

Value stream transformation at an automotive interior components supplier



Background

The client is one of the world's largest suppliers of automotive interior components who supply all of the major automotive OEMs. Their core product categories include door and trim systems, instrument panels, consoles, cockpits, flooring, acoustic systems, headliner and overhead systems as well as complementary exterior components.

To meet all of the OEMs' diverse needs an expansive plastic injection moulding press is used, with a clamping pressure range from 150 to 3,000 tonnes, which enables products as diverse as a coin box to a dashboard top to be produced. Parts are moulded in three main materials PP, ABS and GRP which often incorporate in-tool adhesion of cloth trim elements and rubber encapsulation. Secondary processes include laser cutting, bonding, heat staking, general assembly and painting.

The Challenge

A vehicle OEM was increasing volumes on the majority of its product lines whilst simultaneously conducting production readiness trials on tooling for the launch of several new models with each new model being offered with a wide range of interior trim variants. All of this additional work was to be entrusted to the same supplier who already had significant daily production commitments. Industry Forum were asked to support the client in ensuring that all of their existing processes and systems were working to optimum efficiency and that they had sufficient capacity to meet both the current and future projected demand levels from the OEM whilst achieving the expected levels of quality, cost and delivery performance.

The Objectives

Industry Forum holistically evaluated the client and identified opportunities for improvement. Having identified and prioritised the opportunities, Industry Forum then developed and executed an improvement plan in partnership with the supplier.

The Industry Forum Solution

Phase 1

Having held discussions with both the client and their customer, Industry Forum agreed a plan with all parties to satisfy the challenge whilst minimising demand on the client's already heavily utilised workforce. The first stage was a value stream diagnostic which was conducted in three parts:

1. A partnership assessment to achieve a full understanding of the quality of relationships and interfaces between the client and their customer. This dealt with empirical data and perceptions from both parties and covered production, finance, logistics, engineering and sales functions.
2. Data analysis of the current product and service provided to the customer in terms of Quality, Cost and Delivery (QCD) both internally and externally. In addition to establishing the accuracy, availability and relevance of the available data.
3. An opportunity mapping exercise (a hybrid of value stream and transactional mapping) was used to highlight the wastes, duplications, omissions and appropriateness of the suppliers existing processes. The initial map was created by Industry Forum who collected information through available data sources and this was supplemented by shadowing, direct observation and interviews. The first draft was reviewed for consistency and accuracy by process owners within the business. Following this activity a broad cross-section of the work force were invited to review the map and add their issues, comments and opportunities. This created the largest possible pool of opportunities as well as improving buy-in to the eventual actions proposed.

Phase 2

The second phase involved Industry Forum independently assessing the supplier against the customer's supplier award criteria. Where it was identified that the supplier had not yet reached the client's required standards, a list of instances was drawn up and they were cross-referenced against the full list of opportunities identified in Phase 1. Wherever there was a match between the requirements of the award, benefit to the suppliers' business and benefit to the customer, resolution of the particular issue was given high priority.

Phase 3

Once a significant number of high priority opportunities had been identified, Industry Forum supported the client to group similar items into distinct work streams. Eventually a total of 24 work streams were identified, of which 6 were further prioritised by Industry Forum staff in conjunction with the client's senior leadership team. These were:

1. Zone leader training
2. O.E.E. recording and calculation accuracy
3. Set-up improvement
4. Production planning
5. Problem solving
6. Autonomous maintenance

For each of these prioritised work streams a charter was created and appropriate supplier personnel given ownership of the task, milestones and targets. Industry Forum provided practical coaching and support to the work stream owners to assist them in achieving the targets in a timely manner.

In addition to supporting the implementation of work stream solutions, Industry Forum provided coaching for all those actively involved in the improvement process. Industry Forum independently tracked the progress of the client towards their goals and provided the senior leadership teams for both parties with feedback on the progress made along the glide path to success.

Instances of the progress made include:

- 20% reduction in warehouse WIP levels 45% reduction in metal to metal set up times on critical machines
- 20% reduction in stock picking time
- 18% reduction in Mould Shop down time due to no material being available
- Zone leaders successfully trained to audit compliance to standard operations documentation

All of these achievements were made against a backdrop of customer demand increasing by circa 45%.

All information in this document is copyright of Industry Forum © 2013

