



# Lightweight CONTENDER

**W**hen challenged with the elephant in the room - why buyers in a famously conservative market, namely haulage operators, should come to Tevva rather than an established name - marketing director David Thackray, who comes from several generations of Yorkshire hauliers, responds: "Because, if they want an electric vehicle, money talks. I don't know the latest exact numbers, but I believe for one manufacturer you'd be looking at £250,000-£300,000. Well we're not much more than half that, and therefore we're price competitive."

One does have to wonder how Tevva keeps its prices so low. Thackray, however, wants to know why others charge so much. "Let's put it this way. We are not magically capable of building a vehicle for 40% less for what the materials cost, than people like Volvo and Scania are, I don't believe that for a minute," he says.

Younger manufacturing companies are still fluid in their approach, having not yet found their metaphorical hills on which to die. The thing with Thackray, however, is that he knows where a lot

**Last month, Tevva received European type approval for its 7.5t EV, ushering in the start of series production at its Tilbury, Essex facility. Lucy Radley learned more**

of those hills are, in both senses. Take gearing: Tevva is using a single speed, but it is looking at other options as it scales the gross weight of the vehicle up, the next step being to 18t - or rather, 19t, the gross limits having been raised for BEVs, to allow for battery weight.

"In the old days, it was normal to have things like two-speed axles," Thackray reminds us. "To my mind, that's something you might look at, because what you don't want to do with an EV is have to reintroduce the clutch." Bear in mind that a major difference between engines and motors is that engines tick over. If you take your foot off the right pedal of an EV at a standstill, the motor stops. Unfortunately the same isn't true when it is already moving.

"The old-fashioned two-speed axles would select the cyclic gear with an air pack, that just punted it in and out, which seems a perfectly simple way of

looking at this. I think there's an extent to which some of the old technologies that became obsolete could be useful again," he adds.

Speaking of which, it's curious that Tevva, having started with a blank page, chose to mount its motor where an engine traditionally sits. "There are three ways of doing it. At the moment we have a motor attached to a short prop into a traditional diff, albeit that prop is barely a metre in length," Thackray tells us. "The next stage is you can mount the motor straight on to the diff pan with a direct connection, which is probably the next obvious step."

After that comes the 'e-axle', two motors with vectored torque control, driving the wheels directly. "That is ultimately the most efficient solution: there are fewer mechanical linkages in the process, and you don't have drive turning through 90 degrees," he adds. "That will make huge differences, but the engineering required to do that is quite significant - though I have little or no doubt that we will."

In other words, Tevva has gone for simplicity, at least to begin with. "It's all a question of starting with things you need to do, then moving on to things you'd like to do," he says. "There's no point in taking 10 years to produce the Starship Enterprise, when actually you want to produce something which works, and works bloody well." **TE**