

## STANNAH STAIRLIFTS LTD

When Stannah Stairlifts saw signs of declining profits it acted decisively. Now its quality, cost and delivery are world-beating. And return on sales, once in free fall, is climbing.

### OBJECTIVES

In the mid 1990s sales at Stannah, the world's leading domestic stairlift supplier, went flat after a decade of annual rises. Currency fluctuations, increasing competition and poor productivity eroded margins, and poor quality was costing a further £4m a year.

A company graph, produced in May 1999, showed return on sales at a quarter of its 1994 high and still falling. In two years the 350 employees in Hampshire and 150 at Blaydon, near Newcastle, would lose hefty profit-share bonuses and some might lose their jobs.

Hesitantly the management team decided to show the graph to the shopfloor. "That just changed the atmosphere," managing director David Walton recalls. "It allowed us to start a whole lot of initiatives."

### SOLUTION

The initiatives began with a structured plan of action. The improvements would be built on an open culture, better performance management, continuous improvement (CI), and cellular manufacturing, with a cadre of first line managers (FLMs) acting as agents of change.

#### Performance management

Once Stannah management had used the return on sales graph to illustrate the challenges and communicate what needed to be done, the company was ready to make it happen. Today it communicates company-wide business plans and objectives annually to all staff in small groups. Each individual agrees personal objectives and a personal development plan (PDP) with their manager at an annual appraisal meeting. The company focuses significant resources on using these PDPs to improve skill levels.

#### Continuous improvement

In November 1999, on what he agrees was no more than a hunch that continuous improvement (CI) would work, Walton committed 10 per cent of profits to CI consultancy and the recruitment of three CI full time facilitators: "That," says Walton, "was commitment."

#### Best practice in:

High performance workplace and new product development

#### Sector:

Engineering

#### Size of firm:

500 employees (UK)

#### Location:

Andover, Hampshire

#### Website:

[www.stannah.com](http://www.stannah.com)



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STEVE LEATHLEY – ENGINEERING DIRECTOR

For a year, the three trained every worker in seven-step problem solving and team working. CI teams of six to eight volunteers in every operational area were given an hour a week to search for and solve workplace complaints.

About 30 CI teams have operated in Stannah ever since.

Among a welter of improvement ideas:

- Using auto-feed screwdrivers on assembly lines saved almost £16,500.
- A one piece flow ‘race track’ improved chair line quality and reduced headcount.
- Blaydon site changed a leg design to save £196,000 a year.

CI is empowering. Four out of five employees have been involved in CI projects. CI gives Stannah staff a means of expressing the need they can see all round them for workplace changes, and empowers them to make those changes for the good of the company.

### Cells


Cellular manufacture is another potent source of empowerment. A Stannah stairlift comprises a chair, its motorised carriage and the stair-mounted rail and gear rack that supports and moves it. The straight stairlift can be made for stock. Its ‘curved’ equivalent, the 260 model, fits on a tubular rail made to measure for each stair.

Stannah reorganised the factory with the help of the production employees, so straight and curved products now each have a fabrication cell and an assembly cell comprising a chair line and a carriage line. Rails are made and tested separately.

Stannah’s FLMS set local quality, cost and delivery targets in line with agreed company objectives, appraise their staff and manage budgets. Operator flexibility has been enhanced as a result of extensive training and they are now able to tackle a variety of work across the assembly floor. They have introduced one piece flow in the curved cells and are extending it to the straight products.

Training, design for manufacture and assembly (DFMA) and CI have significantly reduced build times. It takes 15 minutes to build a chair that used to take one and a half hours. As the assembly cells hit their stride, fabrication failed to keep up. Shortages of internal and supplied piece parts from a huge bill of materials would stop the assembly cells for up to two hours a day.





Fabrication too now runs in one-piece-flow product streams. Internal kanbans make any gaps in assembly obvious to paint plant and fabrication operators.

Stannah's monthly cross-department sales and operations planning (S&OP) meeting produces a build plan for each assembly cell. The cells can decide how to meet the build plan and the product variants within it. The plan is shown on screens in the cell, two screens per line.

