

BASED ON THE WILL TO FURTHER IMPROVE THE EFFICIENCY OF ITS PRODUCTION DEPARTMENT, MANDELLI SISTEMI IS INTRODUCING A NUMBER OF NOVELTIES CONNECTED TO THE ORDER MANAGEMENT THAT ARE IN LINE WITH THE LEAN MANUFACTURING PHILOSOPHY ADOPTED BY THE COMPANY SINCE 2011.



[LEAN MANUFACTURING]

by Davide Davò

A never ending motivation

A constant analysis of the production processes with the aim of making them more efficient is an activity that no company in the mechanical machining industry can back out of or else there is the risk of losing competitiveness which requires an important effort to be recovered especially considering the dynamism of modern markets. The adoption of a strategy that aims at a continuous improvement is therefore an indispensable requirement for successfully meeting the challenges of the various industrial sectors but it may not be enough to reach excellence. More than ever it is important to understand how much you are improving so that you do not rest on your achievements and continue year after year with the same innovative boost. Mandelli Sistemi is well aware of the need to never settle for the achievements and it has recently decided to adopt new tools to further improve process control so as not to lose the competitive advantages achieved so far by the introduction of concepts related to Lean Manufacturing in 2011.

Change of mindset

«To Mandelli Sistemi the Lean Manufacturing philosophy means being able to understand business processes in their different aspects to adopt solutions that will allow for more competitiveness. The reduction in the waste of resources and in the order process timing to increase the value of the final product, says Riccardo Daverio, Project Manager and Lean Master at Mandelli Sistemi, is our goal as much as making the communication between the company's departments faster and more



Riccardo Daverio, Project Manager and Lean Master at Mandelli Sistemi

effective, giving greater responsibility and voice to those who more closely follow the design, purchasing and assembly phases of the machine. A strategy that well suits our business organized by contract and not on large numbers. It is a considerable mindset change which has had an important evolution since 2014 when the new CEO, Mr. Saverio Gellini, introduced the need for continuous evolutionary steps both in production and office areas. A situation that slightly differs from the classic concept of Lean Manufacturing which is mainly active in production areas». The tools we have introduced over the years have been included in the business processes that cover all the different areas of our company, from the sales through the technical, project management, logistics and service departments to the production.



The meetings represent an important moment for the exchange of info

Mandelli Sistemi's radical change of mentality began in 2014 when the company realized that the order entire process had to be improved by 360 degrees to respond proactively to the high standards required by global markets. Therefore we have decided to avail of the collaboration of a consulting company named "Arvenys" to analyze in detail the various production aspects and understand where and how to intervene. Thus an ad hoc team has also been created directly reporting to the CEO which includes Mr. Daverio and Mr. Carlo Astorri, Project Manager and ISO9001 Master. Thanks to this interaction it is now possible to carry out all the improvements the whole company is called to.

More efficient communication

«In the first two years 2014 - 2015 we

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have included many new things such as the Kaizen events for the continuous improvement of the production process - continues Daverio. The duration of these events is studied according to the type of process we want to analyze and improve and involve people with different skills working in different business areas. These events are one of the cornerstones of our philosophy of which we have already witnessed the benefits and therefore we will go on organizing them in the future as well».

Another key part of the Lean Manufacturing approach are the Key Performance Indicators (KPIs) based on the concept that nobody can improve what has not been quantified. In fact, KPIs can monitor commercial, technical, logistic, production, service and installation activities. Periodic meetings are held monthly during which the evolution of the KPI values is assessed in reference to both the values of the month and to the trends of the current year so as to decide how to intervene if critical issues



Left: one of the infopoint boards in the workshop

Right: the evolution of the company KPI values is assessed during every meeting



are identified.

«By the end of 2015 the 5S methodology was introduced systematically, adopted both in the offices and intensively also in the productive department - added Daverio. As always, it was gradual, through more steps. We use infopoint visual boards on which results are displayed, they can be either general, therefore collecting all the

criticalities of the various assembly sites, or specific for each job. We organize weekly audits in our production areas covering both the warehouse and assembly areas. The results emerging from these assessments are then shared with the team responsible for making decisions aimed at making improvements in the various HMC assembly and warehouse areas. All these activities allow different professional figures to interface one another, understand what does not work and take actions by fixing a date within which the criticality must be solved».

There are therefore many changes that have been made over the years and introduced gradually with the specific aim of maintaining the quality of the machines while, at the same time, ensuring compliance with deadlines, minimizing waste of resources in terms of time and costs but committing to work better by solving the critical issues arising along the road.

