A&M CASE STUDY

SPRINTS AND STANDARDS

TAKING COMPLEX ENGINEERING PROCESSES BACK TO BASICS

Executive summary

The challenge

Simplify processes and enable more efficient product change

The company

Global advanced engineering firm; subset of 9,000 people working on product changes

A&M's impact

1. **Reduced process duplication by 30-40%**
2. **Bringing time to market down by 50-60%**
3. **Reduced rework modifications by 50%**

Introduction

Constant, rapid innovation is often seen as essential for high-tech engineering firms. The thinking goes that if processes are not reimagined and new technologies brought into the business on a regular basis, stagnation may be the result.

When rapid performance improvements are the goal, the best recipe can sometimes involve going back to tried and trusted methodologies.

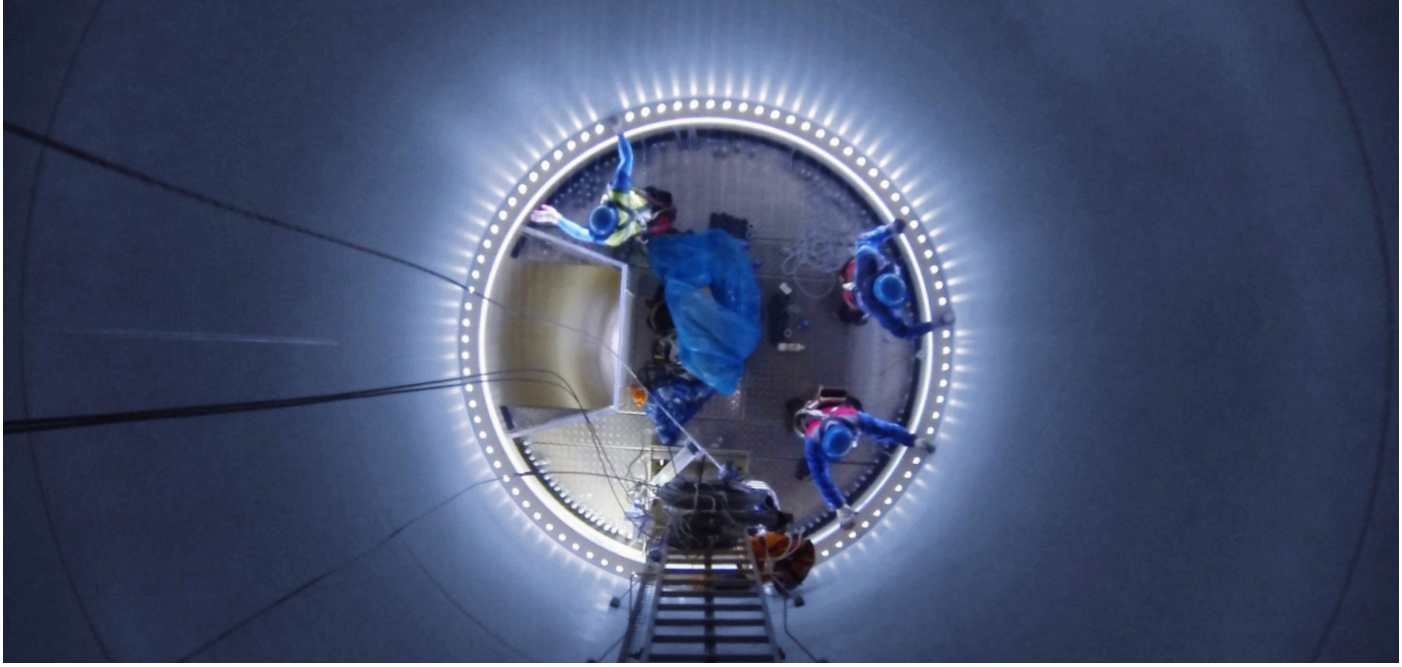
A multinational hardware engineering company was beginning to struggle with a constant stream of product changes amid a concerted drive to improve innovation through the value chain. Here, we outlined how the company worked with A&M to develop a surprisingly un-radical approach, which helped to simplify processes and drive better business outcomes.

History of APQP

Components of Advanced Product Quality Planning (APQP) have been around for decades under many different guises. Formerly called Advanced Quality Planning (AQP), APQP is now used to assure quality and delivery through planning.

APQP rose to prominence in the late 1980s when it was adopted by most major automotive OEMs in Detroit. GM, Chrysler and Ford worked together to create a common standard quality-planning principle for suppliers. This helped each component and system supplied meet customer quality requirements.

Throughout the 1990s and 2000s APQP was adopted by and customised for many different industries. Its principles are closely related to those of Lean Manufacturing and Six Sigma.



A&M's approach

The company, a world leader in many aspects of advanced engineering and manufacturing, was nevertheless struggling to shift a backlog of modifications thanks to overcomplicated administrative processes.

