

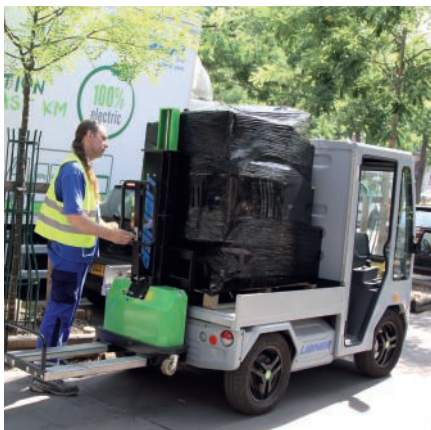
PIGGYBACK

problem solvers

It's all very well having greener HGVs to deliver 'the final mile'. But what if they can't physically reach their destination? Brian Weatherley reports on a solution from French bodybuilder Libner

A common sight is drivers struggling with overloaded sack barrows and pallet trucks on crowded (and uneven) pavements – particularly in our older historic towns and cities where access hasn't changed for centuries. Not a good recipe for health and safety. Add to that the growing threat of forthcoming ultra-low emission zones that could ultimately banish 'normal' HGVs from city centres and it begs the question: how will operators deliver to inner-city stores in the future?

Last September, at the IAA Hanover Show, specialist French bodybuilder The Libner Group unveiled a solution. Its BIL (short for Base Intelligente de Logistique, or Intelligent Logistics Base) concept that



uses a small, agile, road-legal all-electric 'BIL Truck' carried piggy-back style in a special compartment at the rear of a box, curtainsider or even temperature-controlled body on a larger rigid or semi-trailer. When the 'mother ship' reaches the closest point to the delivery – such as a designated unloading zone outside a pedestrian precinct – the electric truck carrying loads of up to 600kg completes the last part of the journey without noise, emissions or driver strain (video: <https://is.gd/fepoza>).

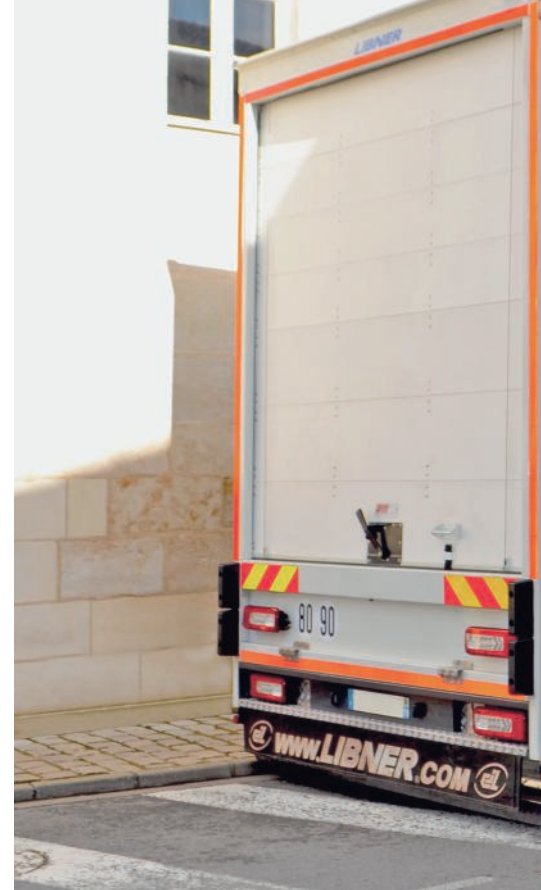
At the heart of the concept is the 'BIL Lift', a multi-position lifting platform built into the rear overhang of the truck or trailer body that acts as the docking station for the mini-mover. To load the parent vehicle, the platform (minus the electric truck) is raised level with the



main cargo deck, allowing conventional through-loading from a dock with either a pallet truck or forklift. It's then lowered back to ground level to allow the electric truck to drive on to it.

