

CASE STUDY

Operational Excellence Supports Growth Strategy

Unreasonable Ambition and Disciplined Execution Put Alstom Transport on the Fast Track for Growth

Client

Alstom Transport designs and manufactures trains and railway systems and provides train depot maintenance—with 24,700 people with annual sales of € 5.2 billion.

Challenge

In 2006, Alstom introduced a new train for Virgin. They were contracted to have 47 out of the 52 trains in the fleet in service each day and they were struggling to keep 38 trains running.

Solution

TBM helped Alstom implement a pit stop-like maintenance approach to accelerate train repair times. Concurrently, the company implemented a strategy deployment process that improved service performance and subsequently grow the business.

Results

Train availability increased from 71% to 90%. Virgin renewed Alstom's maintenance contract 3 years earlier than expected because of its improved service performance. The company reached its five-year growth goal ahead of schedule and doubled productivity.

In 2006, maintenance issues on a new fleet of trains that Alstom Transport serviced for Virgin Trains were causing the company to miss the availability targets specified in their contracts. To turn things around, Alstom began to apply lean techniques—rapid changeover methods and policy deployment, in particular—to transform the maintenance practices in its depots.

Management's immediate goal was to dramatically improve train availability for its primary customer. In the longer term, they wanted to grow sales of Alstom Transport's U.K. and Ireland operations by 100 percent over a five-year period. "We had come quickly to a realization that we needed to find a new way of working, a new way of operating," says Tim Bentley, managing director of Alstom Transport.

The Transformation Begins

The availability rate for the high-speed, tilting passenger trains on Virgin's West Coast Main Line was averaging just 72 percent. In addition to routine maintenance, other service issues included faulty air-conditioning units and out-of-service toilets. When minor collisions occurred, it was taking six weeks to repair trains and get them back into service.

After Alstom directors attended LeanSigma® training sessions hosted by TBM, they came together and defined four objectives for the company:

1. Meet availability targets and double train reliability
2. Grow the business by 20 percent
3. Maintain the current cost base
4. Provide greater value to their customers



Alstom's Lean Journey

2004–2006

Introduction of Lean Tools and Techniques

- Demonstrating the power of lead-time reduction
- Localization of the repair of key components
- Implementation of visual planning process
- Point kaizens on critical Business Issues only
- Implementation of 5S regime

2006–2009

Structured Approach to Lean

- Introduction of policy deployment
- Senior management team aligned to strategy
- Pit Stop approach to train maintenance
- Structured kaizen program linked to strategy

2009–2012

Operational Excellence

- Leveraging lean for significant growth
- Policy deployment using Dploy software
- Implementation of a daily management system

Non-incremental goals like these—doubling the reliability of the Pendolino trains and increasing sales by 100 percent—might be characterized by people in any organization as “unreasonable ambitions,” notes Richard Holland, Vice President and Managing Director of TBM Europe. But setting such goals is essential if a company is going to stop doing things the way they have always been done and achieve a step-change improvement in performance. “Managers need to take a risk and expect significantly higher results,” he adds.

Alstom's business leaders identified roughly 20 potential improvement projects to support their unreasonable ambitions. Early wins at the five maintenance depots on the West Coast line began the process of changing the expectations of everyone in the company.

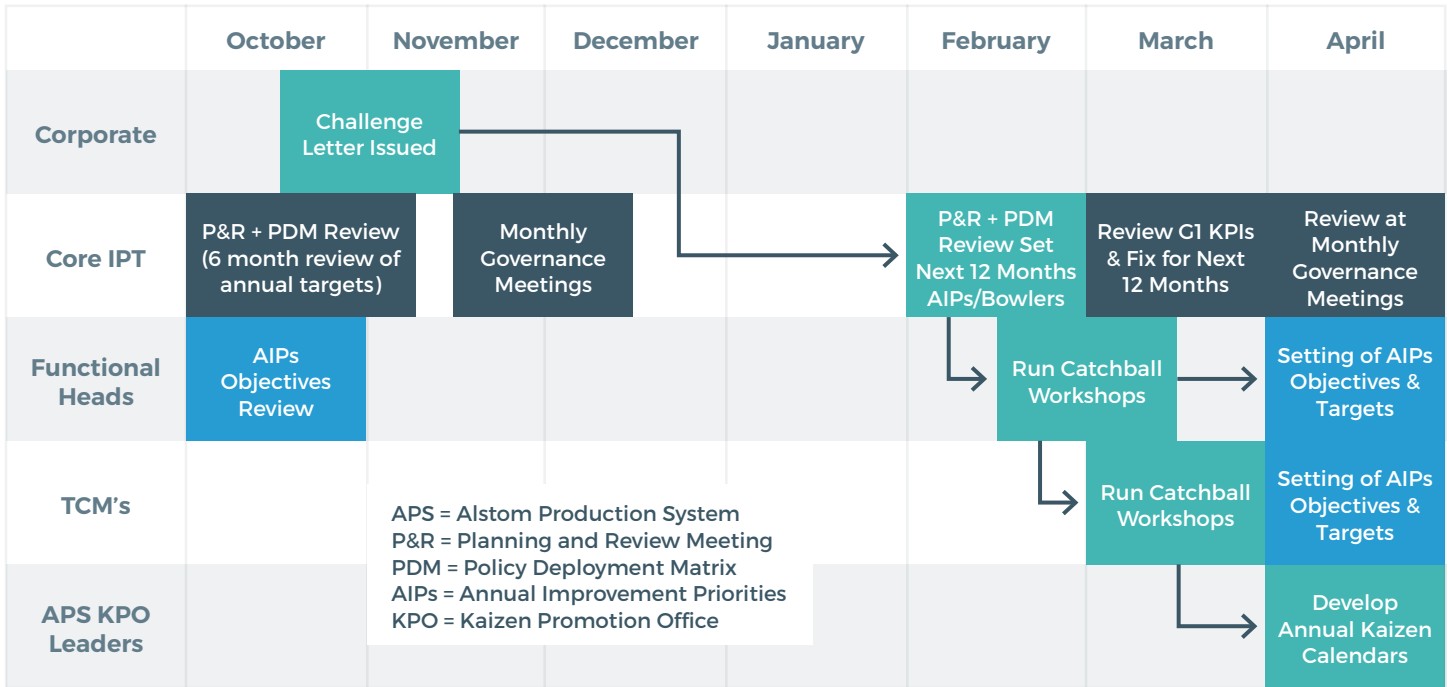
Employees at one of the depots, for example, resisted participating in a kaizen event aimed at reducing the time it took to change out an air-conditioning unit. The union maintenance workers didn't think the kaizen was necessary because four people could change a unit in about nine hours, which was considered a fairly good turnaround time. But, looking at it from another perspective, that was almost equivalent to one week's work for a full-time person. Also, a “spaghetti diagram” created during the analysis of the process showed that maintenance workers collectively walked 12 miles—to the warehouse, to the stores, to get the keys to the crane, and back to the train—looking for tools and other supplies during a single unit change.