Stannah managed a 60 per cent increase in output through these changes with the same headcount. Cells have also improved quality and costs, and made significant reductions in lead times.

#### Lead times


In 1999 it took Stannah 33 working days to deliver a stairlift. When a Stannah distributor said a competitor could deliver in three weeks, Stannah managers investigated their total lead times and found many examples of non-value-adding time. For example, Stannah allowed two to four days for installation drawings which took three hours. Their mapping exercise also revealed unreliable machines and unneeded tool changes at critical resources.

Strategic operations director Mike Howe says Stannah commits to a six day interval between drawing approval and the paint shop for all but the largest products. The changes cost nothing. And Stannah delivers its products in Japan or the USA in a shorter lead time than the local competition.

#### New product development

In 2000, Stannah had no clear product development (PD) process. Engineering director Steve Leathley's PD team spent 80 per cent of its time dealing with problems caused by communications failures between PD and production or other departments.

After several visits to other companies Leathley devised a rigorous new product development (NPD) process. Stannah's NPD process document identifies six project phases and assigns responsibilities to particular departments for each NPD element. Its detailed timetable sets 'gates' for departments to sign off before the next stage can begin.



Two full time project managers keep Stannah's teams on track. Says Leathley: "The whole process is less confrontational, smoother, more enjoyable, and it creates relationships round the business between PD, the management team and key players from other departments."

### Design for manufacture

Stannah's first move towards DFMA was investment in CAD for 1999's 300 straight stairlift: "We could get a group of engineers and non-engineers looking at the screen and visualising this design," says Leathley.

He involves as many as possible, as early as possible. Production operators get a kick from it, says Leathley, and can spot glaring fabrication or assembly obstacles early on. Stannah runs early physical batches for production to create snag lists.

The 300 was Stannah's first on-time launch and gave Stannah "a massive inroad into the north American dealer market". With a one-third lower part count, it proved more reliable than any previous product.

### Supply chain


Stannah spends 80 per cent of its budget with 23 of its 105 suppliers. It runs faxbans with two dozen suppliers and vendor managed inventory (VMI) arrangements with another dozen.

Shortage down time has fallen from 400 man hours a year to 50. "That's a huge payoff," says logistics director Tim Eagles. And VMI has reduced stocks dramatically. Some, like the German supplier of Stannah's electric motors, use a web camera at Stannah's stocking point to show stock levels and allow them to calculate their weekly delivery quantity.

Stannah treats suppliers fairly and expects cost savings. Three years ago the metal assembly or 'skate' which holds the curved stairlift on to its rail cost £180. Stannah's supplier completely rethought the part's materials and processes. The price halved. As the skate maker told the supplier conference, he did it to get more of Stannah's business. Now, as Stannah's sales rise, his income from Stannah is as high as before.

### RESULTS

Stannah's sales and profits rose steadily from 2000 onwards. Quality rose, lead times halved, and on time delivery is running at 99.8 per cent.



Productivity has risen 65 per cent against a 70 per cent increase in volume with the same number of people and with no extra factory space. Quality defects have fallen 75 per cent. CI alone has saved about £1.7m – plus says manufacturing director Kim Saville, “many intangible benefits impossible to measure.” And the profit-related bonus last year was £3,000 a head on a turnover of £46m.

### **CHALLENGES**

One of the biggest challenges, says Saville, was moving large plant items about while trying to run an already-profitable factory. If it’s the right thing to be doing, you must pursue it doggedly, she says.

Stop, think, plan, communicate. “Communication with our teams is essential,” says Saville. Gaining support for change, she says, is all about effective communication.

She adds that, while it is important to take lessons from outside, it is dangerous to take up prescriptions and apply them verbatim. Don’t try to use every best-practice tool. Pick those that are right for you and apply them rigorously.

### **THE LAST WORD**

Five years ago Stannah’s future looked challenging. Now the company is setting new goals. Its next target is to improve asset maintenance. The journey was far from easy but Walton’s advice is not to despair: “While you’re in there draining the swamp, you just don’t realise that, actually, life’s going to get better.”

*This case study was sourced from the Cranfield School of Management.*

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