Volume 26, Issue 9 EVAOSD Newsletter September 2016

Charged Up

ELECTRIC VEHICLE ASSOCIATION OF SAN DIEGO (EVAOSD)
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Newsletter Editor: David Crow
Webmaster: Russ Lemon
Event Director: Raejean Fellows

Monthly Meetings: The 3rd Wednesday of the month, (No Meeting in December).

Meeting Location, Date and Time:
Center for Sustainable Energy
9325 Sky Park Court, Suite 100
San Diego, CA 92123
Wednesday, 21 Sept 2016, 7:00 P.M.

Program: News, Project Status, Events

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Newsletter Topics:

EVs Coming Quick

Better Inverter

Magic Carpet EV

Message from the President

Hi All,

A huge THANK YOU to all of our club members that volunteered in the National Drive Electric Week. It was a great success with hundreds of people getting their feet wet with almost a thousand test drives. A special “thank you” to Raejean Fellows for organizing this event. It was her first official event with our group and she did a fantastic job!

A lot of people were amazed at all the offerings and some of the ridiculously low lease rates. As always, we have a few steps forward like the Bolt getting 238 Mile EPA rating and the new Kia Soul getting a range boost and a few steps backwards like Tesla in Michigan losing the fight to sell electric cars directly to customers in that state.

We will be having some new members coming in this week (from the great work at the show) and with some renewed energy we will be pushing the association forward with new changes and better content. Here is where I insert my plea for help, volunteers, connections to speakers, content for our newsletter and website, etc… Hope to see you all this week!

-Joseph

2016 Drive Electric Event at Qualcomm

Why Electric Cars Will Be Here Sooner Than You Think

Adoption of electric vehicles will not be gradual, because the factors required to unlock demand for them are in place

by CHRISTOPHER MIMS, Aug. 28, 2016, WSJ.com

In 2015, about one in every 150 cars sold in the U.S. had a plug and a battery. But mass adoption of electric vehicles is coming, and much sooner than most people realize.

In part, this is because electric cars are gadgets, and technological change in gadgets is rapid. One big leap is in batteries. A typical electric vehicle today costs $30,000 and will go about 100 miles on a charge, if that. Within a year, you'll be able to get double that range for just a little more money.

Tesla Motors Inc. is the standard-bearer, promising a Model 3 vehicle meant to appeal to the masses at $35,000 without incentives and more than 200 miles of range. By comparison, the average new car in the U.S. today sells for about $33,000.

But Tesla is hardly alone. Later this year, Chevrolet will roll out its $37,500 Bolt EV. It, too, boasts more than 200 miles of range, which appears to be the new goal for eliminating "range anxiety"—the fear that a vehicle will run out of juice—among potential electric-vehicle buyers.

And that is just the start. Pasquale Romano, chief executive of ChargePoint Inc., the world's largest maker of electric-car charging stations, says he works with, and talks to, most major car companies. "We have seen their internal plans to just electrify everything," he said.

In the short run, many of these cars will be plug-in hybrids, with both electric motors and gasoline engines. It makes sense to lump them with electric vehicles because most new models have enough battery power to get the average U.S. commuter to work and back without using any gasoline.

Steve Majoros, a marketing director at General Motors Co.'s Chevrolet unit, says that 90% of trips and 65% of miles driven in its Volt plug-in hybrid are on electric-only mode. The Volt can go 53 miles on a charge.

Every plug-in hybrid is effectively an electric car that is carrying a "range extender," just in case. They will help electrify a large share of the miles Americans drive. They'll also help ease consumers into electric vehicles, overcoming any remaining fear about being stranded after running out of juice.

Competition among electric vehicles and plug-in hybrids will be intense, which will drive down prices. Volkswagen AG has pledged to make every model available as a plug-in hybrid by 2025. BMW AG has made the same promise. Hyundai Motor Co. promises eight plug-in hybrid models by 2020, plus two all-electric vehicles. Toyota Motor Corp.'s overhaul of the plug-in Prius, boasting twice the range, arrives before the year is out.

Another trend will help—the proliferation of charging stations. ChargePoint Sunday said it has 30,000 stations in its network, where it collects any fees levied by owners. By comparison, there are about 90,000 publicly accessible gas stations in America, says Mike Fox, executive director of Gasoline & Automotive Services Dealers of America.