In total, by moving materials and equipment closer to the point of use, the kaizen team identified changes that would ultimately whittle down the distance walked to under one mile and eventually reduced the AC-unit replacement time to two and a half hours. Similar improvements—including the reduction of vehicle repair times from 42 days to just 72 hours at one depot—gradually changed the mindset of employees.

“When we did make the improvements, we didn't release any people, which is an important thing,” says Steve Hadfield, Business Improvement Manager at Alstom Transport. “We created more work and more hours, and we've taken other contracts on. We haven't used lean to downsize our business. That's important when you're trying to [implement lean] over a long period of time.”

Deploying the Strategy

In addition to addressing the immediate maintenance challenges, business leaders embraced the policy deployment process. Also known as strategy deployment or “hoshin kanri”—reflecting its Japanese management roots—the policy deployment process helps business managers translate business goals into annual goals and projects, and assign responsibility and define key performance metrics.



By continually monitoring progress, the approach enables managers to take immediate countermeasures when current projects or outcomes do not meet expectations.

One of the tools that Alstom leaders use during policy deployment is something called the “catch-ball” process. The management team “throws” goals, objectives and strategies back and forth throughout the entire management chain. At Alstom, this chain begins at the corporate level and cascades down through senior management, operations leaders, depot managers and production supervisors. During the catch ball process, management assembles a top-level company strategy deployment matrix, and then each functional leader works collaboratively with his or her team to establish improvement projects that support the top level.

“Each team works on the details on how to achieve the top-level projects and then presents those details and corresponding monthly planned achievements back to the top,” Holland explains. “The senior leadership team then gets the chance to review their plans on how to achieve the objectives and the speed of achievement.”

In the beginning, Alstom created and managed the policy deployment action plans from its Manchester location using an Excel spreadsheet, which were laboriously updated for each monthly review. While it worked, this method only provided a limited, high-level overview of the action plans. A more comprehensive overview was only possible using a poster-sized piece of paper that could not be viewed on a computer screen.

Maintaining such information in a central location had several other disadvantages. Off-site managers had to travel to Manchester for the review meetings, requiring an entire day away from their operations. In addition, changes and adjustments to the plan that the team validated during the meetings could be communicated only to the teams on-site and implemented at a later date.

In 2009, Alstom began using Dploy Strategy, one module of TBM’s Dploy® Solutions web-based software. The tool is designed to streamline the management of a company-wide policy deployment across multiple sites and cross-functional teams.

Today, the company’s annual financial targets and expected actions identified through the catch-ball process are saved directly in Dploy Strategy. This helps ensure that everyone in the organization—from the top down to the bottom up— can track activity and validate performance. The software automatically notifies all division leaders and directors when it’s time to update key performance indicators and action plans in preparation for monthly reviews. It allows all stakeholders to monitor the progress of projects in a bowler chart, prompting managers to take countermeasures when necessary.

Targets Met, Future Goals In Progress

By October 2009, train availability on the West Coast Main Line had increased to 90 percent, sufficiently impressing Virgin Trains that the company renewed its maintenance contract with Alstom three years early, extending it through 2022. Alstom had met all of its initial objectives years earlier than anticipated, prompting the management team to raise their unreasonable ambitions even higher.

Alstom's success with lean has become a success benchmark for other companies and industries. In addition to visitors from other divisions of the company, Alstom has hosted visitors from across Europe, including a Grand Prix company and the U.K.'s national rail authority.

Moving forward, Alstom continues to use policy deployment to support its growth strategy, including doubling reliability again and extending its customer base by gaining a new maintenance contract outside the Main Line.

To sustain its momentum, the company has tightened its management system by implementing a standard daily management process. Managers at all levels have visual performance review boards that they review with their direct reports each shift, prompting them to immediately address any issues. Everyone is directly involved in solving problems and clearing obstacles that might stand in the way of the company's annual objectives.

"So often, lean implementations focus on the tools that are needed, such as 5S or standard work," notes Richard Holland. "But without the strategic focus and management system to support it, a lean program will not survive. TBM Consulting Group is focused on partnering with companies over the long term to help them implement a sustainable lean transformation."

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