


Raising manufacturing performance

Works Management

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"The culture change from our improvement programme is just as important as the cost savings it has generated"

*David Walton, managing director
Stannah Stairlifts*

on the up

With *Works Management* driving the long-established Best Factory Awards, we profile last year's winning company

CONFLICT

How to stop the shopfloor tearing itself apart

INVENTORY

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ENERGY

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Reaching new heights

What does it take to become Britain's best factory? In the case of Stannah Stairlifts, a key factor has been inspiring the workforce to get involved in improving every aspect of the company's operations. Paddy Baker reports

The story of Stannah Stairlifts since the early 1990s is neatly encapsulated in the company's profits versus sales performance. In a manner reminiscent of the smooth, sedate ride on offer in the product demonstration area at the company's Andover factory, the graph rises steadily until 1995, then falls, getting rather close to the horizontal axis in 1999, and since then has been travelling upwards again. Last November, the plant won the awards for Best Engineering Plant and for Manufacturing Plant of the Year in the Best Factory Awards (then known as the *Management Today* Awards for Manufacturing).

Managing director David Walton (pic-

tured) has been at the helm throughout this period – during the bad times and the good, he points out. In the first half of the last decade, sales grew rapidly – boosted in part by the government's Care in the Community programme – and the falling pound bolstered export profitability. In those days the main challenge was producing enough product to meet sales; insufficient attention was being given to "the fundamentals of quality, cost, delivery, product and people development," he says. This left the company exposed to increasing competition; when, from 1995, sales stalled and the pound strengthened again, profits were eroded.

The company embarked on a four-faceted programme to make the improvements in quality, delivery and cost that it needed to turn its performance around.

"We had a paternalistic culture back then," says Walton. "We didn't tell the frontline staff what our problems were." So the first step was making the move to a more open culture. David Walton made a series of internal presentations, centred around the profit to sales figures. The Graph – you don't need to say which one, anyone you talk to at the plant knows which one you mean – brought home very clearly that the future of the company was at risk – "and we needed to get through it together," he says.

As manufacturing director Kim Saville puts it: "The tide began to turn when we took what we felt at the time was a brave decision – though it seems almost laughable now – to communicate our performance to the team and get them behind the idea of making changes."

The second pillar was a performance management programme, using the Investors In People model. This involves the company publishing its strategy and an annual business plan with company-wide objectives. From this, departmental and personal objectives are set, and a personal development plan (PDP) is created for everyone in the company. "This was a big change for us," says Walton. The company employs around 350 people at Andover, with another 150 at its production facility at Blaydon on Tyneside, which concentrates on welding operations.

PDPs are used to fulfil company development requirements – such as introducing level

2 NVQs to warehouse employees – and also to identify individual aspirations: for instance, one of the purchasing department's supplier account managers previously worked in the customer services area.

Third, a continuous improvement programme was instigated. The company had tried a number of CI initiatives before, including kaizen and quality circles, but these had stalled. "My analysis of why it didn't fail this time around is that I believed in it," says Walton. "The previous times I said 'go and do it' – this time I led it and resourced it."

The CI programme was encouraged to take root by the appointment of three full-time facilitators (two were transferred from other positions within the company, while the third came from another part of the Stannah group). Logistics director Tim Eagles explains: "They encouraged people, facilitated co-operation and took responsibility for the programme. Previously, improvement programmes had run in functional silos. When one function demanded resources from another, there had been arguments over whose programme was more important." Now that the CI programme is fully established, this facilitation role has been scaled down to half a person.

There are around 30 CI teams in the company, operating within their own work areas. They are tasked with improving their existing processes and practices, rather than radically changing them (for instance, by taking steps out). "The rule is, any CI change can't adversely affect the customer, or safety, or the quality of the product," explains Walton. In addition, the engineering department must be involved if the nature of a change requires it. The teams are given time every week to meet, and team members are allowed to take time between meetings, for example to buy something or to visit a supplier. They are encouraged to publish one-point lessons detailing the outcome of CI projects, quantifying any cost savings.

Examples of changes brought about through the CI programme abound. Some are simply good ideas of the kind that are more likely to be thought of by the people on the job rather than their managers; such as suspending compressed air lines from an arm on the ceiling rather than trailing them on the ground – or making drawings for rush jobs stand out unmistakably from the others by printing them on different coloured paper, rather than simply rubber-stamping them as urgent.

Others are more impressive examples of how a combination of pride in the product and empowerment of the CI teams led to solutions that one suspects might have been less acceptable if imposed from above. A capacity problem in the paint plant had led to an extra two to three-hour twilight shift being put on; however, because this used temporary labour, product quality was suffering. A CI team looked at the issue, and experimented with running the line 25% faster so that the work could be completed within the regular shifts. It worked. "They solved the problem – even though it meant they were working 25% harder," says Walton.

