CASE STUDY
Enhanced Competitiveness in Automotive Manufacturing

Across nearly every industry, supply chains have gotten progressively worse, driven by uncertainties that show no signs of slowing down any time soon. For instance, how production should be ramped up amid the pandemic has become a real hurdle for global automakers, exacerbated by the complexity of the industry's supply chain. Automakers are finding it increasingly more difficult to satisfy consumer needs.

Consumers are pressured to alter the timeline for purchasing their next car, stirring up fear and distrust. The call for an entirely new supply chain paradigm and leveraging a data–centric architecture to mitigate the challenges faced by the company have become more pronounced than ever.
Therefore, deploying a control tower solution to solve the current supply chain issues cannot be left to chance.

Customer Challenges

In comparison with other industries, global automakers require approximately 20,000 components to produce their cars. The parts are usually expensive and must be produced carefully due to quality concerns to prevent recalls. Recalls have been very idiosyncratic of the industry and continue to pose a threat as they lead to bad reputation and related sunk cost stemming from the expensive nature of the parts.

At the same time, producing parts on time is imperative for achieving faster time–to–market. Mckinsey & Co research suggests that slow time to market can lead to 33% less in profit over 5 years. In addition, recent shortages of chips and resin put a great deal of constrain on automakers' efforts to produce their cars on time. Experts predict, these shortages will cause 7.7 billion deficits in vehicles production.

Quality: A large global manufacturer of cars and trucks maintained a significant number of toolings with its suppliers. The quality of the parts produced was a huge concern for the automaker because the quality of parts produced is highly dependent on the lifecycle and condition of the toolings.

Customer Challenges

- Improve vehicle parts quality for safety to prevent recalls
- Speed up delivery to shorten time–to–market
- Effective asset management
- Effective communication between stakeholders

eMoldino Control Tower Solution

- Establish a platform to detect faulty parts in a bid to provide helpful recommendations
- Create a dashboard to monitor supply capacity to prevent late part delivery
- Provide real–time location of assets
- Provide ample historical data to improve communication between stakeholders

Customer Benefits

- Considerable reduction in scrap rate
- Achieve a faster time to reach the market
- Improvement in asset condition and maintenance
- Improved communication between stakeholders

Delivery: Also, to achieve lean manufacturing, the auto manufacturer needed to leverage data as it wanted to improve efficiency, reduce waste, and increase productivity.

Asset management: Another major challenge was in tracking the life cycle, location, and history of its toolings in a bid to make relevant informed decisions.

Communication: Dealing with several employees and regional offices meant exposure to varied sources of data. A lot of time was wasted on organizing alignment meetings.

eMoldino Control Tower Solution

eMoldino understands the challenges of the industry and provides automakers the solution to effectively manage their supply chains. Alerts such as shot count, cycle time, location, uptime, temperature, and maintenance are all provided to help automakers optimize their supply chains.

For instance, alerts are generated when maintenance is required, or the mold changes location and deviations occur during the production process. In an industry where recalls are frequent, eMoldino's process compliance assurance provides instant alerts to automakers when there are variances in cycle time, temperature and pressure in parts production.

This is crucial because high variances in process condition negatively correlate with parts quality. In such circumstances, meaningful recommendations are provided to leap the process efficiency gaps for desired results.

Quality: To help the well-known auto manufacturer improve the quality of parts produced,

eMoldino is not only piloting a process compliance assurance with the objective of reducing faulty parts but also providing a dashboard where the automaker could predict scrap and yield rate.
The solution provided led to a 58% reduction in defects thereby optimizing cost associated with producing a single part.

By examining parts produced outside of optimal process parameters and reconciling them with each of those "suspect" parts (parts that were produced outside of optimal process parameters) with a financial value, it revealed up to 12% of spending being wasted.

Delivery: The automaker will usually place orders without knowing if parts could be delivered on time. However, eMoldino's partnership with the automaker helped in the automated monitoring of the production process in real-time and determine whether suppliers have the capacity to react to surges in demand or not.

This data helped compare demand and output to prevent late part delivery.

The estimation of the part delivery times was done by tracking production rates and times, thereby helping the automaker react to delays more quickly; identify the causes of the delays and allocate tasks to other suppliers.

All in all, eMoldino was able to provide forward visibility in the production process through the data collected from the control tower.

