

Century Metal Recycling

Optimizing Supply Chain and Operations



Century Metal Recycling (CMR) is India's largest producer of aluminum and zinc die-casting alloys with a combined annual capacity of over 218,000 MT.

CMR commenced its business in 2006 and is presently operating through seven manufacturing plants, including two joint ventures with Japanese companies, Toyota Tsusho Corporation and Nikkei MC Aluminum.

PROJECT GENESIS

CMR's business is relatively complex, relying on imported aluminum scrap from the international market but supplying local auto manufacturers. On the demand side, the company operates in a just-in-time model, whereas the supply of feedstock has very long lead times. As such, optimizing inventory levels is a challenge.

Although a new entrant in the market, CMR had grown exponentially in the past decade to become the largest producer of aluminum and zinc die casting alloys. To retain competitive and leadership advantage, it was important to review and improve the existing processes and management control systems.

ANALYSIS

Renoir conducted a 2 week analysis at the Head office where procurement and supply chain were being managed for two of their key plants in Palwal and Chennai. The key findings of the analysis were:

Procurement & Supply Chain

- The desired product mix was not systematically available to the plants, thereby creating cost variances.
- The standard lead times of suppliers by port were not accurate enough to ensure requirements were met on a timely basis.

Plants

- Operational control needed to be improved to reduce yield losses.
- Plan vs. actual KPIs were tracked but not systematically analysed.
- Analysis of variances by batch was not being formally and systematically performed in order to continuously improve.

PROJECT APPROACH

Renoir carried out a 24 week programme – named "RAFTAAR" (Rapid Action for Timely and Accurate Results) – to develop and implement: systems and processes for supply chain, purchasing and production at three sites. Three Management Action Teams (MATs) were formed; one for supply chain and procurement and one each for production at their two key manufacturing sites.

Key Results

Shipping compliance improved from 30% to 70%

Alloy Production as per plan compliance increased from 64% to 90%

Reduction in Excess melt loss by 50% over baseline

Floating Quality audit compliance has improved from 74 % to 100%

Charging sequence compliance increased from 70 % to 95%

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In order to initiate the change, Renoir conducted an preliminary 9 week Focus Process® effort to engage the entire organization and to foster understanding and ownership of the existing issues. This assured successful solution development and implementation. Various exercises (including brain storming sessions, observational studies and data studies) were conducted to determine the opportunities. These helped the organization agree and prioritize the pain points, transforming teams into a pro-active mode.

Key issues identified were:

Supply Chain

- Lack of effective communication between marketing, central procurement and production.
- Lack of inventory control systems to address shortages of raw material.
- Lack of supplier performance monitoring of and communication with suppliers, resulting in delayed shipments and arrivals and lack of delivery awareness.

Production

- Absence of short interval controls on the shop floor impacting process control, resulting in high cycle times, low metal recovery and high fuel consumption.
- Absence of daily performance review meetings at the plant level
- Lack of data capture and root cause analysis resulting in reoccurrence of similar problems.
- Front line and middle level management style was 'fire-fighting' rather than systematically identifying and solving problems to achieve its objective.

IMPLEMENTATION

CMR's employees were engaged at every stage, and support from management ensured that any resistance to change was addressed. After the solutions were tested in a real environment, extensive training was provided for the roll out. This helped staff become familiar with and readily accept new working practices.

The key solutions implemented in Supply Chain were:

- Cross functional reviews with Production, Marketing and Procurement and Logistics to improve communication and Control.
- Short interval control system to monitor shipping and logistics.
- Inventory models to control Raw material and Finished Good Inventory.
- Root Cause analysis system to systematically identify causes of deviation and formulate corrective and preventive actions.
- Performance scorecards for Suppliers and logistics service providers.
- Process simplification to Compress Planning cycles.

Solutions implemented at the plants included:

- Short interval control systems to monitor and control productivity, Quality and Process compliance in Cold and Hot Refining.
- Root Cause analysis system to systematically identify causes of deviation and formulate corrective and preventive actions.
- Daily performance review system to improve to accountability.

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SUSTAINING CHANGE

Sustainability was achieved in two ways. Firstly, an Operations Excellence team was set up to continue this initiative in the future, members of which were involved full time as 'Taskforce' on the project and had worked with the consultants to drive this initiative. They were thus already trained in change management.

The second way was to create a robust systematic auditing process. Audits tracked compliance, usage and understanding of the organization in the process / systems. This ensured sustainability of the key activities that supported the improved performance.

RESULTS

In addition to the key results, there is now an overall improvement in engagement of employees in proactively managing performance. They are also able to identify critical leading indicators for controlling the process and use the structured performance and daily work management systems in order to achievement further improvements in the future.

THE RENOIR GROUP

Renoir Consulting is a world leader in sustainable, implemented change. Founded in 1994, Renoir has offices located in North and South America, UK, Europe, Turkey, Middle East, Southern Africa, India, Pakistan, China, South East Asia and Australasia. With over 350 fully employed and highly trained consultants, their work across a wide range of industry sectors gives them a broader perspective of the issues facing your business, allowing them to be sensitive to your unique challenges, culture and specific business issues. This cross-pollination ensures truly effective, rapid and sustainable solutions.

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