

A VISION FOR MANUFACTURING

CAROL BURKE FREng



Carol Burke receives her certificate of Academy Fellowship from HRH The Duke of Edinburgh on 8 November 2010

Most engineers in the automotive business have had sleepless nights during the recent economic hiatus. For Carol Burke, the financial shock has presented an opportunity to lay the foundations for a new type of engineering business. She talked to Michael Kenward at the Unipart Group's Coventry offices and spoke about the company's reinvention of a traditional business.

As managing director of Unipart Manufacturing, Carol Burke admits that she had a few worrying moments during the recent economic turmoil. After all, much of her business when it started involved making car parts and some customers cut their orders by 70% overnight. Carol Burke has come out of the recession, and previous upsets in car making, with an enthusiasm for reinventing the growing roster of businesses that she oversees within the Unipart Group. Indeed, she doesn't just want to reengineer her own

manufacturing operations but has been the driving force behind the creation and rapid growth of a profitable manufacturing consulting business that supports other organisations transforming themselves.

UNIVERSITY CHALLENGES

Carol Burke originally envisaged a career in a very different engineering industry. She went through Liverpool University as a student sponsored by British Steel. "In those days, the way that British Steel

used to treat sponsored undergraduates provided really fantastic training," she says. Light engineering, heavy engineering, time in the drawing office, she saw them all.

Burke left university with a first class degree in mechanical engineering and business. "I thoroughly revelled in the pure engineering and I really enjoyed the intellectual side too." Her ambitions were in manufacturing: "I wanted to enter the business and manufacturing industry with a very pure engineering background."

British Steel went so far as to back this ambition by sponsoring her for a masters degree, a move that was, she says, almost unheard of. The company even paid her a salary. "I was probably the richest masters student at the university!" Yet even after she had collected a distinction for her Masters in Advance Manufacturing Systems and Technology, the company would not offer her the line-management job she thought she had earned.

Faced with such a setback, many young engineers might have accepted any conditions that a potential employer wanted to impose. Not for Burke. When GKN offered her a job, she turned down a place on what was, she says, a very good graduate scheme. Instead: "I joined as a production manager at GKN Axles. I immediately put on the white coat and went out on the shop floor as a 22-year-old. It was a phenomenal experience." She progressed to become Business Manager and ended up setting up a new factory making axles for Vauxhall.

GROWING PORTFOLIO

Burke says that her time at GKN taught her: "all that I know about management and leadership". She certainly needs those skills in her current role at Unipart. Carol Burke joined the company in 1994, as Manufacturing Manager and then Operations Manager with Premier Exhaust Systems. She then became MD of a new joint venture between Unipart and Eberspächer Exhaust Systems (UEES). Since then Burke has accumulated a growing roster of Unipart businesses to manage, not all of them in manufacturing, but all heavily steeped in engineering.

As well as UEES, Kautex Unipart Ltd (KUL) manufactures plastic fuel tanks and fuel systems. Carol Burke is also responsible for

Faced with such a setback many young engineers might have accepted any conditions that a potential employer wanted to impose. Not for Burke... instead: "I joined as a production manager at GKN Axles. I immediately put on the white coat and went out on the shop floor as a 22-year-old. It was a phenomenal experience."

Serck Services, which designs, manufactures and services all types of heat exchangers. A more recent business for Burke is in engineering consulting. The Manufacturing practice is a part of Unipart's consulting business, Unipart Expert Practices.

Carol Burke credits John Neill, chief executive of Unipart Group, with influencing her more recent direction. He urged her, as she puts it, to: "stop thinking about what you make and recognise that you are really good at manufacturing in general!" This notion now influences not just her approach to Unipart's operations but her thinking on manufacturing in the UK as a whole. Here, though, Burke sees other problems that businesses need to address.

Too many manufacturing companies, she complains, have become stuck in a rut as they chase the next order. "You start being a factory in every way. You are just

processing orders." The bigger a company is, the slower it seems able to adapt. "In the UK we tend to create machines. We need to turn that around and become businesses."

Some companies may find it easier than others to make this transition. Unipart, for example, is hardly a typical manufacturing operation. The public may think of the company as a purveyor of spare parts for cars, after all, that is what people see around them. In reality, the Unipart Group, with an annual turnover of more than £1 billion, also has a large and growing logistics business as well as its consulting operation, with one customer HM Revenue and Customs. If anything, she explains, "Unipart is largely not a manufacturing or engineering company, it is a logistics company." The engineering though is still an important part of the picture. Even in logistics, Carol Burke points out, it isn't just



Carol Burke FREng

a case of box shifting. If you are working for the aerospace sector for example, engineers like to talk to engineers, and aerospace logistics is one of Unipart's businesses.

BUSINESS VISION

While just about everyone else had written off commodity manufacturing in the UK, she did something different. "We said we would consider what we were good at and we would try to sell it." It seems to have worked. Unipart Expert Practices-Manufacturing, has grown rapidly and has been very profitable. The consultancy helps other people to do manufacturing well, she explains. Clients have included makers of own-brand toiletries and: "big industrial engineers". It also helped Unipart to survive the recession, she says.

Being good at something, and having its own teaching factory, set Unipart's consulting business apart from many of the organisations who hand out advice, often for sizeable fees. Few consultants can set their clients to work in a manufacturing cell making products for the real world. "In fact, no other consultancy can do that. That is why we have grown as quickly as we have, and why, I think, we will go on growing."

Approximately 2,000 people from clients in more than 20 countries have spent time in Unipart. Apart from the income, what does Unipart get out of sharing its engineering skills? "Great question. Because the answer is so important to us. We get a pool of engineers that I could not support based on my core business." With more than 100 engineers working for her across all of her businesses, she can direct them at any problems that turn up in Unipart's manufacturing operations.