New board

«The tools adopted so far have significantly improved the process control and accelerated problem solving so we will continue using them in the future says Daverio. In recent times however, we have realized that while we were able to better control our processes we ended up being satisfied with the good results obtained so that that push to improve, though still

MINIGLOSSARY

5S: the term 5S comes from the initials of the western translation of the five Japanese words that synthesize the optimization of work standards to improve the operational performance. In detail the 5Ss are: Seiri (separate what is needed from what is not functional to the business), Seiton (rearrange, put all that's useful in place), Seiso (clean because a clean and orderly environment is an environment that "does not hide" inefficiencies), Seiketsu (standardize activities to streamline them) and Shitsuke (spread the lean approach throughout the company).

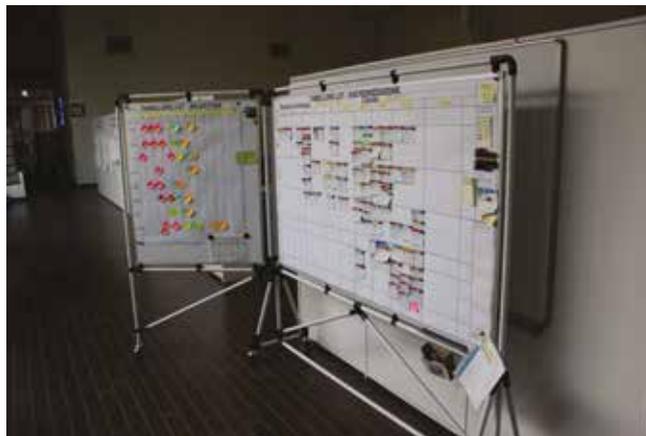
Kaizen: It is the union of two Japanese terms and it means "change for the best, continuous improvement". It is used to indicate the practice for the constant improvement of manufacturing, engineering and management processes according to a bottom-up logic.

KPI: is the acronym for Key Performance Indicator and is an index that monitors the progress of a business process. Performance indicators must therefore be quantifiable and measurable so that they can accurately analyze the progress made towards achieving their goals.

present, to some extent was slightly lower than in the past. So Mr. Carlo Astorri and I decided to carry out an internal analysis to understand how to recover that spur that had characterized us in the previous years. From this analysis it emerged that, although the Lean Manufacturing had become our philosophy, the various areas / departments of the company were still thinking and moving as independent elements rather than as a totally cohesive system in which all work in unison. So we decided to make a further evolutionary step by introducing the concept of Activity Synchronization».

The synchronization process started by Mandelli is based on two elements: the use of a new "LST" Lean Syncro Table billboard which is a continuous and periodic multi-week progress of the job and a higher responsibility attributed to some professional figures strictly related to the job to be made. «We are gradually introducing the use of a new visual board that collects all the information related to a specific job and that in the past was distributed over

The synchro board shows all the jobs related to an order in a single glance



multiple boards, explains Daverio. This is a very useful tool as it allows us to understand at a glance the current state of all the tasks related to the job. The board has a "variable" time unit window divided by the various work areas, i.e. mechanical division, electrical division, logistics, assembly, testing and technology. A list of labels containing the information related to each activity is added to the board. The really important aspect is that the management of these labels is entrusted directly to the people who carry out the related activities».

A strategy aimed at simplifying the exchange of information giving greater voice to the staff appointed to a specific task. For example, those who work in the assembly site control the situation of the job and thus report more quickly and precisely the presence of certain criticalities clearly indicating the impact they will have on the progress of the order and requesting the solution within a specific date.

Greater awareness

In addition to the billboard, the other major innovation is related to the establishment of very short morning meetings - nearly 5 minute - which take place within the various assembly sites where the various departments managers do not take part, as it happened in the past, but rather the figures working directly on the machine.

At these meetings there are the Mechanical

Project Engineer (MPE), the mechanical contractor of the order, the Electrical Project Engineer (EPE) who deals with the electrical part of the machine, the PCO (Procurement Coordinator) logistics and contacts with the suppliers, the MF (Machine Foreman) which is indicated for each machine being assembled, and finally the PM (Project Manager) who is the general coordinator of the job. «Despite these new tools have been introduced only recently and we are still taking our steps forward, we are already witnessing a number of positive changes - concludes Daverio. Everyone begins to understand the importance of the visual board and the benefits that its proper use implies. The same applies to the meetings where criticalities emerge with greater speed and clarity and are then solved easily and quickly. It is a long-term project we believe in very much and we are very motivated to continue with determination and commitment thanks to the excellent response received by all those who have already been directly involved».



The 5S method was systematically introduced at the end of 2015