In another example, one person in the welding department has saved the company a six-figure sum annually through suggesting a product design change that has simplified the way the legs are welded on the product. Walton comments: "The



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culture change that has come from our continuous improvement programme is just as important for the business as the cost savings it has generated." He adds: "I hope no-one is fearful of putting their head above the parapet. It's important that people feel they can raise issues – though of course you can't always get what you want."

On a tour of the factory, frontline manager Paul Bradbury shows me an example of poka yoke (error proofing) which resulted from a CI team. The out-of-box quality level is a key measure for Stannah, but missing components from the kit of fittings had been the top failure each month. One particular component was frequently being omitted, so to prevent this, the workbench in the kitting cell has been fitted with a pin which only drops, allowing the kit box to progress, once this component has been added.

Employees' commitment to the product is bolstered by a profit-sharing scheme, which has been in place at the plant for many years. A significant proportion of the profits is ploughed back into salaries each month – and everyone gets an equal share. "It's very useful for promoting a continuous improvement culture," says manufacturing director Kim Saville. "And because the reward goes to everyone in the company rather than to individuals, it avoids discussions about whose idea something was, which can be divisive."

To complement the incremental changes of the CI programme, an operational effectiveness pro-

One CI suggestion from the shopfloor to simplify the way legs are welded on the product has saved the company a six-figure sum annually

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David Walton, Stannah Stairlifts



Above: The shopfloor is being transformed through the roll-out of lean manufacturing
Below: MD David Walton, manufacturing director Kim Saville and logistics director Tim Eagles in the demonstration area

gramme was established to create more stepchanges. This has included a complete revision of the product range over a three-year period, implementing lean manufacturing techniques, increasing the amount of deliveries direct to the line, and a simple but powerful idea championed by logistics director Tim Eagles: installing secure webcams to enable suppliers to monitor component stock levels on site. This was originally set up for a German supplier of gearboxes, whose location would make traditional vendor-managed inventory arrangements impractical, but has been extended to some UK suppliers as well.

David Walton is keen to acknowledge the significant role played by OEE Consulting, based in Charlbury, Oxon, in kickstarting the continuous improvement and performance management initiatives at Stannah: "OEE helped to persuade me and my team of the likely benefits of these initiatives as well as helping with their planning and initial implementation."

All of these improvements in the factory would have a limited effect if Stannah's performance further afield was mediocre – but this is far from the case. "Delivery is important to us," says Walton. "Ours is not a desired product – it's put in when people have a problem. But once they've crossed that mental barrier and decided they want one, they want it quickly."

Stannah has halved its delivery times, making them the shortest in the industry, says Walton. For stairlifts that run along a straight track, the time between the end customer calling the distributor to installation in the UK is less than a week. For the curved product – which is made to measure – it's about four weeks.

In other parts in the world, it depends a little on the distributor, but, he says, "in 1999, a lot of our distributors were quoting ten weeks. Ex-works were five to six weeks – now it's just over two. We can supply and install in the USA and Japan faster than the locally based competitors."

Service, too, is impressive. If a stairlift breaks down in the UK, there's an engineer on the doorstep within two hours of the call – 24/7, 365 days a year. "Nobody else comes close," he says. Also, he points

out, product improvements have led to breakdown rates – and sales of spares – plummeting.

An innovative piece of technology called Stairtracker has helped to boost orders for curved product, especially from the USA. This uses photogrammetry to convert digital photos to an accurate 3D CAD image of a staircase, which contains all the dimensions Stannah's designers need to create a made-to-measure stairlift. If a distributor uses Stairtracker, the company will bear the cost of any rework needed if the product supplied doesn't fit the staircase it was built for. Previously, as it was reliant on the accuracy of the distributors' measurements, the company couldn't make such an offer. US sales have doubled as a result – and no reworking has been required.

One of the few areas where Stannah's success can be ascribed to luck – rather than through leadership, empowerment and hard work – is that, as a privately owned company, it enjoys what Walton describes as "quite a benign environment from the point of view of ownership – because the group is cash-rich, there hasn't been the same pressure on cash and the balance sheet as in other businesses." He says he is glad not to be in an environment where corporate edicts can suddenly scupper spending plans.

But rest assured, the company is looking closely at reducing its costs. Tim Eagles points to a 5% reduction in the materials budget last year alone, and cites one example where the cost of one component, a skate, has been almost halved – through manufacturing, engineering and a supplier working in partnership. "The new skate design has the same form, fit and function as its predecessor – and it's retrofittable," he says. While he's under pressure to reduce inventory levels, this comes primarily from a physical target – the need not to outgrow the warehouse as sales increase.

On a similar note, Kim Saville is keen to acknowledge the contribution of engineering director Steve Leathley and his team in making assembly operations leaner over the last four years. "Steve and his team have been fundamental in taking out complexity," she says.

