

# analysis

## FUTURE PERFECT?

What will the condition of global manufacturing be in 2020? A group of European industry leaders joined together in a roundtable discussion at a recent conference to discuss their vision of the next decade.

**Philip Bergel, vice president for industrial development, future programmes, Airbus:** "Mine is an industry where we look into future programmes for production in 30 to 40 years' time. In the aerospace industry we are moving to a situation where the original equipment manufacturer is becoming more highly integrated and where industrial manufacturing systems in the traditional sense is moving towards working more with first-tier suppliers as partners."

**Learie Attzs, supply chain academy director, Unilever:** "Twelve years is a long time for change in the manufacturing environment. The key thing for us is to have a new definition of what a factory is. In the recent past a factory and manufacturing was constrained by physical facilities, making products for customers. Now we are emerging into a state of having a virtual factory, where in some instances the role of the traditional factory moves from a manufacturer in the traditional sense to the place where the intellectual property of the product is held.

"Europe has both developed and developing markets, and we will have an approach to manufacturing based on the product portfolio we need to produce – and in my view that gives the emergence of clusters of supply bases that are co-ordinated from some central point.

"Manufacturing will also be expected to manage the

sustainability of their hardware, software and products in a more integrated way to meet the demands of corporate responsibility.

"I think also that speed to market will increase, and I can envisage a world where design and prototyping will be concurrent with manufacture."

**Laurent Tremolières, operations director, Accuride:** "We're a typical supplier, providing ball bearings for many industries. In the last couple of years we have seen a shift from Europe to the rest of the world in terms of manufacturing footprints. For example, we have closed plants in England. The biggest projects are not always in Europe but are in Asia. We have to be able to support customers' movements to other countries.

"So the question is, where to manufacture to lower the cost basis. But in a global world it's important to understand how you want to be perceived by your customers."

**Prof Derek Ceglarek, Warwick Manufacturing Group, Warwick University, UK:** "Can we have a sustainable economy and economic growth based purely on services? Some manufacturers, such as IBM and General Electric, have a different business model from, say, General Motors. IBM and GE

make and sell products but they make money on services. GM makes the product but the customer services provided come from different companies. But with aerospace companies the main profit comes from services rather than from making jet engines. Therefore I don't think we can have economic growth solely from manufacturing, without a services element.

"The US has lost three million jobs in manufacturing in the last couple of years. China in the same period lost 15 million jobs in manufacturing. But I think we are in a transition stage, where there are a lot of emerging tasks, jobs and businesses being created.

"The challenges we face include concurrent manufacturing: can we do everything concurrently? Another challenge is the growth of data and the problem of getting the information from data instantaneously, as well as how to convert this data into knowledge.

"Low labour costs are providing a main competitive advantage in some industries. But there are other advantages, such as technology and know-how. I think we are in transition period here."

**Bergel:** "One of the main lessons is that, with such a complex



Delegates raise questions at a European conference

What is the future for manufacturing? Industry leaders gaze into their crystal balls.



product as ours, you cannot distinguish greatly between development and manufacturing. One of the prime tasks of manufacturing is to influence the product development. An aircraft designer is designing for performance but normally knows very little about the repercussions that his design has on the industrial process. Manufacturers more and more are needing to influence design."

**Attzs:** "Why do we have any factories at all? Historically, we developed at a time when having factories and serving local markets was viewed as a competitive advantage in doing business. But companies that are emerging now have different business models, and one of the things that we at Unilever are exploring is how we could transform our supply chain to get more productivity from our manufacturing facilities, to create more value from the supply chain. You can't erase

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120 years of history in five years, but we're working on it."

**Delegate (unnamed):** "We are a company that is all about sales and being in front of the customer, and manufacturing is a minor part of the company's belief. How can I ensure that some form of manufacturing remains in the company in the next 20 years, or maybe we shouldn't remain in manufacturing?"

**Tremolières:** "When you're in manufacturing, you have a lot of liabilities, and it depends what you get from manufacturing – there's the core knowledge and competency – but companies are facing the question of what they want to do and what they need to do. Whether to outsource depends on what you want to sell and your business model."

**Bergel:** "We're considering becoming more of an integrator but this in no way means that manufacturing will become less

important. We are talking about making aircraft in numbers that have never been done before. This just means that industry is restructuring so that an original equipment manufacturer concentrates on integration aspects. But this means that there needs to be 'families' of the types of OEMs, which can then reduce manufacturing costs. But it's down to the organisational capabilities of potential OEM partners to take up these roles – that is, capabilities to do their own detailed product design, to drive the supply chain, to change their own configuration, and so on. So it can take many years to train and develop these future partners."

**Attzs:** "We shouldn't be too precious about manufacturing. It's about creating value and about the intellectual property, which, in promoting and supporting manufacturing, will end up being more valuable than the actual manufacturing process."

**Ceglarek:** "This is a question of make versus buy. What should I make inhouse and what should I buy from outside? This is related to your core competency. If you make cars and making engines is not a core competency, then you can outsource this. For some auto companies, 60 per cent or more of product design is done outside. This means that the 'corporate memory' of how we design a car is no longer with the OEM.

"In the American auto industry, many OEMs are questioning why they need to design the process, why they need to make the manufacturing systems, and why also run an assembly plant? Why not have a supplier that makes and tests the goods, and runs the manufacturing facility for the OEM? So what will the OEM do? Become the 'co-ordinator'.

"The traditional understanding of products is changing. Product is not just the hardware, it is 'intention'. Service is also a product. In my

view, manufacturing is moving away from a focus on the hardware towards intangibles. There are new projects emerging every year, so I don't think that manufacturing will disappear."

**Attzs:** "Another aspect we have to bear in mind for the future is where the skills will come from. Some companies will not be able to get the requisite skills for their processes."

**Bergel:** "When it comes to aeronautics, I'm not at all negative about the future of manufacturing. We're producing 40 aircraft a month; when I started as a student we weren't producing this in a year. There's also huge competition globally for production of aircraft parts as a stepping stone for developing their industries." ■

■ This is an edited extract of a discussion held at the European Manufacturing Strategies Summit, Dusseldorf, Germany, in October 2007.  
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