



# ALL CHANGE

Britain's bus builders have undergone significant changes over the past two and a half years and weathered a major marketplace crisis. Optare has not come through unscathed, reports Steve Banner

**M**ay 2019 saw ADL acquired by Canadian bus and coach manufacturer NFI Group, while September of the same year saw the collapse into administration of Northern Ireland's Wrightbus. It was subsequently bought out of administration by hydrogen evangelist Jo Bamford, son of JCB chairman Lord Bamford.

These key developments were followed by the COVID-19 pandemic which saw bus and coach registrations plummet by 32% in 2020, according to figures compiled by the Society of Motor Manufacturers and Traders (SMMT).

On the face of it, the market is returning, with sales soaring by 231.1% in the second quarter of this year. The percentage is deceptive, however, given that the same period in 2020 saw registrations at a near-standstill, and volumes during the first half of this year ended up 3.6% down on the first half of last year.

"The sector is still experiencing the effects of the pandemic, with passenger numbers remaining low, undermining operator willingness to place new orders," says SMMT chief executive, Mike Hawes.

Nevertheless, both ADL - which has close ties with Chinese electric bus builder BYD - and Wrightbus seem to be bouncing back. June saw the ADL/BYD partnership net the UK's biggest-ever electric bus deal, one for 195 placed by RATP Dev London, while Wrightbus looks set to create up to 300 permanent jobs after winning a string of orders.

So where does all this leave Optare? It is the UK's third builder of full-size buses, with a plant in Sherburn-in-Elmet just outside Leeds. To start, the name has gone. The company was rebranded as Switch Mobility since last year, in line with Ashok Leyland's aim of bringing all of its global electric vehicle activities together under the same banner.

## PAST AND PRESENT

Set up in 1985 in the wake of Leyland Bus's decision to close its Charles H Roe bus bodybuilding operation in Leeds, it is now majority-owned by Indian automotive giant Ashok Leyland, flagship of the Hinduja Group. The British business provided the first UK-built battery electric buses to go into service in London in modern times: four battery-powered Metrocity single-deckers debuted in the capital in 2014.



Its zero-emission portfolio also encompasses the smaller Solo single-decker and the Metrodecker double-decker. Switch's worldwide line-up includes single-decker buses and forward-control light commercials (in which the driver sits over rather than behind the engine) built in India, and it has announced the development of so-called Generation 2 concept models for both sectors.

Pulling zero-emission activities together in this way makes it easier to leverage the economies of scale in the sheer cost required to develop battery-electric models, says Andrew Palmer, Switch's executive vice chairman and chief executive officer. And it should make it easier to combat the onward march of the Chinese in the sector, contends the former Aston Martin boss, who helped launch the zero-emission Leaf when he was an executive at Nissan.

Putting on some muscle should also help Switch handle the challenge presented by ADL and a resurgent Wrightbus in the UK's domestic market.

On the other hand, taking on the Chinese and succeeding is an ambitious aim. Yutong alone sold 15,300 low-emission buses globally in 2020 and has won orders from Cardiff Bus and Newport Bus. UK importer Pelican has announced plans to open a plant in Castleford, West Yorkshire, to carry out final completion work on vehicles sold here, including the installation of everything from driver seats and USB chargers to destination displays.

Indeed, Switch Mobility could soon see a potential 15 job losses, according to trade union Unite. The union states that the manufacturer has announced that consultation on redundancies has been opened as the result of a limited order book in a challenging market. (Switch Mobility was approached for comment, but had not responded at the time of writing.)

Palmer is confident that Switch can make progress, however, and so is at least one of its key OE suppliers. In July Dana inked a deal with Switch under which it has become the company's preferred supplier of electric drivetrain components including e-axes, gearboxes, motors, inverters, software and controls, and electronics cooling systems. Says Switch chairman Dheeraj Hinduja: "Dana is also investing US\$18m in Switch representing an approximate 1% stake." That means Switch is valued at a healthy US\$1.8bn.

### DIVERSIFICATION

Palmer believes that developing electric light commercials and buses alongside each other makes sense, as both operate in towns and cities where there is strong pressure on transport operators of all kinds to introduce zero-emission vehicles. "They represent the quickest way of cleaning up the urban environment," he observes.

This should not lead to harmful emissions being produced elsewhere however, he stresses. As he explained in a recent online interview with Indian publication *Autocar Professional*, he is determined that Switch should maintain a policy of being a net zero carbon manufacturer well-to-wheel; a tall order, he admits, given that battery production, for example, also generates lots of CO<sub>2</sub>. "The challenge we face is our supplier base, because it is not zero-carbon," he observes. "So we will only source from suppliers who are planning to get to net zero."

## ALTERNATIVE FUEL TRIAL

Palmer's doubts about hydrogen fuel cells do not appear to have affected a deal announced in April 2020 between the then Optare and Arcola Energy to produce a version of Metrodecker fitted with the technology. Metrodecker H2 incorporates a hydrogen fuel cell power pack developed by Arcola as a direct replacement for the battery power pack installed in the all-electric Metrodecker EV. H2 can carry over 90 passengers and offers a zero-emission range of between 200 and 250 miles depending on specification and route.

Arcola is leading the Scottish Hydrogen Fuel Cell Freight Trial, which has just secured funding from the Department for Transport's Zero Emission Road Freight programme. The aim is to design a trial of hydrogen fuel cell trucks supported by a green hydrogen refuelling infrastructure in Scotland. It could eventually involve a test fleet of 20 or 30 lorries, says Arcola. Comments strategy director Richard Kemp-Harper: "The key objective of the project is to identify early adopters in heavy-duty freight sectors with a strong drive to decarbonise operations. By understanding their use cases we can specify vehicle and infrastructure requirements."

Palmer does not believe that battery heavy trucks will be viable for long-haul intercity work, but in the interview makes it clear that he harbours considerable reservations about the use of hydrogen fuel cells as an alternative.

Instead, he points to the advantages of what he refers to as 'hot' hydrogen – hydrogen which is used to power an internal combustion engine – provided that it is from a sustainable source, and of synthetic fuels.

So far as batteries are concerned, he notes that electric vehicle manufacturers have come to rely heavily on lithium-iron phosphate batteries. "They're big, but they're cheap," he observes. He suggests that NMC – nickel manganese cobalt – batteries are likely to make better sense long-term because they are lighter, smaller and thus more space-efficient. That is especially important if a manufacturer is building low-floor buses, he points out. **TE**