



**All Electric, All the Time**  
With Wireless Charging  
**ITS World Congress**

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**WAVE | At a Glance**


-  **Delivering Commercial Product**
  - \$7+M in Commercial Contracts
-  **Initial Focus on Heavy Duty Vehicles**
  - En-route charging enables commercial use
-  **Proven Management & Technology Team**
  - 25+ Employees




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**All-Electric Transportation | Market Viability?**




**Limited Range & Anxiety**



**Heavy & Expensive Batteries**




**Ugly & Expensive Infrastructure**




**Impractical**

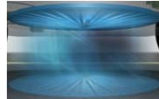
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**The Solution | Wireless Power Transfer (WPT)**



**Electric Grid**



**Wireless Charger**




**Vehicle**

**WAVE Technology:**

- Safe charging through road and all-weather conditions
- Simple and cost effective
- Smaller battery packs and unlimited range
- Batteries charged "on the go" throughout route
- Elegant Infrastructure – no cables or overhead wires

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## Market Creation | Creating New Markets for EVs

Wireless En Route Charging Enables Applications & Markets That Do Not Exist Today

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## WAVE's WPT | The Technology

- 7.4" Air Gap, 10.5" Magnetic Gap
- Third Party Certification that it meets ICNIRP Guidelines and ISO/ANSI 14117 Standards (medical devices)

Input Power from Grid → Transmitter Electronics → Magnetic Field → Receiver Electronics → Output Power to Vehicle

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## WAVE's WPT | A Typical Duty Cycle

- ① Vehicle Receives Full Charge Each Night
- ② Batteries Drained as Vehicle Drives Route
- ③ Vehicle Recharges Wirelessly Throughout Day
- ④ Vehicle Has Limitless Range

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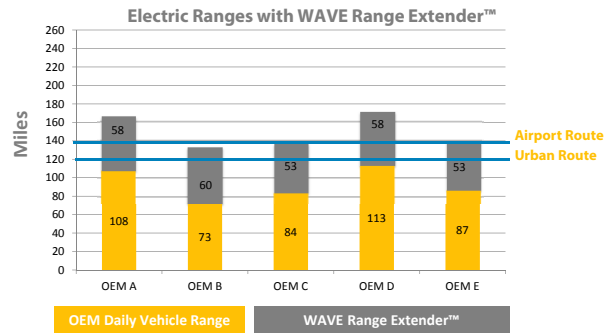
## Opportunity Charging | Daily Charging

EV vs. EV with WAVE

Time	Standard EV Charge Level (%)	EV with WAVE Charge Level (%)
7:00	90	90
8:00	75	85
9:00	60	80
10:00	45	75
11:00	30	70
12:00	15	65
13:00	0	60
14:00	0	55
15:00	0	50
16:00	0	45
17:00	0	40
18:00	0	35
19:00	0	30
20:00	0	25
21:00	0	20

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## Electric Bus Ranges | With WAVE



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## Traction in Transit | Four Commercial Deployments



- \$7.1M in awarded contracts
- Multiple vehicle platforms
- Variable route lengths
- High-profile locations

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## Utah Transit Authority | Commercial Deployment

- 50 kW charging system
- Feeder shuttle for light rail "TRAX" system
- Full Service launch in Fall 2014



Bus charging over snow (Dec 13, 2013)



Charging system primary pad



Remanufactured all-electric ZEPS bus from CCW

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## Monterey Salinas Transit | Waterfront Route



- All-electric trolley replaces diesel trolley
- 4.5 mile route
- 50 kW charging system
- Operational Q1 2015



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## McAllen Metro | A Green Route in Texas

- Route will provide all electric service to the airport, hospital and shopping center
- 50 kW charging system for two Complete Coach Works "ZEPS" buses
- Awarded the grant after a competitive bidding process



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## Antelope Valley | Laying the Groundwork



- Based in Lancaster, CA – home of BYD's manufacturing plant
- Long duty cycles
- 50 kW charging system
- Initial chargers at Lancaster City Park & Palmdale Transportation Center
- Commitment to full electrification
  - Initial order of 2 BYD buses & 2 WAVE chargers
  - Grant application submitted for 12 additional buses and 2 more chargers
- Operational Q2 2015

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## Management Team



**Michael Masquelier**  
CEO & CTO  
Entrepreneur and technology expert in wireless, power electronics and sensors with 11 issued and pending patents including Motorola Labs



**Hunter Wu**  
Chief Scientist  
Co-inventor of University of Auckland WPT system; Ph.D Electrical Engineering; Over a dozen peer-reviewed, IEEE international journal and conference publications.



**Wesley Smith**  
Chief Development Officer  
Over twenty years of business development and startup experience in telecommunications, energy, and technology sectors.



**John English**  
Director  
Former Utah Transit Authority CEO, national leader in transit industry



**Guy Letendre**  
Chief Operating Officer  
Supply chain expert with executive level engineering, operations and business development experience with Autoliv & Infina Corporation

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## Technical Team

### Power Electronics Engineering



Michael Masquelier CEO/CTO, Hunter Wu Chief Scientist, Hadi Malik Product Engineering Manager, John Russ Electrical Engineer, Eric Ladd Power Electronics Test Engineer, Lohi Vitor Lab Technician, Michael Lewis Lab Technician

### Software Engineering



Bryan Stanquist Senior Embedded Software Engineer, Marcus Harper Embedded Software/Firmware Engineer, Jay Horvath Embedded Software Engineer, Eric Christensen Embedded Software Engineer, Steve Ball Software/Firmware Engineer

### Mechanical Engineering



Erwin George Senior Mechanical Engineer, Robert Erickson Mechanical Engineer, Robert Jackson Mechanical Engineer

Not Pictured:  
Andy Moore, Mechanical Engineering Manager;  
Robert Baker, Manufacturing Data Engineer

### Operations



Guy Letendre COO, Tracie Peterson Project Manager



Not Pictured:  
Melanie Espinoza, Supply Chain Assistant

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