Crafting Operational Excellence in Foundry Industry
With hyper competitive market environment the competition is getting intense. Increasingly organizations from all sectors and all sizes are looking at World Class Manufacturing (WCM)/ LEAN to eliminate waste across their value chain which ultimately helps them drive costs down and deliver quality goods and services to customers. This white paper is an attempt to capture the applicability and importance of WCM/LEAN to the foundries.

India and several other developing countries have become hot destination for manufacturing of castings as it offers good combination of technology and competitive prices. However, unless good manufacturing systems are implemented the potential to supply to the global market cannot be tapped. So foundries typically suffer from poor housekeeping due to flying dust, resulting in unsafe working condition which impacts equipment and quality. Often the production flow is poor and quality challenges are abundant resulting in high rework.

• Are rising raw material costs impacting your profits?
• How can better quality cost less?
• How does personal satisfaction on the job impact productivity and quality?
• How can we avoid repeating the same mistakes?
• Is high percentage of leadership time spent on expediting, fire fighting or working around problems?

If you are pondering over above mentioned questions; it is time to consider ‘World Class way of thinking’. In order to impact the bigger picture, one has to start with smaller steps.

WCM is a toolset, a management system, and a philosophy that can change the way foundries are organized and managed. It is a methodology that allows foundries to improve the quality by reducing defects and waiting times. WCM is an approach that can support employees, eliminating roadblocks and allowing them to focus on providing world class quality. WCM is a system for strengthening organizations for the long term – reducing costs and risks while also facilitating growth and expansion. WCM helps break down barriers between disconnected departmental 'silos', allowing different departments to better work together for the benefit of the stakeholders.
Typical actions:

1. Current state analysis and setting goals for future state.
2. Launch of 5S/ Systematic housekeeping on war footing basis.
3. Improving manufacturing flow from core making through moulding, pouring, fettling and dispatch flow reduces WIP by elimination of obstruction to manufacturing throughput.
4. Manufacturing flow may require layout changes.
5. Good flow has to be supported with quick change over and low break downs.
6. There is also potential for various focused improvement projects relating to casting defects, core making process, reducing short blasting, fettling time, reduction of wastage of sand, chemicals, etc.

Classic Benefits of Implementing WCM:

- **Better quality at lower costs**
  WCM approach attacks MUDA (process inefficiencies) to reduce costs, by improving flow and quality.

- **Improved quality of delivery and safety**
  Fewer mistakes, accidents and errors resulting in better work culture.

- **Improved delivery and/or throughput**
  Improved FLOW of material and information – in time, in full, error free!

- **Accelerating momentum**
  Creating a stable working environment with a clear vision, standardized procedures that create the foundation for continuous improvement to attain world class performance.

- **Improvements in store**
  Ensuring optimum level of stocks, better warehouse layout and processes to give dramatic results in inventory management.

Conclusion:

WCM has a tremendous scope in foundry environment.

- The first visible change is to create a dust/dirt free work environment.
- It has been observed with sustained application of WCM, the cost of production/conversion can be reduced by ~30%.
- This directly adds to the bottom-line while simultaneously customers receive on time delivery & high quality products.