Jamil Rashid of JARA explains why engineers in the aerospace and defence industry need to focus on core management skills to improve performance

Taking the lead

The timely delivery of innovative, world-class products is perhaps nowhere more strategically important than in the aerospace and defence industry. Yet it is a sector plagued by constant delays and massive budget over runs.

Not surprisingly, in attempting to rectify these problems, focusing on core management skills is rarely top of the agenda in the engineering environment: replacing or providing technical training for employees is much more likely to be the automatic solution. The industry believes that its project management is pretty good. But, although top level project planning is generally effective, it's when businesses start looking at what is happening on a day-to-day basis – their low-level, detailed planning – that cracks start to appear.

There is also a tendency to implement what are essentially 'best practice' fixes, without understanding the true causes of problems or the extent to which any of these fixes will actually solve them: they'll carry out assessments – against the PMBOK (Project Management Book of Knowledge) for instance – using information from previous projects and considering opinions almost certainly based on gut -feel not relevant data to devise improvement projects that focus, typically, on skill development, processes, procedures and policies, all of which are seen as the key issues to address.

Ability

But were people really doing things wrong because they didn't have the technical ability? Was the process really at fault or were people just not following it? Did people really not know how to project plan and if so, would yet more training actually make a difference? Against this background, the blame is very often laid at someone else's door: project managers tend to blame engineering to manage, due to their analytical thinking and need for logical results. The biggest challenge was to convince our staff of 72 people that behaviours that drive the design activities and thoughts can be measured and quantified, just like any repetitive manufacturing process, albeit much more difficult. This is where our carefully picked and managed core team was tasked to use JARA's Structured Leadership process and developed a truly bespoke structure for our organisation. So far it has proven to be well worth the effort."

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Case study

Proven success

Meggitt Training Systems (MTS), part of the global aerospace and defence group Meggitt plc, employs more than 350 people at its headquarters in Atlanta, USA, and at facilities in Australia, Canada and Europe.

MTS needed to make significant improvements to its on-cost and on-time delivery of engineering projects, having overspent on R&D by over 50 percent during 2008. A high level of unnecessary tasks, poor adherence to internal milestones and excessive reworking were the suspected causes.

The improvement team's prime focus was therefore to monitor engineers' daily activity to understand if this was directly linked to meeting departmental and project objectives and assess their ability to complete these activities as planned: daily, hour-by-hour planning of quality tasks was put in place to measure on-time adherence.

As a result of this analysis, a number of key improvement projects were launched in August 2009 to:

* Reduce the amount of engineering activities that a) resulted from priority changes and b) were not planned in enough detail
* Increase the on-time delivery of milestones during the integration phase of projects
* Improve the detail of project plans and performance monitoring
* Reduce reworking due to poor process adherence

By September 2009, a 3.9 percent saving in hours was being achieved, and could be diverted into additional R&D projects, and milestone adherence and aligned activities had been increased to above 80 percent.

Bobby Chung, Vice President of Engineering at MTS, comments: "The key to our success in making improvements is putting in place a long-term, top-down leadership structure that supports continuous improvement by understanding how to effect a change in behaviour. This structure ensures involvement, validation and alignment through a logical and measurable data collection system that our engineers and technical staff can relate to.

"Engineers by nature are challeng-

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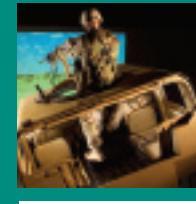

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neers for not doing what they've been asked to do; engineers tend to blame the sales team for not being firm enough with customers and failing to secure enough time or the right price for the job, and so on.

Expectations

Above all, the most significant reason why performance improvement programmes so often fail to live up to expectations is the failure to control day-to-day work closely enough and understand how daily problems actually link to overall performance – in other words, the basics of leadership and management are not being tackled.

So, what should those engineering leaders be doing if they are serious about making step changes in performance?

There are a number of ways this can be done. Firstly, feedback to the engineers should be made instantly, if not daily, rather than monthly reviews of performance or when major milestones are due. An environment should be created in which the team understands and can clearly see what they do on an individual, and day-to-day level, as this impacts on the financial performance, not only of the engineering function, but the business as a whole.

In order to do this, time needs to be spent looking at the tasks people are doing to clarify the problem. Performance data should be gathered, monitored and analysed on a daily, or at worst weekly basis.

Feedback

Secondly, project plans should be broken down to a level of detail that can be reviewed frequently, and which provides instant feedback on the level of adherence and the actual causes of poor performance. Other ways include putting a system in place to validate the reasons given for poor performance – often, the supposed causes are not the true issues that need dealing with. A logic check can also be applied to ensure the right problems are focused on.

Finally, the whole team should be involved in reviewing the performance and finding solutions for themselves based on their own analysis. Only then will they really take ownership and charge their behaviours.

Realisation

This process will almost certainly lead to a realisation that the team already has the answers. They don't need more training, they don't need to reorganise, they don't need a new process, and they don't need to get their customers to change. Instead they need to stop doing unnecessary things, stop spending too much time over-engineering the product and stop changing priorities.

In other words, managers need to focus on being more disciplined and structured in their approach to managing and leading the team to success. If they can achieve this, the result will be a business that can deliver long-term, sustainable improvement and outperform its competitors in an increasingly competitive industry. ■

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