ARC LIFE

Brakes are by Brembo

Designed simultaneously for bike, helmet and jacket to compliment each other, the Vector is a unique example of a HMI

The idea maybe simple, the implementation less so.

Instead of just designing a bike, why not design a bespoke helmet and jacket to accompany it, and pack the lot with the latest technology?

This is exactly what Mark Truman, CEO and founder or Arc has done with the Vector.

A veteran biker, Truman has assembled a team that has designed machines for Aston Martin, KTM, Triumph and Ducati, and even designed vehicles for James Bond. Joining as investor is Jaguar Land Rover subsidiary InMotion Ventures, adding to the credibility. Other investors include Mercia Fund Managers and the Midlands Engine Investment Fund.

The powerplant on the bike, which sits in the carbon fibre frame, is a 399 volt Samsung unit specified to deliver around 200 miles of urban use and 120 miles on the highway. The NEDC (New European Driving Cycle) showed a 362 mile urban range, which is the drive-cycle often quoted by companies.

Arc is the first company to use this set up, and the battery is tested to Reg100 standards – a test normally only undertaken by automotive OEMs.

Performamce is lively, as you'd expect from a 220 kg machine, with 60mph coming up in just over 3 seconds and a claimed top speed of 120mph. For charging purposes the company offer to install a charger at the buyer's home or other premises, with a 45 minute quick charge where the facilities are available.

It's designed to be a light, modular unit with what the company describe as "Moto-GP levels of stiffness" to ensure predictable handling.

HUD features speedo and sat nav

The front and rear swing arms are also carbon fibre, with unique Ohlins dampers and Brembo brakes supplying the stopping power.

Truman said: "With Vector, we've set out to build the best performance electric motorcycle. With electric vehicles in general, the powertrain weighs a lot. This really can't be avoided if you want capacity, distance and performance. So, it was about stripping everything back and using a lot of exotic, lightweight materials.

"The chassis and battery module had to be one, and because of this approach we've been able to reduce the weight as much as possible to achieve the performance we wanted. The design brief was: if the term 'cafe racer' was going to be coined in ten years' time, what would that look like?"

While the above maybe interesting enough in its own right, the introduction of the aircraft-style HUD in the helmet and haptics into the jacket make this really unusual. Truman again: "We felt that there was more one could get out of motorcycling which no one was tapping into. This is about using technology to strip back the experience of riding a bike, through the use of haptics and HUD. The helmet and jacket work in tandem with the Vector to remove distractions and emphasise the joy of riding."

Styling was inspired by the 'cafe racer' concept

LEFT: Ohlins dampers

HEADS UP

The Wi-Fi-enabled Zenith helmet, based on Hedon's new Heroine range, features a projection on the inside of the anti-fog double lens of the speedometer reading, satellite navigation and a variety of ancillary data. A small rear facing camera is integrated into the back of the helmet, providing live footage to the rider. Much thought has gone into the focal length from the rider's eyes, so the company claim road and read-out can be seamlessly viewed without changing focus.

As well as being voice activated if required, the helmet acts as a keyless starter for the bike.

Comfort-wise inside there is a three channel ventilation system, and an anti-bacterial microfibre calfskin lining.

Truman reckons instead of being a distraction, it "Frees you and your senses because the distractions have been removed. It allows you to concentrate on the road and your one-ness with the bike, to just enjoy the moment knowing the bike is looking out for you and the information you need is right in front of you."

The jacket is no less entertaining. With a run time of two hours, it can be charged on the bike if necessary. Each one is to be tailor-made by Knox.

There are three settings: Urban Mode, Sports Mode and Euphoric Mode. The former as the name suggests concentrates on safety with alerts like a tap on the shoulder to highlight a potential danger. Sensors scan the blindspots. For Sports Mode G-Force related data tells the rider how close to the limit of the motorcycle's capabilities he or she is. For example, the harder the braking the more feedback received.

Euphoric Mode plays music and uses the haptics to simulate the vibrations of a bass speaker.

When not riding, this can all be switched off to save power. Truman concludes, "We've taken technologies previously unexplored by bike builders to transform the way we ride. It's all about the interaction between the rider and the machine, and enhancing that experience. We understand the need to be different, to be better, and challenge the norm."

The company aim to make 399 in the first year, to match the voltage. Want one? Yours for £90,000. •

Not many jackets have settings

Going the last mile

The Arc Vector isn't the only interesting two wheeler recently launched, although Seat's Segway-powered eXS KickScooter could hardly be more different.

The project represents a collaboration between the two companies, and the idea is to offer users what they term "last-mile electric urban mobility."

It's not legal everywhere (it won't be on sale in the UK for example due to legislation banning such things) but where it is legal Seat is looking for host cities to conduct trials. Spain seems a likely venue according to the partners.

It has front and back LED lights with an LCD screen, cruise control and an extra battery if required. Range can be up to 45km depending on conditions.

Top speed is up to 25km/h.

RIGHT Seat takes its first step towards its micromobility strategy with the new eXS