The number of commercial charging stations is growing quickly in part because they're relatively cheap—costing $3,000 to $7,500 per port, depending on whether it is new construction or a retrofit. When attached to a business, they can attract customers, and encourage them to stay longer and spend more.

Hy-Vee Inc., a chain of 241 grocery stores in eight Midwestern states, installs charging stations at all its new locations; it has four chargers at each of 42 stores. Charge times for electric cars vary widely, depending on the station and car make, but it typically takes 30 minutes to an hour to get a decent charge. Conveniently, that is roughly as long as it takes to have a meal, says John Brehm, director of site planning at Hy-Vee.

Placing charging stations at workplaces, where cars spend much of their time, will be uniquely powerful. When a workplace installs a charging station, employees are 20 times as likely to buy a vehicle with a plug, according to a survey from the U.S. Department of Energy.

Drivers won't switch to electric vehicles as rapidly as consumers adopted smartphones. The average American keeps a car for 11 years. For most people, though, by the time you're ready to buy another car, there will be a range of plug-in vehicles available at prices comparable to gasoline vehicles. And that doesn't count the projected savings in fuel, or in maintenance, since electric vehicles have many fewer moving parts.

It is the nature of disruptive technological shifts that it seems like nothing is changing—until it seems as if everything is changing at once. Electric vehicles have been a long time coming, but they now represent such a clear and present threat to the gasoline engine that Mr. Fox, of the service-station association, now recommends that members signing long-term contracts for fuel include an option to renegotiate if more than 10% of a state's fleet goes electric.

If Tesla can deliver on its current promises with the Model 3, says Mr. Fox, "gas vehicles are history—it's horse and buggy days."

NEW INVERTER TO BOOST ELECTRIC CAR EFFICIENCY

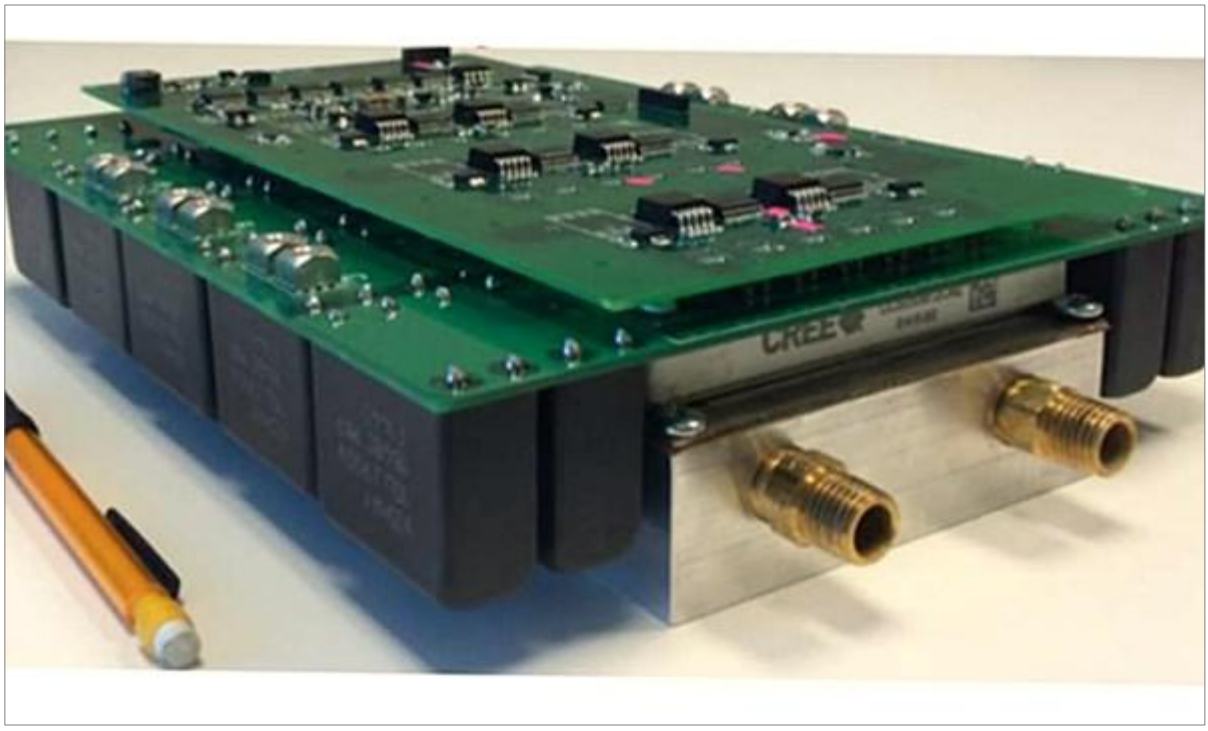
Sep 16 2016, http://www.i4u.com, IANS, in News | Latest Science News

A team of researchers in the US has developed a new inverter that -- despite being smaller and lighter -- improves the fuel-efficiency and range of hybrid and electric vehicles.

