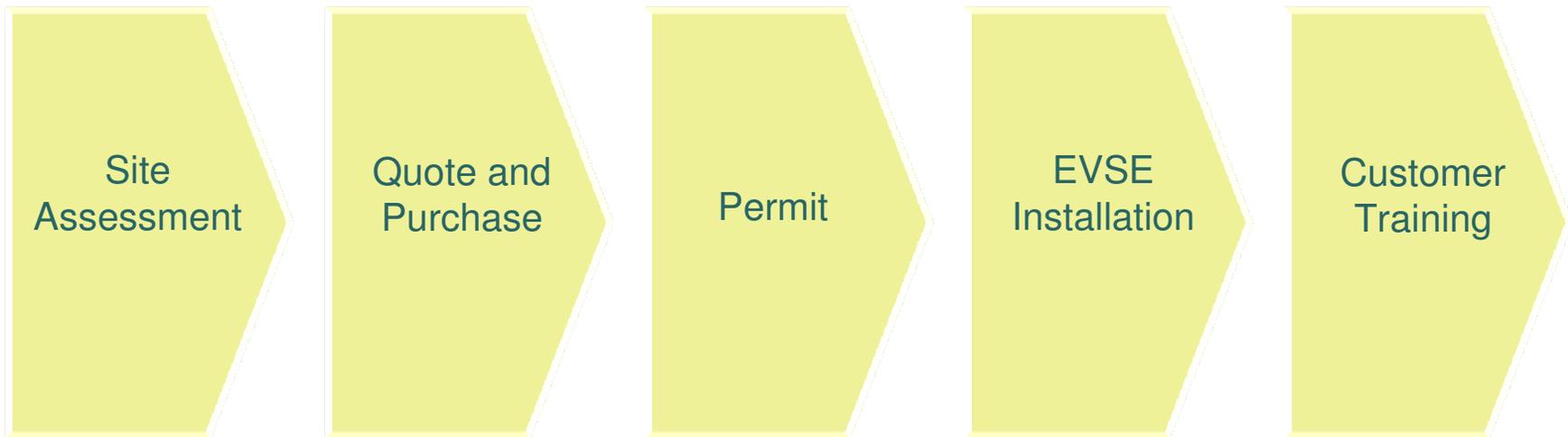
■ Service Level

- 24/7 uptime and site availability
- Advanced security; password encryption, security layer
- Triple redundancy protection against force majeure



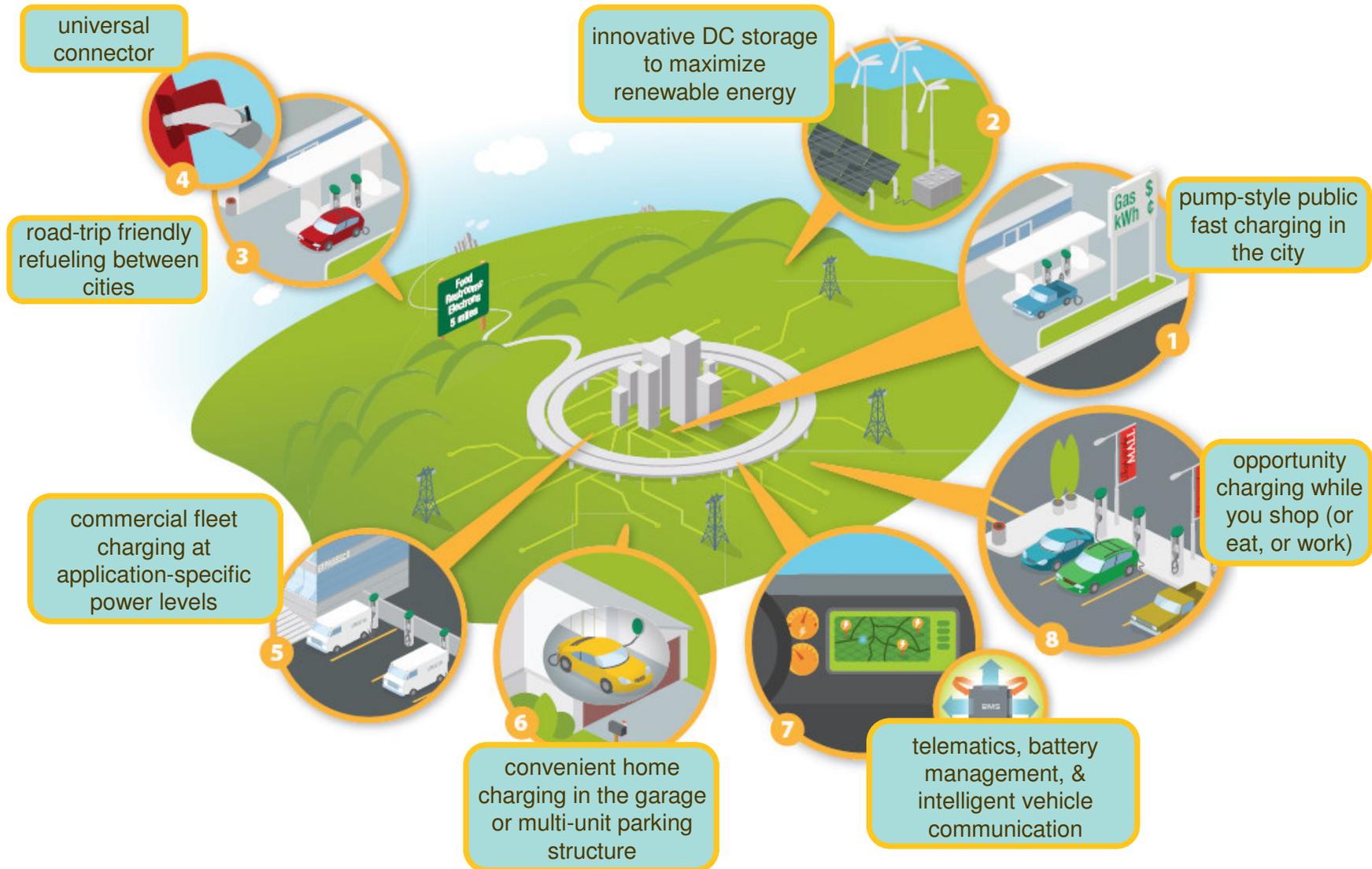
The EVSE Installation Process

Seamless User Experience



Building Out the Ecosystem

Home EVSE is Just the Beginning



The Power of Practicality

Level 3 DC Infrastructure: The “Killer App” Enabling EV Adoption

■ The Benefits

- Supports planned long road trips as well as in-city “emergencies”
- Charging in minutes, not hours
- Supports large-batteries (buses, trucks)

■ The Features

- High power configurations
- Bidirectional power capabilities
- Tepco/JARI compatible
- UL, CSA, CE by time of launch
- ADA compliant
- Advertising revenue opportunities
- Full color GUI and POS options on public model
- Customizable for private label branding opportunities

■ The Offering

- “PS” models for public use
 - 10kW, 30kW, 60kW, 125kW, 250kW
- “FS” models for low-cost, high-impact fleet use
 - Same power levels



Iconic Public Charger
 Communication options
 Full-color GUI
 POS options



Fleet Charger
 Simple GUI
 Cable management
 Cable security
 Lower-cost

Questions

Thank you

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