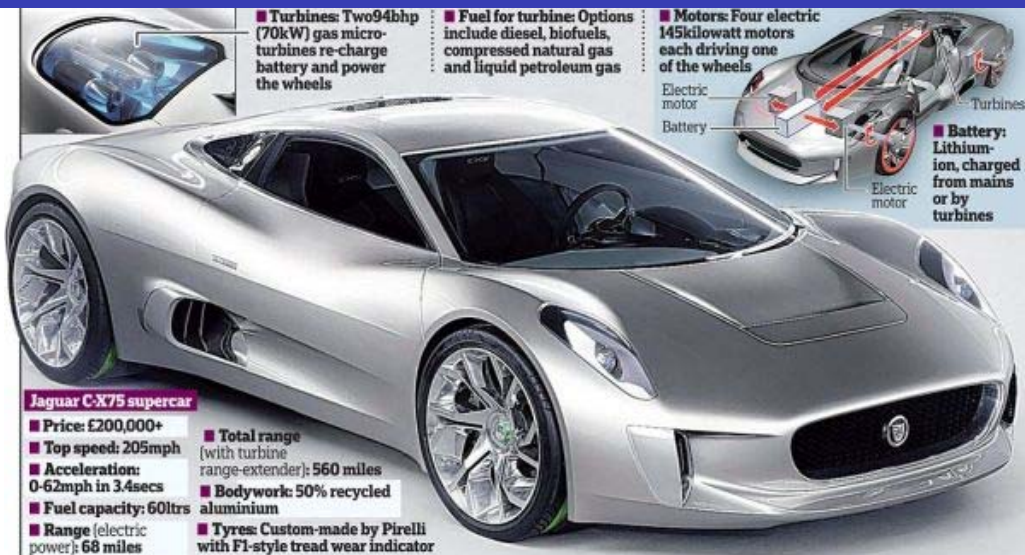


Jaguar Electric/Turbine Hybrid



Jaguar C-X75 supercar

- Price: £200,000+
- Top speed: 205mph
- Acceleration: 0-62mph in 3.4secs
- Fuel capacity: 60litres
- Range (electric power): 68 miles
- Total range (with turbine range-extender): 560 miles
- Bodywork: 50% recycled aluminium
- Tyres: Custom-made by Pirelli with F1-style tread wear indicator

What a Gas Plug-In!

C-X75 RE-EV is a plug-in hybrid with range extending turbines that can run on just about anything LPG, diesel, bio-fuel, natural gas, hydrogen or methane and produces just 28grams of CO2 per kilometer in non electric mode.

- Motors – 4 X 145kW wheel motors
- Turbines – 2 X 70kW microturbines
- Batteries – 19.6 kWh Li-Ion 230kg
- EV-Range – 110km
- Hybrid Range – 900Km
- 0-100kmh – 3.4 sec
- Top Speed – 330kmh
- ¼ mile – 10.3sec / 251kmh
- Power – 580kW
- Torque – 1600Nm

Electrifying JAG

Here's one I've mentioned previously at Geelong, but with the discussion on Capstone micro-turbines recently I thought further investigation would be appropriate. Sporting looks and performance blend together in the 'green' technology Jaguar, the 780-horsepower C-X75 RE-EV (range-extended electric vehicle) concept vehicle is quite a beast. Powering the vehicle are four electric motors working in conjunction with a "micro gas-turbine". Each of the electric motors at the four corners produces 195hp, taking the total tally of output to 780hp and 1180 lb-ft of torque. The vehicle runs from 0-100km/h in 3.5 seconds, can travel up to 110km on full electric mode with a range of 900km before it needs to fill the fuel tank and charge the lithium-ion batteries. Top speed is 330 km/h.

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Yet another VW Golf - Buggy

The Bulli uses a lithium-ion battery pack to drive a 114-horsepower electric motor and interestingly enough, Volkswagen says that the van can be fully charged in less than one hour.

