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HAMMERING AWAY AT LEAN

Analysing how tools can support
a successful implementation

Organisations featured in this edition include:

Beth Israel Deaconess Medical Center, Rane (Madras) Limited, Harley-Davidson, TaeguTec, Cognizant, TriHealth Heart Institute, Wabco, SCGM

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Tick-Takt: tools in time: University of Buckingham's *John Bicheno* looks at the evolution of lean tools

Sign language: A smart visual management solution represents an invaluable resource for an organisation. *Alice Lee* gives us an example drawing from her experience in a Boston hospital

Lean by nature: *John Shook* speaks with Roberto Priolo about the past and future of lean thinking, and shares his view on coaching

First impressions: In a new quarterly section, the journal looks back at the lessons we can learn from W. Edwards Deming. This month, *Bill Bellows* discusses the System of Profound Knowledge

On the road (to lean): *Dantar Oosterwal* explains why and how Harley-Davidson changed its product development function without a burning platform



Sandra Cadjenovic, chief executive of SCGM, gives LMJ an update of the company's lean journey by looking at each of the seven wastes.



The seven capital wastes

Before lean was introduced SCGM simply went with the flow. We thought that it was normal to have some scrap produced along the way, to have stocks in the warehouse (you know, “just in case”) and machines breaking down. Money was disappearing right before our eyes without us knowing.

Understanding what waste is and finding ways to eliminate it is what we see now as the most effective way to increase the profitability of our business. The OEE matrix introduced in the injection molding department, first on the three pilot machines (later expanding to all seven), made us conscious of the problems occurring during the process we had not been able to see.

We started turning them into opportunities to improve and, over the course of a year, we ramped up machines efficiency from 60% to more than 80% on average.

We started saving money. It felt good to see losses being converted into euros every month. And the best thing was that we were aware of it now.

The next thing we had to figure out was a wise way to spend the money. It was natural to invest into the fuel that keeps SCGM going - its people. But then, what is the best way to reward them? Prizes, presents or money?

Our consultant told us: “The best reward would be to re-invest the money into training, which would help both the company and its people.”

That’s what we did. Last year we used the money to buy a new CNC machine for our tool shop. This year, during one of our monthly meetings we realised that SMED was our second biggest waste and decided to help people to learn how to change dies the lean way, and a little help... a Fast Clamping Tool System

for Quick Change of Die. For the pilot machine we took HM 40/130/S where we have tried it. SMED has decreased significantly from 90 to 30 minutes.

We have learned to distinguish processes that add value from those that don’t, in the production of our goods; and we have also learned how to identify the seven wastes in our own company.



1. OVERPRODUCTION.

We used to overproduce, in case customers wanted more; in case there was scrap. God forbid there are some unforeseen circumstances! We needed to be ready and have more.

We were just-in-case people out of fear of what might happen, and it cost us a lot. Then lean came and it taught us how to be proactive rather than reactive.

We have introduced tighter controls and established better communication with our customers - luckily, some of the key ones work in line with the SCGM way) - to better forecast and reduce variance and overproduction. We have started to really listen to customers, striving to produce only what they demand.

2. EXCESSIVE INVENTORY

Of a total of 125 kinds of raw materials (18 tonnes = €62k) that are currently in stock:

- 3 tonnes are inactive (16.67% of the total amount of material in the warehouse), with a total value of €13k. These include samples for testing or alternative materials (6.11% = €5,600) and material that cannot be further used in the production (10% = € 7,400)
- 15 tonnes are active (83.33% of the total amount of material in the warehouse), for a total value of €49,000

This way we create expenses that become obsolete during time; have the material sitting in the warehouse just occupying space; create risk of damages; make it hard for people to maintain material accuracy.

Looking at the figures and our warehouse, we understand that inventory and the capital locked in it are waste. The zero inventory goal may seem impossible to achieve but it is our objective and we will strive to get there.

3. WAITING

Many actions have been taken to balance processes and to eliminate this waste: first of all, avoiding to have material out of stock by better forecasting and planning in our purchasing department; secondly, OME introduced in the assembly department, establishing takt time and tracking losses in the department with aim to decrease them; finally, upgrading our ERP system and making it available to all people in the office, decreasing the information flow time.

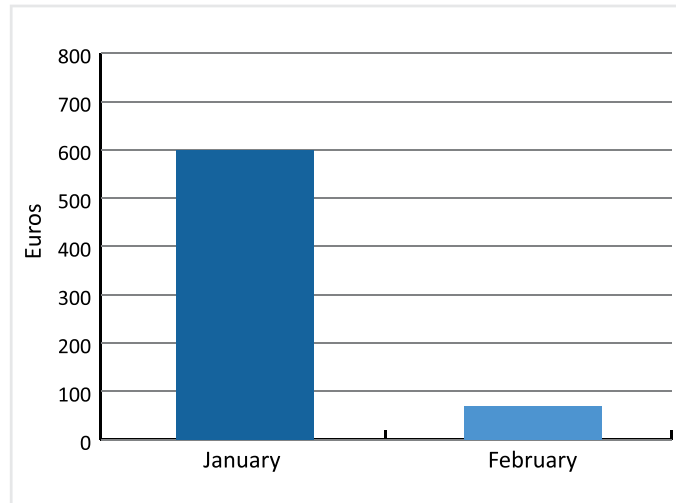


Figure 1: Defect costs in January and February

4. TRANSPORTING

Unfortunately, most of our suppliers are distributing goods to us from foreign countries. Our plan is to develop a reliable network of domestic suppliers and distributors to cut our transportation costs.

Inside the facility, inventory and waiting cause excessive movement and handling. By reducing lead times, we will reduce inventory held and, as a result, transportation from and to the storage facility.

5. INAPPROPRIATE PROCESSING

We had the false belief that all the processes are worthy. Only when our consultant helped us to see did we realise that not all of them add value to the customer. Many are complicated or unnecessary. We are currently trying to decrease the number of steps. These days we are completing an update of our value stream map.

6. EXCESS MOTION

Through 5S and lean safety techniques, we have decreased unnecessary walking, reaching, stretching of people, making the tools easier for them to get. However, we are still analysing ways to optimise pick-up routing and have excessive motion redesigned for improvement. We are doing that with plant personnel involved.

7. DEFECTS

Thanks to the lean quality control of our processes, we have been tracking the number of defects, scraps and claims very closely. Our QA matrix helped us to decrease total manufacturing loss by a significant percentage.

By applying corrective measures in January, we have decreased losses from almost €600 to €70.

We have a long way to go still, but it is clear to me that we are gradually going from being a just-in-case company to a just-in-time one.