The BIL Truck can either drive on to the parent truck empty, or with a full-size pallet (measuring up to 1,200 x 1,200mm), or BIL Box swap body (with internal dimensions of 1,150 x 1,150mm) on board. If the BIL Truck is loaded on to the parent vehicle fully-freighted, the only platform space lost from a normal full load is effectively one pallet – it being taken up by the electric truck's small cabin. Once on board, the BIL Truck is automatically locked into place and the lifting platform is raised to an intermediate transport position. Before closing the rear shutter and side enclosures, the driver connects charging leads to the BIL Truck's batteries, which can be topped up on the move via an inverter that converts the parent vehicle's 24V power supply to 220V; overnight charging is also possible. Fully charged, it has a 120km range. With no driver on board, the BIL Truck weighs 730kg.

Upon reaching the unloading point, if the BIL Truck is already loaded, the driver simply opens the rear enclosures, lowers the platform to ground level, climbs into the cab and drives off the host truck and on to the final destination. However, if the BIL Truck is unladen, the





CLEAN AND QUIET ELECTRIC MOFFETT

The latest Cargotec Moffett all-electric E-Series truck-mounted forklifts (TMFLs), originally previewed at the 2012 CV Show, have taken the Dundalk, Ireland-based manufacturer into a new sales arena.

While they are heavier than the BIL Truck, they can also carry more. The E2 12.1 and E4 20.1 electric models weigh 1,590kg and 1,680kg respectively, measure 2.5m long (including the forks) by 2.06m wide by 2.40m high, as well as a 2.06m horizontal overhang when mounted. Their payload is up to 2,000kg – and they load and unload themselves. Apart from the addition of a rear mounting kit, which includes an on-board charging facility for E-series models (and possibly counterbalance weights), they require no further bodywork modifications. Michael O'Reilly, product manager, TMFL business line for Cargotec Ireland, says that the company has already sold 45 E-Series units.

For example, following successful trials with an E4 model, Pets at Home has ordered a number of E-Series TMFLs for its night-time store delivery service. Transport manager Steve Travis reports that the use of the E-Series has not only enabled the retailer to reduce its carbon footprint but also minimise the impact of its night-time deliveries in environmentally-sensitive areas due to its very low noise.



multi-position platform remains in the intermediate position. Then the driver climbs on to the main load deck and manoeuvres a pallet or BIL Box on to the back of the electric truck – the task can be made easy by cargo-rollers built into the load platform of the main vehicle and the BIL Truck's load deck. Once the load is secured, the multi-position platform (which can also operate as a normal column tail-lift) is returned to ground level, allowing the BIL Truck to drive off and complete the delivery. When the empty electric truck returns to the main vehicle, it can either be reloaded for more deliveries or stowed away for onward travel.

With its compact dimensions of 2.42m long by 1.73m wide by 1.90m high, the BIL Truck is ideal for accessing cramped pedestrian precincts, shopping arcades and underground car parks that would defeat a conventional HGV. Moreover, its attractive design and modest pavement footprint shouldn't startle adjacent pedestrians. And with a maximum speed of 50kph (31mph), it can still keep pace with inner-city traffic.

With manual handling issues in mind, Libner had also jointly developed a small electric forklift which is carried on the back of the BIL Truck, prompting export sales manager Franck Potron to declare: "You can off-load the pallets and bring the cargo right into the shop. So you not

only cover the last kilometre – but also the last metre." The electric forklift's batteries are also recharged by the host vehicle.

Libner can supply its BIL Concept body system in kit form for rigid bodies ranging from 7.5-tonne to 26-tonne gvw, or for urban trailers. One obvious advantage of the BIL system is that there's no rear protrusion, as the electric truck is enclosed within the host vehicle's body.

Since displaying at Hanover, Libner has been actively demonstrating the BIL system to a number of major companies. It is concluding an extensive four-month trial in Paris with German logistics giant Dachser, using its own demonstrator based on a 16-tonne box-bodied Volvo FL-250 day-cab rigid. Thereafter, the truck will move to Rennes, France for a further two-month evaluation.

The kerbweight of the Volvo FL-250 with the BIL concept box body, but without the BIL Truck on board, is 8,830kg. Potron points out that when the electric truck isn't needed, the rigid truck's full load platform area is available for conventional haulage.

By November, Libner expects to have more demonstrators available. Once the final production spec has been confirmed, prices are expected to be released, hopefully in 2017. **TE**