Unlike the flat four-cylinder engine that rested at the rear of the original Kombi, the Bulli has an electric motor at the front, driving the front wheels. A 40kWh lithium ion battery pack fits in the chassis, underneath the passenger compartment.

Volkswagen claims impressive numbers for the Bulli, such as a 300km range and a one hour charging time. However, for charging time, Volkswagen does not specify what type of charger it used for the one hour recharge. Although the drive train produces 85kW, its 199 pound-feet of torque should give it satisfying initial acceleration.



VW Bulli

The Geneva motor show has just wound up and numerous electric based vehicles have been on display. Last month we looked at the VW Blue-E-Motion (Electric Golf) – Not satisfied with this VW has gone electric Kombi!

Aside from the Beetle, Volkswagen's Kombi may be one of the most iconic vehicles ever to come out of the marque. VW brought it back in concept form ten years ago, but despite a warm reception, plans to create a modern-day Kombi were scrapped. Now, though, the Bulli is on show.

Much like the 2001 Microbus, the Bulli is simply a modern throwback to the people-mover that took the world by storm many decades ago. Of course, the full slate of new-age technology is on hand, including an Apple iPad that controls all infotainment functions, mated to a Fender US-designed premium audio system.

102EX Plug-In

Range is said to be up to 200Km. In order to charge the battery, a three-phase charger would need 8 hours, while a single-phase (presumably 220/240V) would take 20 hours. Induction charging is being trialed as well.

The 102EX will serve as a working test bed for a global tour that takes in Europe, the Middle East, Asia and North America. Through test drives, potential owners will be given the opportunity to experience an alternative drive-train technology and to feedback their experiences, thoughts and concerns directly to Rolls-Royce.



Rolls Royce 102EX



Now here's something I never thought I'd see; Rolls Royce has produced an all electric plug-in Phantom. They replaced the 6.75-liter V-12 with a massive 71-kilowatt-hour lithium-ion battery housed within the aluminium space frame. Rolls-Royce is using large-form NCM pouch cells, or lithium-nickel-cobalt-manganese-oxide to be exact. Due to its experimental nature, the 96 cells are separated into 5 modules (38-, 36-, 10-, 8-, and 4-cell units) and arranged in such a way that the overall battery takes on the shape of an engine and transmission. And it's a big device at 640Kg.

The battery outputs 850 amperes at 338 volts to two electric motors linked to a rear transaxle. The single-speed gearbox takes each motor's 145 kilowatts (194 horsepower) and sends up to 388 horsepower to the rear wheels. Given its electric nature, the two motors have up to 590 combined pound-feet of torque on demand. The 0-60 mph time is quoted as being under 8 seconds, and there's a governed top speed of just under 160 kph, quite a reasonable performance figure for such a massive vehicle, at around 3,000 kilograms.

The Shape of Things to Come??



Nissan Esflow

The Geneva Motor Show has revealed some intriguing prototype vehicles, not the least of which is the two-seat Nissan Esflow. Esflow is a rear-wheel-drive electric sports car that promises its only emissions will be some why-so-serious smiles. Two electric motors sit above the rear wheels. The Esflow utilizes one engine per drive wheel. Nissan says this allows the Esflow to precisely meter out the torque and turn it into powerful forward acceleration. The Esflow will run from 0-100kph in under five seconds.

Providing the energy for that acceleration is the same laminated lithium-ion battery pack that can be found in the Leaf EV. The batteries are said to last for a range of up to 240kms per full charge. In the Esflow, however, the batteries are spread out across the front and rear axis of the car to promote better weight distribution. An interesting observation that is fairly obvious, the Esflow's drivability balance remains constant as the batteries are drained, unlike in a convectional gas-powered vehicle that loses weight as fuel is consumed.

This Month's Q&A Technology Tip

Q: What are the latest developments in battery technology?



A: Currently Lithium nickel cobalt manganese dioxide (NCM) Cells seem to be the flavour of the month, they apparently have very long cycle life and get better range the more you use them. See Rolls Royce article on previous page. No real idea of manufacture except China based (Japanese Licence)