

## New entrants roar out of the sidings

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When Siemens, one of the world's biggest trainmakers, invited dignitaries and journalists to mark the launch of its latest high-speed train, the outsiders were treated to a rare glimpse of the tensions shaping the industry.

After a few remarks about the Velaro-D train, Volker Kefer, the board member for technology and infrastructure of Deutsche Bahn, Germany's state-owned rail company, digressed to criticise railway suppliers generally. Their products needed to become more reliable, he said.

Hans-Jörg Grundmann, head of Siemens' mobility division, retorted that Siemens had an "antiquated" relationship with DB and was not given a big enough role in maintaining trains after it delivered them.

The incident in April illustrated one of the many big changes under way in the world's railway industry – the once-cosy relationship between Europe's big trainmakers and their big customers has become more adversarial.

New technology is also forcing operators and suppliers to revise their standards and ways of working. Still more importantly, the industry universally expects a large-scale effort by Chinese manufacturers to break into many of the world's most important markets.

The question is what kind of railway industry is likely to emerge from the upheaval.

Peter Ulrich, a partner in Boston Consulting Group who has overseen production of a comprehensive study of the rail supply market for Unife, the European railway industry association, says the industry's immediate fate depends on the world economy.

Growth in the mature economies that have been the industry's main markets is likely to be slow, and public spending limits tight. Emerging economies are likely to enjoy faster growth and their spending on rail equipment is likely to rise.

"Through the crisis, there was not a really severe impact on the rail industry," Mr Ulrich says. "However, we believe that, as infrastructure investment is pretty much linked to public spending, we have to expect this two-speed economy to have a big influence."

Events over the past 20 years, when Europe's big train operators and suppliers have unstitched their once-close partnerships to facilitate greater competition, explain much of the testiness that was on display in April.

Instead of designing and sometimes assembling rolling stock themselves, most railways in recent years have handed over responsibility to Siemens, Alstom of France, and the many European companies now part of Canada's Bombardier.

Having in some cases been only component suppliers, the biggest companies have become global designers, builders and maintainers of trains, modelled on the big automobile or aircraft makers.

Orders are now decided, in theory at least, by open public tenders – even if key projects still tend to go to the companies seen as each country's national champion.

The changes have been accelerated by the emergence of private operators of both passenger and freight services, encouraged by European liberalisation legislation. Such operators demand clarity about costs and design and a standard, reliable product.

The state-owned operators and their suppliers nevertheless still sometimes resemble divorced couples squabbling over the children. Some of Europe's best-known trains – France's TGV (Train à Grande Vitesse) and Germany's ICE (InterCity Express) family – were designed in collaborations between the railways and suppliers. The state-owned operators still take a proprietorial interest in how some of these products develop.

Some believe the relationships between customers and suppliers have still not been properly formalised. Mr Kefer said in April that DB was trying to ensure that suppliers told it much earlier in the design and manufacturing process exactly what type of product, built to what kind of standard, it would receive.

"We're doing this not in an effort to blame somebody later, but to improve quality at a much earlier point," he said. "It would be wrong to say that there is one manufacturer that hasn't had a problem. All manufacturers have had their problems."

Yet, as they grapple with the significant changes within Europe, the large European manufacturers also face the biggest ever challenge to their dominance of the world passenger rail industry.

The European manufacturers were until recently confidently agreeing to export high-speed train technology to China for use on the 25,000km of dedicated high-speed lines the country plans to build by 2020. Few believed Chinese manufacturers were close to mastering the technology to build such trains on their own.

This year, however, Siemens felt forced to pull out of a consortium it had formed to bid for Saudi Arabia's planned Mecca to Medina high-speed line and instead join a consortium with China South Locomotive & Rolling Stock Corporation.

The big manufacturers face unexpected Chinese competition in markets such as the US, where China's Ministry of Railways has signed a memorandum of understanding with General Electric over possible joint bids for work on US high-speed rail.

Tom McCarthy, managing director for rail operations for Bechtel, the US civil engineer, says Chinese manufacturers are expanding worldwide.

"I think what's impressive is that their capability has grown exceptionally – their ability to bring in quality; their ability to bring in technology, the rolling stock and signalling, the systems which we would not have thought of five, 10 years ago," he says. "They can compete head-on with the Europeans and the Japanese."

General Electric and Caterpillar's Electro-Motive Diesel division – the two dominant suppliers of freight locomotives in the huge North American market – also face far stiffer competition than before.

Chinese manufacturers are expected to challenge the pair's powerful position in the large international market for locomotives to haul heavy freight, which is growing thanks to Chinese demand for raw materials.

**Henry Posner**, an international railway investor with experience of Africa, an important growing market, says Chinese suppliers are likely to compete strongly, even if initial reliability problems with their locomotives have hindered them.

“They have not been able to compete effectively so far, but that’s not to say the Chinese are not going to be a third player in the market,” Mr Posner says.

It could be issues surrounding reliability and technology that prove decisive in the struggle between established suppliers and the Chinese.

Few in the market doubt that European and North American trainmakers will stay ahead of Chinese manufacturers for the foreseeable future in developing new electronic and computer systems.

The new technology gives operators immediate warnings about potential problems with tracks and trains, and can pack far more trains into a given section of line than had been possible before.

The long-term running costs for operators using such advanced technology should be lower. But the question is how many operators will demand such technology, and how many will be swayed by the lower upfront costs of the new suppliers.

Lorenzo Simonelli, chief executive of General Electric’s transportation division, has an optimistic view. The Chinese and the established manufacturers should be able to co-exist, he says. His division has formed some “good partnerships” with Chinese manufacturers building its designs in China.

“At the same time, we focus on technology and making sure we provide what customers say they need,” he says.

“There are going to be marketplaces where there’s space for all of us.”

His company and other established manufacturers can only hope that he will be proved right.

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