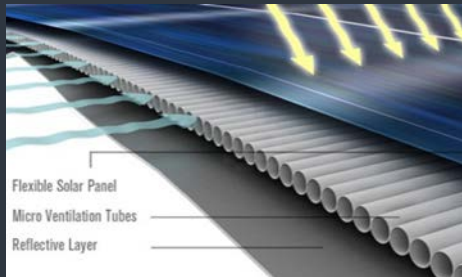


Solar EV Charging Stations

Flexible Solar EV Charging!



The inner layer of the “tent” is covered with a reflective material - with micro ventilation tubes in order to prevent excess temperatures reaching the vehicles precious textiles and panels.

The main control pedestal has a large luminous display that allows the state of charge to be monitored at a distance. The pedestal glows cyan when it is available for use.

No mention as yet to the power output from the solar panels but the charging pedestal has mains backup in addition to the solar generation for SAE J1772 standard charging.



V-Tent

'V-tent' by Hakan Gursu of Turkish creative studio design Nobis is an eco-friendly parking system that protects and charges vehicles. It is a collapsible solar panel canopy that can be used in both personal and public parking areas.

Aiming to create a sustainable system for urban environment, 'V-tent' offers a safe space for electric cars either at home or in the city. Functioning as a cover that prevents weather side-effects such as UV heat or snow, its design protects vehicles physically from environmental conditions; prolonging the life and maintenance cycle of vehicles in the long run. It can also be used as a deterrent from theft as the structural elements of the design work as barriers.

Running on a fee-based system, a simple interface is implemented, where users are able to choose parking/charging periods and make payment by card. Smart phone applications augment the experience by accessing the charging booth directly, giving the customer useful information such as the estimated charging time and range, cost and parking time warnings so you can buy more time to avoid parking tickets.



Swarm Car



Rinspeed envisages a smart hailing system in which subscribers to the “urbanSwarm” network need only enter their desired destination into a dedicated smartphone app. It isn't a stretch to understand that the app could report the user's setting-off point, but Rinspeed implies that an "urbanSWARM" system would allow the intelligent coordination of vehicles in real-time. A taxi that can truly integrate into the smart city could plan routes according to traffic and accidents to provide the swiftest route to reach the desired destination. Integrating live with other transport networks to ensure passengers have as smooth a commute as possible.



Rinspeed MicroMax

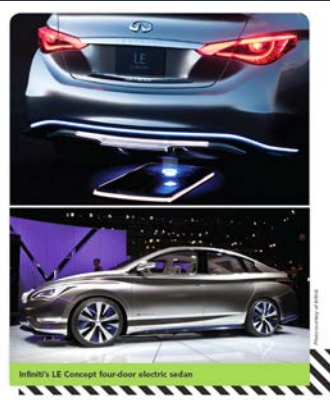


I thought I would investigate the latest “Idea” vehicles in this issue. A lot of concept vehicles made their debut at the Geneva motor show in mid-January.

German company Rinspeed has produce this intriguing commuter vehicle that is powered by a forklift truck drive system from Linde Material Handling, capable of travelling 100km per charge and hit a top speed of 100kmh. The MicroMax emits fake engine noises for the benefit of pedestrians.

Not earth shattering in its EV design criteria this vehicle stands out in its intended use as a smart city vehicle, described as "a networked swarm car." The company has released a host of images which give the detailed idea of Rinspeed CEO Frank M. Rinderknecht's vision for an efficient, space-saving (3.7m long by 2.2 m tall) mode of urban vehicle which clearly hopes to catch the eye of taxi operators and parcel delivery firms. It's the interior images that are perhaps most interesting of all. Passengers are accommodated in upright “seats” (more like over padded bicycle seats) that allow room for 3 passengers and a driver. Oh yes there's even a fridge and a coffee maker. But most of all, the enormous floor space for commuters to bring their shopping or even a bicycle.

Wireless EV Charging!



It appears the latest flavour of the month technology for the EV connoisseur is wireless charging systems. Currently there are over 40 organisations involved in the Society of Automotive Engineers (SAE) committee that's working on a set of wireless standards for the EV market. But why go wireless I hear you ask! Well one argument for is: "Wireless charging ensures that every time the vehicle is parked in its parking space, it is recharging. This ensures that the battery is charged consistently - a feature that automotive manufacturers are very interested in". In the future wireless infrastructure may be in place that allows charging when parked at work, the supermarket or even stopped at the traffic lights. Concepts that are obviously impractical with wired systems. As a result of this constant charging smaller batteries could be used in the average EV, thus less expense.

PodCar - Casple Podadera



Spanish group Casple and designer Francisco Podadera, have collaborated to develop a city car for two people that folds when parking to take up as little space as possible. Because of its variable wheelbase, the "Casple Podadera Electric City Car" can park in spaces less than two meters, an advantage for drivers commuting daily throughout heavily trafficked cities without many parking spaces.

The tiny EV is designed for shock absorption - made from robust tubular structure comprised of composite materials and honeycomb panels that easily meets the safety criteria for side impacts. Despite its short length of 2.30 m (1.90 m when parked), it boasts a spacious interior similar to that of a typical passenger vehicle - with vertical hinge doors allowing for easy access to the cockpit.

Equipped with an electric drive motor - urban simulations demonstrate range capabilities of approximately 130 kilometers with top speeds of up to 110 km/h and an energy rating of 95 Wh/km the Casple-Podadera boasts acceleration figures of 11 seconds to the 100 km/h mark.

Transformer-like ability allows the car to fold its rear wheels up and under when parking to micro-manage itself into spaces usually reserved for motorcycles.

Coming in at a svelte 720 kg weight management is kept to a minimum while body panels of RTM composite materials keep occupants secure. To carry miscellaneous things around, a 200-liter capacity boot up front provides all the shopping space you'll ever need.

To keep passengers from falling out the sides, vertically hinged swing panels are located just above the rear axle's pivot point. The doors are more intended to keep large rocks out and passengers in, but should consumers prefer an open air experience then both an open and closed door version is available.

Look Where EV's Are Going Now!!

AMG Electric Boat



The high-performance drive technology from the Mercedes-Benz SLS AMG electric sports car has been fitted into a cigarette designed racing off-shore powerboat to create the world's most powerful and fastest electrically driven motor boat. At 11.6 meter long this offshore water craft is not your average tinnie. Power output from all 12 electric motors is an astonishing 1660kW with an equally mind boggling maximum torque of 3000Nm. This beastly is capable of reaching a top speed in excess of 150 km/h using Formula 1 derived lithium-ion high-voltage battery technology.

The boats design uses two clusters of 6 X 169kW electric motors, one set per propeller shaft, and are powered from a 240kwh battery pack mounted long and low in the bottom of the hull. This enormous pack weighs in at 2195kg but the sleek design hardly notices the weight as a 0 to 100kmh time of less than 4 seconds attests to. The entire drive technology has been scratch built by Mercedes AMG, the motors battery pack and main electronic components such as the power electronics and AMG Powertrain Controller (APC); very impressive!

With F1 doing the EV thing in 2014, is open water racing going the same way???

This Month's Q&A Technology Tip



Q. My battery pack is nominally 180volts, are there any relays that can safely switch this DC voltage?

A. The way to go is to use Solid State Relays; unfortunately the most common SSR's are AC units or low voltage DC. Element 14 and RS components do have 200V DC units available but they are approximately \$180 each. If you are game a less expensive option

is to head for EBAY and get 220Volt DC units from suppliers in Hong Kong - Singapore or Mainland China directly. The 220VDC 40Amp unit pictured is shipped direct from China at \$11.61 each, including shipping. Worth a try at that price.