Electric and hybrid vehicles rely on inverter components, which are made of the semiconductor material silicon, to ensure that enough electricity is conveyed from the battery to the motor during vehicle operation.

Now researchers at the Future Renewable Electric Energy Distribution and Management (FREEDM) Systems Center at North Carolina State University have developed an inverter using components made of the wide-bandgap semiconductor material silicon carbide (SiC).

"Our silicon carbide prototype inverter can transfer 99 per cent of energy to the motor, which is about two per cent higher than the best silicon-based inverters under normal conditions," said Iqbal Husain, ABB Distinguished Professor of Electrical and Computer Engineering.



Compact High Powered Inverter

The new SiC-based inverter is able to convey 12.1 kilowatts of power per liter (kW/L) -- close to the US Department of Energy's goal of developing inverters that can achieve 13.4 kW/L by 2020. By way of comparison, a 2010 electric vehicle could achieve only 4.1 kW/L.

"Conventional, silicon-based inverters have likely improved since 2010 but they are still nowhere near 12.1 kW/L," Husain noted in a statement provided by the university.

According to the researchers, they can make an air-cooled inverter up to 35 kW using the new module, for use in motorcycles, hybrid vehicles and scooters.

"The silicon carbide inverters can be smaller and lighter than their silicon counterparts, further improving the range of electric vehicles. And new advances we have made in inverter components should allow us to make the inverters even smaller still," added Husain, who is also the director of the FREEDM Centre.

The current SiC inverter prototype was designed to go up to 55 kW -- the sort of power you would see in a hybrid vehicle.

The researchers are now in the process of scaling it up to 100 kW -- akin to what would see in a fully electric vehicle -- using off-the-shelf components, the research paper, to be presented at the IEEE Energy Conversion Congress and Exposition (ECCE), being held from September 18-22 in Milwaukee, US said.

Technicians at the FREEDM Lab

Electric skateboard makes this magic carpet ride real

Boosted Boards brings Aladdin to the streets of San Francisco

Domenick Yoney, www.autoblog.com, 1 April 2016

It has been said that an electric drivetrain offers a magic carpet ride-type experience. Now, someone's just taken that idea and flown with it.

Jesse Wellens, professional prankster and prolific vlogger, dons the Disney-colored costume of Aladdin, and meets up with an appropriately-attired Jasmine (Jessica Shanholtz) – and by appropriately attired, we mean strapless gown and tiara, not helmet and kneepads – and shows her the world. Or, at least, San Francisco. His ride of choice? A purple flying carpet, of course.

Wellens makes the magic happen with a 38-inch electric longboard from Boosted Boards, a drone, and some creative editing (check out the behind-the-scenes footage below). Oh yeah, and a measure of fearlessness on the part of himself and his passenger. Ask anyone who's fallen off a skateboard a good number of times while riding solo (yours truly, for instance) about how safe or easy it would be to ride a deck two-up, and we're pretty sure you'd be advised not to even try it. Especially without safety gear.

While it's not mentioned which of the three variants offered by Boosted was used for the stunt, we imagine it was the Boosted Dual+. With 2,000 watts of hill-climbing power and a top speed of 22 miles per hour, it's got us day dreaming about carving up some twisty neighborhood streets. Its seven-mile range is a bit of a bummer, though given that it recharges in an hour and can still be kick-propelled like a regular longboard with the battery is discharged, that's not necessarily a deal killer. And, at only 15 pounds and its ability to be tucked under a desk or propped up in a corner, it makes for an interesting last-mile option. And, apparently, a pretty sweet magic carpet.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The EAA website is a great general resource for EV information.

membership dues include a percentage goes to the EAA Chapter you support for public Electric Vehicle promotion Events like rallies, shows and EV rides.

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