For Walton, all the changes are summed up in how the management team spend their days now, compared with five years ago: "Then we were fighting fires nearly all our discretionary time. Now they rarely occur – and if they do, they get dealt with at source. Our role is to go around lighting fires." ■

Turn over to find out how you can enter the 2004 Best Factory Awards



Celebrate excellence

Works Management is delighted to be working alongside Cranfield School of Management for the Best Factory Awards 2004. Here Paddy Baker explains how the competition works, and why you should enter

The Best Factory Awards are a long-running, prestigious competition that looks to find best practice across UK manufacturing. However, it's not just a question of spotlighting a few key performers. Its overall mission is to identify what best practice looks like, and to improve understanding of how it is implemented – with the aim of helping all British industry to raise its game.

It's for this reason that everyone who enters gets something out of it. "The main benefit of entering the awards is that all entrants get an external audit of their operations in terms of managing operations," comments Prof Mike Sweeney of Cranfield School of Management. This report, which compares a plant's performance against all the other plants in its sector, is extremely comprehensive: it contains more than 80 tables of valuable and difficult-to-obtain information. It is compiled from information submitted on the Awards entry forms. There is no entry fee.

For companies that are shortlisted, the next stage is an in-depth visit from a team of assessors, who talk to management and workforce and make a tour of the plant. Although there's no formal feedback at this stage, shortlisted companies often find these visits very valuable. "The questions we ask them are coloured

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by what we've seen elsewhere, and they often find it valuable to reflect on why they've been asked certain questions and how they answered them," says Sweeney.

In November, representatives of the shortlisted plants are invited to attend an award ceremony in London at which the winners in each category and the Factory of the Year are announced.

This year, awards can be won in the following categories:

- Engineering Plant Award
- Electronics and Electrical Plant Award
- Household and General Products Plant Award
- Process Plant Award
- Small Company Award
- Supply Chain Award

- Regional Awards
- People Management Award
- Most Improved Plant Award

In addition there is the coveted overall title:

- Factory of the Year

Winners get a great boost – and not just at the time the awards are made. "Their factories become highly visible," says Sweeney. "The publicity – both national and local – helps winners to raise their profile relative to their competitors. Often other companies will want to come and see their operations, and they will get reciprocal invitations to visit others. The ensuing discussions with their peers can be very beneficial." Winners may use the Best Factory Awards logo in their publicity material for a period of three years.

Sweeney's colleague Dr Marek Szwajkowski, who has been involved with the Best Factory Awards throughout its history, has seen the overall level of performance among competitor plants rise over the years. "We have noticed recently that the gap is widening: while the average performance level is rising, the top plants are improving faster than the average."

So what does he say to manufacturers thinking of entering? "Give it a go. You have nothing to lose. Entry is confidential – no-one knows you've taken part unless you're shortlisted. You have every reason to try, and nothing to worry about."

Mike Sweeney agrees: "The Best Factory Awards show that manufacturing can be extremely successful in the UK. Most newspaper coverage of industry is about offshoring and closures. The Best Factory Awards are an important balancer – they're a celebration of successful manufacturing." ■

● **To enter** the Best Factory Awards 2004, complete an audit questionnaire from Cranfield School of Management and return it by 22nd May. The questionnaire can be obtained from Dawn Gallyôt, Awards co-ordinator, Cranfield School of Management, Cranfield, Bedford MK43 8PF (T: 01234 751122, F: 01234 751806). You can find more details, and request a questionnaire on line, by visiting www.som.cranfield.ac.uk and entering 'Best Factory Awards' in the search box.

● **To discuss** sponsorship opportunities, contact Rob Fisher on 01322 860000 (or email rfisher@findlay.co.uk)

What did the judges like about Stannah?

As the winner of the Best Engineering Plant Award as well as overall Best Factory winner, Stannah Stairlifts' Andover factory (see pp14-16) impressed the judges on a number of fronts. "It's a great story of executing improvement," comments Dr Marek Szwajkowski. "They've identified the need, and put in place actions to improve people, process and product."

His colleague Prof Mike Sweeney highlights a number of aspects that particularly appealed to the judges: "They are excellent on customisation and flexibility. The ability to customise curved product away from the location where it will be fitted takes a considerable amount of process control. Operationally it involves the transfer of complex information and adherence to a tight specification. They exploit technology, such as CAD, to improve what they already do well. Every curved product is customised and different – and they produce them with a consistency that's admirable."

There were cultural aspects as well. "Their commitment to quality is very prominent in terms of culture," he says. "Their vision for lean manufacturing – and the commitment of the management and the workforce to pursue it – also impressed us. There's still a fair amount of work-in-progress in the business, but they're on the road to lean."

Marek Szwajkowski adds: "As well as what they're doing on the shopfloor, they're also working with suppliers and distributors. It's very impressive that they can operate in overseas markets with shorter lead times than local rivals."