

This month

David Briginshaw Editor-in-Chief



Rail must embrace innovation to survive

ONE of the main messages to emerge from last month's Railway Forum, staged in Berlin by the Institute for Production Management (IPM), is that rail needs more innovation if it is to remain competitive with other modes. Unfortunately, there are numerous obstacles which need to be eliminated in order for this to happen.

"If we carry on the way we are going there will be no future for rail," was the stark warning by Mr Jörg Manegold, head of purchasing with German Rail (DB). He said the rail industry spends just 3% of its revenue on research and development compared with 7% for air transport and 11% for road. "If we don't address this the future will be with the car," Manegold said.

Manegold pointed to improvements in energy efficiency where nearly all other modes are outperforming rail. According to DB, since 2000, cars have been gaining in energy efficiency by an average of 2.1% a year, compared with 1% a year for aircraft and heavy lorries, 0.7% for buses and just 0.35% for trains.

However, when I asked Manegold whether railways should be pushing suppliers to produce more energy-efficient or lighter trains, for example, he replied: "We can define specifications during the tendering process, and we need to talk to suppliers to find out what is possible, but I don't think it is a good idea to include specific targets in contracts. We have to de-link innovation from products."

How times have changed. In just two decades, there has been a huge shift in knowledge and expertise from railways to manufacturers in Europe. National railways such as the former German Federal Railway and British Rail, and several other major European railways, had large R&D departments looking at how to solve problems and develop new technologies. But this has all been destroyed. Some work continues at universities and by manufacturers, but a lot of expertise has been lost.

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The Shift²Rail research initiative (page 32) is a welcome step to kick-start railway research in Europe and make rail more competitive, but the expertise drain has left some railways ill-equipped to solve their own problems or be well-informed buyers.

Mr John Mullen Paterson, IBM's chief procurement officer, outlined the benefits of being an informed buyer: "We have tried to give our people a deep knowledge of what they are buying. We saved nearly \$US 7bn last year by having an efficient procurement strategy. Procurement departments are becoming the new guardians of the bottom line."

The protracted and convoluted rail vehicle certification process in Europe is a major barrier to even the tiniest innovation, which is why pressure must be

maintained to resolve the issue as quickly as possible.

Being risk averse also hampers innovation as Manegold acknowledged: "We as DB are risk averse and the industry adjusts to that so there are no advances in efficiency."

State-owned organisations often have to comply with public procurement rules designed to ensure fair play in awarding contracts, but insisting on competitive tendering for everything also deters innovation. Some railways are unable to accept

an innovative product because nobody else is able to offer anything similar. "We have to be braver in procurement, and test the limits," Manegold said.

There was a lot of discussion about the need to move away from awarding contracts solely on price and to consider life cycle costs. By focusing on price alone in the mistaken belief that this is the best use of public funds, the purchaser is likely to end up with poor-quality products which require a lot of maintenance and have a short life. Trying to force prices down too much will encourage suppliers to cut corners, can lead to dumping, and could ultimately force companies out of business. Conversely, a high-quality product is likely to require less maintenance and have a longer life. An informed buyer should be able to specify the level of

quality and reliability it requires which then enables it to buy on price because it is choosing between similar products.

A welcome development during the conference was the announcement by Dr Heike Hanagarth, DB's board member for technology, that DB will no longer award contracts based purely on price. In future price will account for 70% of the assessment of a bid, with other factors such as quality and sustainability accounting for the rest.

The trend towards awarding combined supply and maintenance contracts should be accelerated as it encourages suppliers to design better products. "If we are allowed to maintain our products this allows us to introduce innovations," said Mr Andreas Irmisch, head of acquisition for commuter and regional trains with Siemens. This also gives suppliers valuable insight into the performance of their own products which can help improve future builds.

The rail industry must be more open to innovation and needs to take seriously the concept of life-cycle costs rather than just paying lip service to it. It is crucial to be an informed buyer, because as Manegold observed: "There aren't many companies that have durable assets that last up to 50 years, which, if you make a mistake in purchasing, you won't be able to correct in your lifetime."

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