Asset management: After a meeting with the supply chain executives of the global auto company, it was apparent that the company was struggling with how to effectively manage its expensive assets.
Data on the maintenance history of their molds was somewhat non-existent.
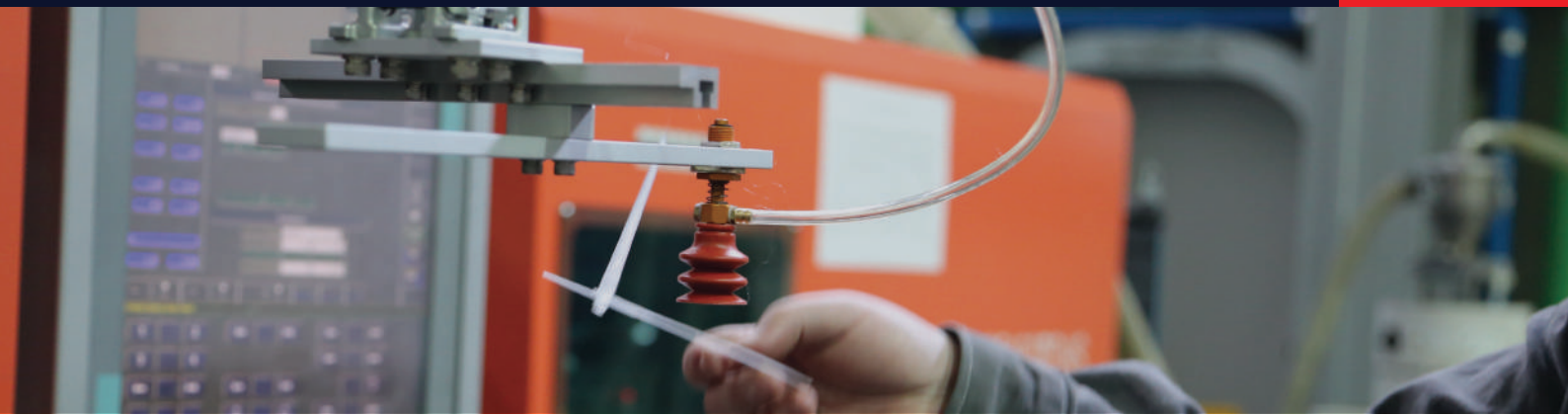
By providing a comprehensive mold management system, eMoldino was able to provide information on the location and utilization rate of each tool and whether they were in good or bad condition.
In this case, the automaker received expert advice on whether to relocate or refurbish their existing tools for similar products.

Communication: By providing an opportunity to rely on shared data, communication was much improved as opposed to the traditional system which did not allow their stakeholders to collaborate with each other from a single source.

With a single source of data, everyone had the opportunity to look at the same data thereby eliciting objective rather than subjective decision making.

Customer Benefits

eMoldino's commitment to helping global automakers optimize their supply chains through a digital core offers executives the right solution to drive optimal value. The impact of the control tower solution powered by the sensor technology leads to edging up visibility into what is happening within suppliers' production line.

This enables clients to prevent unexpected supply chain disruptions which could have significant higher cost repercussions.

Quality: Following a partnership with the famous auto manufacturer, the solution provided a more precise scope of recalls which led to lower manufacturing costs.

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Delivery: Suppliers' total productivity was assessed to avoid and/or deal with any possible parts delays thereby allowing them to produce within the stipulated timeline to accelerate time to market

Asset management: Each time a problem related to the company's molds occurred during the production process, the automaker was informed in real time through alerts helping the company know whether to refurbish or acquire new molds. This gave the automaker the opportunity to validate and minimize its asset spending.

Communication: The improvement in communication through the unified source of data helped the automaker establish a transparent and trustful relation with its suppliers. This also led to further time saving as stakeholders could focus more of their time on valued added tasks. Also, the tendency for data corruption due to intentional or unintentional human error was mitigated.

About eMOLDiNO

eMoldino is an enterprise-level solution provider that specializes in cultivating digital transformation in the supply chain of fortune 500 partners worldwide. By utilizing cutting-edge technologies, such as AI and machine learning, eMoldino delivers data driven business intelligence to lead the industry 4.0 movement.

Our mission is to help global manufacturers rethink supply chain management, driving true corporate innovation and bring customer experience into the cycle.