

Incorporating Technology & Commerce!

INDESA AER

Especially, at the end of a race, the tires are worn – by ensuring a more constant temperature over the laps it would be possible to finish the competition without fighting against specific tire problems. To this end the bike includes a small electric motor in the front wheel where it is possible to recuperate a big amount of braking energy by only one system. This engine/generator system weighs about 4.5kg which is weighty but reasonably insignificant in comparison to a typical braking system. When accelerating the front wheel motor goes into drive mode to offload rear tire loading.

The designer has envisaged two possible battery technologies for use with the AER in order to fit the power to weight considerations. The battery packs under consideration are either lithium-air technology or zinc-air technology. This next generation EV battery technology provides up to ten times the energy density of conventional lithium-ion batteries.



AER Electric Racer

Auto designer Andre Federico Look believes that racing is a significant medium in communicating the benefits of new technology. Christened the AER from Indesa, the motorcycle features an asymmetrical chassis which takes care of maintenance and service in the pit lane. The motorcycle is propelled by four electric motors that collectively generate a whopping 143.5KW of raw power. To evenly distribute weight, the four electric motors and their battery packs are centered on the frame and designed to be as compact as possible. The frame encloses a package comprising the motors and the batteries assembled into an engine “block”. This design does not just look good, its function is to evenly distribute stress and off load equipment workloads during competition from lap one to the checkered flag. The rims are constructed to fit the needs of an intricate tire temperature management.

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WEC Hybrids

Australia's Mark Webber is warming up for the WEC rounds with the new 2015 Porsche 919. This vehicle is approximately 90% new, compared to the 2014 version.

The most significant aspect of the 2015 vehicle is that the manufacturer has chosen to go to the maximum 8MJ energy retrieval for this season.

Rear wheel power comes from a lighter and more rigid 2-litre V4 turbocharged petrol engine, which will see the energy/fuel use for one lap at Le Mans as 4.76 litres of petrol per lap. Up the other end an electric motor with over 300KW will drive the front wheels and generate electricity from two energy recovery systems. Nissan and Toyota are also fielding WEC vehicles.

AUDI R18 E-Tron Hybrid



Audi Motorsport has taken the wraps off the 2015 R18 e-tron quattro scheduled to compete in the FIA World Endurance Championship (WEC).

The new version has some big shoes to fill taking into account last year's model triumphed at Le Mans, It features larger air inlets in the redesigned front wheel arches along with reshaped headlights benefiting from matrix LED and Audi Laserlight technologies. Also new are the front wing, hood and engine cover while the monocoque has been carried over. Audi has prepared two body configurations suitable for various tracks of the 2015 WEC calendar and they have also optimized the chassis in collaboration with Michelin. Regen has doubled from 2 to 4 megajoules per race lap at Le Mans, during braking the energy recovered is stored by a 700KJ flywheel system, this energy is then sent back to the front axle's 200Kw electric motor for some impressive acceleration. Rear drive comes from a 4 liter V6 TDI diesel. The entire vehicle only weighs 870Kg.

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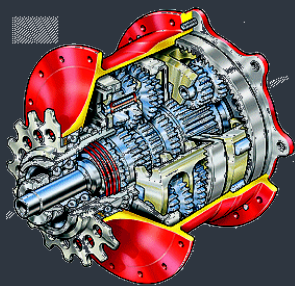
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Pi Cycle KR Special



PICYCLE ELECTRIC BIKE
Ever need an extra boost of power when you're out biking? That's exactly what the PiCycle Electric Bike (\$5,000) can provide. Powered by a 48 volt brushless DC motor, this hybrid electric/human transport can reach speeds of up to 50KM/H and can take you 32 kilometres without the need to pedal. When you'd like to lend it a hand, it offers an internal Rohloff hub transmission with equivalent to 27 speed shift-on-the-fly capabilities, as well as a belt drive system, hydraulic brakes, a suspension seat post, a lacquer finish, and an unmistakable arched design.



Lightning LS-218



Lightning Electric motorcycles is small at the moment, there's only 10 employees in its San Carlos factory space, a few blocks from where Elon Musk started Tesla. But small doesn't mean insignificant, as the LS 218 is one impressive piece of machinery. The LS-218 ships with either a 12, a 15 or a 20 kWh battery pack, getting you a maximum range of 120, 150 or 180 miles respectively. Charging time is around 30 minutes on a DC fast charger, and I don't know how many sports bike riders who don't appreciate a half-hour break after a couple of hours in the saddle. So range seems just right. Power is amazing at 200, a ludicrous number but one we're more or less familiar with in today's modern superbikes. But, being electric, it makes an absolute mountain of torque

– 70 percent more in fact than the punchiest petrol superbike you can buy, and it can make its full 168 foot-pounds of twisting force from almost a standstill. With an all carbon fibre aerodynamic fairing and a smaller sprocket on the rear wheel, it recorded a top speed of 351km/h on the Bonneville Salt Flats, making it the world's fastest production bike. The bike's hand-wrapped carbon fiber bodywork shimmers in metallic blue and silver, sleek lines running back from its eight projector headlights. One odd inclusion is a Tacho – slightly irrelevant seeing as how there is no transmission or clutch to deal with. Nothing on the bike is off the shelf. Mind you, that's reflected in the price, the first batch – 150 are being built, at a base price of US\$38,800.

The *SHAPE* of Things to Come?



As Electric Vehicles begin to intrigue the general populous with their charm and impressive driving capabilities, Chris Daisy has begun to look at the lightweight and somewhat elegant side of future EV models. The example above is a design exercise named ULEV: Ultra-Light Electric Vehicle. As the name suggests the vehicle has been designed keeping in mind that its weight should be less than 270Kg, which is just a quarter of what other cars in this category weigh. The entire car, shell, chassis, roll cage, suspension linkages, hub shells, panels, fairings and spoiler have been made out of carbon fibre which keeps the overall weight way down. Driving is accomplished from either side of the cabin via a central joy stick. Wheels are extremely light and are extremely eye-catching. An internal disc brake and electric motor have been coupled directly with the wheels. The motor takes care of the most of the braking via regen. When the weather gets pleasant outside, driving in a closed car acts like a mood spoiler but ULEV will make sure you enjoy every bit of the charming climate. Both the doors of ULEV can easily fit behind the seats that allow you to interact with the weather outside.

This Month's Technology Review



Here's an interesting idea! if you are dubious of the accuracy of your EV post conversion. Or you have no original speedo drive after conversion; you could get one of these Heads Up displays that are GPS based. They mount on your dash and display speed readings in vivid green on your windscreen, it auto adjusts brilliance at night. The GPS engine is a top quality 20 channel receiver. By default the unit displays 5kmh higher speed than it detects. (Keeping those fines at bay!) but you can adjust this to your preference. Various units are available through Jaycar or EBay. Just search Heads Up Display in EBay.