Carol Burke's plans to remodel her own operations starts with manufacturing, her first enthusiasm. Building on her mantra that "we are not just good at manufacturing exhaust systems but we are very good at manufacturing", she has expanded the repertoire of her manufacturing operations. For example, UEES has added engine components and fuel systems to its product line.

This diversification is partly because, as joint ventures, UEES and KUL have relied on R&D and engineering supplied by German partners. Carol Burke wants to create more home grown opportunities. "My dream is to drive a business through British engineering." Here she is tapping into the expertise in manufacturing that Unipart has gained from working with Japanese customers, especially Honda and Toyota. Unipart knows all about 'lean' manufacturing and the other ways of



Carol Burke shows Lord Digby Jones, then Minister of State for Trade, around the Unipart prototype and development centre in Coventry

exchangers are scattered around a nuclear power station. Unipart is already talking to other UK companies that also want to play a part in the UK's nuclear revival. "It would be really nice to combine British engineering and manufacturing and to do something really special in this industry," she says.

Could the company end up as a nuclear supplier with a sideline in the automotive sector? "Absolutely!" Burke affirms: "It is so exciting."

CARBON CHALLENGES

Much as Carol Burke has her sights on the nuclear revival, she has far from given up on the automotive sector where she sees plenty of opportunities in the rush to reduce carbon emissions. It will be many years, she predicts, before today's technologies disappear, and she is determined to exploit opportunities in taking carbon out of cars.

The UK has advantages that it could exploit in the rush to reduce carbon emissions. For example, it supplies components for diesel vehicles, an area of engineering where Japan and the USA have yet to see the light. Japan has caught on and is working with German companies. Despite this, Burke says, with some amazement, "the Americans aren't interested." Talk to them about diesels and hybrid vehicles and they say it will never happen. Unipart are still positive and partnerships may be made with US companies to bring these types of components to the States.

In general, Carol Burke is keen to develop relationships, and not just with foreign businesses. Sitting as it does between the car makers and the SMEs that make parts for them, Unipart is in a great position to be a go-between. At the most basic level, Unipart recently acquired the

assets of failed businesses so that it can manufacture parts that car makers rely on. The company can also help SMEs who want to supply to car makers. A small business may have technology that would appeal to a car maker, but it needs help to turn it into something 'manufacturable'. This is where Unipart can come in. "There is a real business opportunity there. I'm confident that, if you are talking to me in two years time, we would be seen as really having helped British manufacturing."

Carol Burke is passionate about educating a new generation and hopes that government will provide a lead. "When the government says it is behind manufacturing, one aspect of that has to be to get enough young people into manufacturing and engineering. I sense that that hasn't really been sufficiently thought through."

INSPIRING FUTURE ENGINEERS

One way that Unipart does this is by taking young apprentices out to schools, trying to get across the message that engineering is a worthwhile career. This isn't always helped by the schools themselves, Burke complains. "You have to go via the teachers

who know no more than the children do, so it is quite difficult." She laughs ruefully at the teachers who fail to show up for events because they are "too busy". "And I am not busy?" she jokes. "This is about our young people," she insists.

Burke has personal experience of this. Her six-year old son attends a school where there are no other engineers as parents. Fortunately, her son has role models at home; he likes the idea that his mother makes 'cool things' for cars and that his father is also an engineer.

It also helps that over the years Burke has collected a number of prestigious awards, such as Midlands Businesswoman of the Year in 2005 and the CBI's Real Business First Women Awards in manufacturing in 2006. Never keen on anything that smacks of 'token woman' thinking, Burke admits that she thought twice about accepting such accolades. It was only when pressed by others that she agreed to ignore her resolve to avoid female-specific awards. After all, she insists, being a woman in a male-oriented profession has rarely been an issue for her. Fortunately, she has also collected various other awards, including the Institution of Engineering and Technology's 2007 Manufacturing Achievement Medal.

When it comes to a role model for manufacturing and engineering in the UK, Burke isn't the sort of person to make an exaggerated claim about Unipart Manufacturing as an exemplar. She is, though, convinced that its mixture of engineering, manufacturing, and thinking about what you are good at is an excellent business model for the company and who is to say that it would not work for others?

BIOGRAPHY

Michael Kenward OBE has been a freelance writer since 1990 and is a member of the *Ingenia* Editorial board. He is Editor-at-Large of *Science|Business*.

improving quality and productivity. This is, after all, just what the company hired her to implement when she left GKN. "We have persisted and deliberately practised that for 20 years in a way that I don't think many other British manufacturing businesses have."

SERCK DIVERSIFIES

The combination of engineering and manufacturing has also driven Carol Burke's work with Serck, Unipart's heat exchanger business. Not for the first time, Carol had been handed a business that had come upon hard times. Fortunately, the engineering side of Serck, which made 'off-the-shelf' equipment for the automotive business, was in good shape. "I went in there and it was one of the best moments I have had for ages. I spoke to the engineers and I thought, these guys really know what they are doing."

At Carol Burke's instigation, Serck branched out into new markets. This was not a difficult conceptual leap, she says. "The engineering in a heat exchanger is not much more advanced than the thermodynamics that was part of my mechanical engineering degree. What matters is the experience, the years of testing it, and how you bring all of that together." So, it is back to engineering and manufacturing.

Serck now provides systems to supply power stations, nuclear submarines and makers of wind turbines. Carol Burke also has nuclear ambitions for the heat exchanger business. "We have got engineers in Serck who were involved in the first UK nuclear industry." She sees business opportunities in supplying to the new nuclear power stations that UK governments keep promising will happen, and quickly reels off a list of the places where heat