60 to 70% of all modifications were "rework" (where completed work did not meet customer requirements). The average cycle time for a completed modification had risen to 300 days, twice the industry average of 150 days. 450 modifications had sat in the backlog for more than 4 years; one modification had been waiting to be completed for 14 years.

The principal goal of the project was to improve these outcomes by tackling a tangle of processes that were fatiguing and confusing nearly all stakeholders, from engineers and supply chain specialists to project managers.

Obtaining leadership buy-in was a critical task. Within the engineering, operations and development functions, executive teams were wary of a potentially costly initiative that might have resulted in another 'innovation' being consigned to the dustbin. In weeks, internal perception of the initiative shifted, and the project was made a business-wide priority.

The decision was made to cut through existing processes by giving all parties one industry standard – based on the APQP framework – to follow. Returning to a tried and trusted framework was vitally important. Too often, projects had failed when teams were trying to invent complex new functional processes that were not faithfully followed. The decision to focus on APQP as a delivery mechanism put a stop to endless cycles of change while also saving time and money compared to designing more new systems from the ground up.

Offering initial training sessions and encouraging active engagement with the philosophy helped coalesce opinion around APQP as a viable solution for process simplification.

Following the training, a succession of two-week "mini-sprints" were set up to test the feasibility of the new process while assessing how far away the company's current practices were from industry standards.

The sprints focused on concrete outputs and helped gauge early results. Previously, too much focus on reviews and hard-to-comprehend policies had undermined employees' efforts to get good work done effectively. Going back to basics with APQP meant that essential standards were met without overly complicating workflows.

The early tests secured the executive team's backing of the process. The next project to deliver was an orchestrated multi-week sprint where, following APQP best practice, processes, tools and systems were built out in detail, ready for deployment onto a real customer product programme.

Today, implementation is managed by a team of functional and cross-functional transformation professionals, who coach employees, monitor progress and manage results. This structure is intended to embed the new standard processes within the company, ensuring long-term sustainability and consistent performance improvement over time.

Pitfalls

Companies seeking value through innovation should take care not to fall foul of these risks, which can undermine well-intentioned programmes of business improvements:

- Declaring success too early
- Paying lip service to standards without taking care to follow them in detail
- Chasing perfection instead of delivering regular incremental improvements through the value chain
- Creating a political dimension to process improvements, celebrating 'winners' at the expense of 'losers'
- Being seduced by external 'experts' and failing to leverage internal knowledge
- Excessively focusing on special cases in planning, neglecting the most likely outcomes
- Confusing compliance with excellence: high-quality compliance with inadequate procedures may not be in companies' best interests

Outcomes

The transformation initiative brought processes back to basics by re-emphasising APQP as a core framework within which productive changes could take place. A&M then played an active role in operationalising improvements and delivering increased day-to-day value.

As well as the quantitative improvements highlighted in the executive summary above, A&M helped the firm move on-time delivery closer to the company's high-level goal of 95%. The company now has solid foundations from which it can build and continue to improve.

Adopting industry-standard processes and language injected a healthy dose of pragmatism to driving process change. Empowering teams to think for themselves and giving leaders the courage to rely on internal expertise as a driver of positive change, A&M helped the organisation reduce production errors, improve time to market and move closer to meeting central delivery goals.

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Four levers for process simplification

A&M identified four critical levers to driving process simplification in sophisticated engineering environments. We recommend that all engineering-intensive organisations consider these four principles when implementing process change.

1. **Use industry-standard frameworks as the backbone of new changes.** To meet customer and supplier expectations, it is often common sense to lean on methods that have been proven over decades – however unsexy they may appear. The application of standards helps improve processes, saves money, and contributes to building confidence among partners and end users.

2. **Use practitioners, not experts.** Wherever possible, allow practitioners to actively engage in implementing improvements. In this way change is not seen as being imposed from the top down; instead it is the product of organic collaboration.

3. **Build fun into design sprints.** Committing to design sprints is a significant investment. These events require tight coordination and must focus on delivering tangible outcomes. Making sprints interesting and entertaining can keep momentum up and encourage people to stretch themselves. Incorporating challenges and encouraging 'crazy' thinking within this structure can have positive benefits.

4. **Focus on a great user experience.** Process documentation has a seriously bad reputation. Modern workforces are less willing to engage with clunky manuals and outdated websites. Presentations and other materials should speak clearly and directly.

We recommend that all engineering-intensive organisations consider these four principles when implementing process change. They help bring about simple and effective programmes of improvement that engage workers and focus on results.

To learn more about the work A&M does in corporate performance improvement, visit our website.

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With over 4,000 people across four continents, we deliver tangible results for corporates, boards, private equity firms, law firms and government agencies facing complex challenges. Our senior leaders, and their teams, help organizations transform operations, catapult growth and accelerate results through decisive action. Comprised of experienced operators, world-class consultants, former regulators and industry authorities, A&M leverages its restructuring heritage to turn change into a strategic business asset, manage risk and unlock value at every stage of growth.

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00102274 / December 19