

Towards rail freight buses

While C. Modalohr Express moves on, another innovative French concept is less well-known. Like Modalohr and the EU-backed CargoSpeed (which is for unaccompanied trailers - see *HoldCargo News*, March 2002, p15), RésoR@il allows for simultaneous, partial or total (un)loading of standard road equipment with random access, so it lends itself to "bus stop" services on short- and medium-haul freight as well as long hauls, with trucks joining and leaving at any stop on the route.

Indeed, RésoR@il's co-inventor, Robert Claraco, a Toulouse-based transport consultant, says that RésoR@il is aimed at "belt-type" (circular) routes which can regenerate areas that have been bypassed by point-to-point freight corridors linking major centres. The loops would be self-contained but, of course, could overlap at junctions where HGVs could be exchanged. Certain aspects of the RésoR@il belt network are covered by an NPI patent issued in July this year.

Each stop should be able to cater for maximum length trains (750m) composed of 32 wagons (ie 32 HGVs). As stated, the whole train can be (un)loaded in much the same time as any individual wagon slot. The wagon has a raisable floor. The lowered position is the rail transport mode while the raised position is level with the truck staging and manoeuvring area, so trucks are simply driven on and off (portable decking can be provided if needed). Hence a raised track platform has to be built beside the track; alternatively, the track has to run in a trench.

Sliding lift

Instead of a powered lift, the wagon is fitted with retractable, lateral profiles which engage with greased metal slides built into the platform along its whole length. As the train slowly pulls in, the floors gradually rises automatically. A patent for this was issued in May this year.

Like Modalohr, Claraco has dismissed the classic, small wheel *RoLa* solution on grounds of excessive MR&R costs and out-of-service times. At 120 kph the wheels rotate as fast as the wheels of a 300 kph TGV and, combined with the high axle load, this means frequent and expensive reprofiling is required. Furthermore, some

freight trains in France operate at 140 kph and even 160 kph, for which only bogies with normal wheels with disc brakes will suffice.

The RésoR@il wagon has 950mm diameter wheels approved for 140 kph speeds. As it is not a well wagon it would normally need to operate on UIC C gauge track to carry a 4m high load, although with modifications it could run on the French B+ gauge.

Claraco himself acknowledges that certain sections of major routes in France are B+ or UIC B and considerable works may be required to obtain UIC C clear-

ance. The infrastructure investments look more daunting than the rolling stock.

RésoR@il has got round the UIC wheelbase problem in an interesting way. The maximum spread is 18.4m which, other than with small wheel technology, makes it impossible to carry a 16.5m LOA HGV (16.8m is needed to allow for play). This is why the Modalohr carrier is split into a section for the trailer with another (optional) section for the tractor head. In the RésoR@il design, the bogie pivot point is located behind the rear axle, thus separating the load-carrying and the steering functions. This is an Alstom patent.



RésoR@il loading schematic. (Note: tractor heads would drive off after positioning the trailer)

RésoR@il was placed on a list of projects worthy of public support by Dominique Bussereau when he was president of the PREDIT "think tank." Now transport minister, Bussereau is following

through the financial commitment made by his predecessor Jean-Claude Gysnot to Modalohr. With funding scarce, it remains to be seen whether RésoR@il can attract wider European support. **a**