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I joined Chrysler 16 months ago during a critical time of rebuilding, not too long after the new Chrysler Group LLC had been formed, in a global industrial alliance with Fiat. Recall that at that time, many observers still doubted Chrysler's ability to survive.

Chrysler's manufacturing organization was given responsibility to play a crucial part in the five-year turnaround plan that was unveiled in November 2009.

In fact, in 2010, we helped launch 16 all-new or substantially revised vehicles, along with two new engines.

These launches have been part of a very positive story line for Chrysler recently, to the surprise of some of the people who had questioned our staying power.

In a recent article, Newsweek called it "The Chrysler Miracle."

But it's not really a miracle. Just a lot of hard work by a group of people who have embraced change, who deliver on their commitments, and who are united by a passion to revive a great company.

Our very ambitious program of product development has helped change the perception of Chrysler, with observers noting the improved powertrains, world-class interiors and overall attention to detail and quality.

Forbes magazine wrote about our new products with a story headlined, "Against the Odds, Chrysler Goes From Third World to World Class."

But World Class doesn't just mean in products. World Class is our goal in all aspects of the business, including our manufacturing processes.

As partners, Chrysler and Fiat complement each other and we are learning to share best practices. This is notably exemplified
by World Class Manufacturing, or WCM.

This system was a key part of the successful turnaround strategy at Fiat.

In 2004, Fiat was in a situation similar to that of Chrysler in 2009. The consensus of experts was that the company was headed to its demise. It was true. I was with Fiat at that time. I witnessed the situation first-hand.

Fiat was desperately trying many different approaches to make its plants more efficient and to improve quality.

When Sergio Marchionne arrived in 2004, he demanded a strategy with a methodology that would enable us to benchmark Fiat's entire manufacturing operations against the best companies in the industry.

We started studying the principles of World Class Manufacturing in Japan, and once Mr. Marchionne said, "That's it, I want it," it became our priority.

Now, we couldn't just go to a Japanese bookstore and buy the plan. The path to adopting WCM involved benchmarking other manufacturing operations, some in Europe but mostly in Japan.

We also became associated with some Japanese consultants who have acted as gurus in our efforts to improve our manufacturing processes.

We began by going to our plants, asking extraordinarily detailed questions, providing a new framework for thinking about conditions, and challenging the plants to develop solutions. Later we would return and check proposals.

The remarkable result is that the methodology is, in this way, developed by the people in the plants themselves based on the real needs of the line, in accordance with the principles of WCM.

Once a plant has a good application, it shares it with other plants. This exchange of know-how is used to build the foundation for training and best practices.

So, what is World Class Manufacturing?

WCM is focused on making continuous improvements in a systematic and organized way by involving everyone, at every level, in order to get the maximum benefits with minimal costs.

It's a 360-degree system and applies to all aspects of plant organization.

WCM sets out a rigorous process to follow that's consistent with the needs of the shop floor. The system is supported by 10 technical pillars, each with a seven-step process, along with 10 managerial pillars.

Specifically, the 10 technical pillars are:

- Safety
- Cost Deployment
- Focused Improvement
- Autonomous Activities
- Professional Maintenance
- Quality
- Logistics
- Early Equipment-Product Management
- People Development
- Environment

I personally experienced many previous Fiat initiatives for quality, for safety, for the environment and for saving money. Those were all campaigns: there was no way to realize sustainable improvements with those partial approaches. With WCM, our approach to everything is consistent and all areas are related to each other. This IS the difference.

The system is not "copy" and "paste." WCM requires that you follow, for every pillar, 7 extremely, well-detailed steps. You can see here an example from the Safety pillar.

Throughout the process of these steps, we recognize an evolution in how we approach problems:

- (initially) Reactive. After an event has taken place, countermeasures are taken.
- (then) Preventive. Learning from the past, countermeasures are implemented to avoid a repeat.
- (finally) Proactive. Countermeasures are taken on theoretical risk analysis.

You can't just copy an application that's more advanced and think you'll catch up. The way you increase your know-how is through following the steps and understanding why a solution fits.

If you shortcut the process, you may implement a solution that seems to be working, but for sure, you'll miss the opportunity to make further improvements and increase your know-how.

To better understand WCM, it helps to know some of its key principles.

A. The importance of having a perspective view. In WCM, we utilize six different matrices, allowing a global view of the details. This view enables us to establish a priority list of problems to attack that's clearly defined and visible to everyone.

For example, here is a cost deployment chart from one of our plants. You can see the biggest losses in the plant come from non-value-added activities.

Once you're focused on non-value-added activities, you break it down further and look at every work station, examining factors such as movement and ergonomic conditions in order to determine where you can make the biggest improvements.

B. Visualization. In a World Class plant, it's possible to visually highlight any abnormality in a way that anyone can recognize a problem. Thus, ideally, everything, including machinery and labor, should clearly be seen at eye level.

C. Problem Solving Methods and Tools. In Fiat and Chrysler, we have been able to develop, up to now, 210 different problem-solving methods and tools. Our 360-degree approach helps us to recognize the problem and choose the right tool.

In this photo on the left, you can see that poor ergonomics is likely to cause fatigue or muscle strain for the operator. Once we improve the ergonomics – as you can see in the photo on the right – we get the additional benefits of improved quality and reduced losses.

In this example, you can also see that the door-line operator gets all of her parts from the bins that travel between the doors. There is no waste of time and energy in retrieving parts.

D. Zero is the target. Traditionally, people tend to look for the optimum conditions under certain assumptions, believing that those assumptions cannot be changed. One unique feature of WCM is the zero optimum concept that looks for changes of assumptions to achieve zero optimum conditions, such as zero breakdowns.

E. Countermeasures against Root Causes, not against symptoms. In WCM, enormous attention is given to the accuracy of the defined "Root Cause". The emphasis on this phase is never enough, given our human tendency to attempt to find a solution quickly and directly.

F. Detail oriented. By going into details, we can systematically crack complicated problems.

G. Cost consciousness. One of the major drawbacks of systems like TPM, TQC, JIT and TIE is the lack of direct relationship between activities and its cost reduction benefits. In WCM, the link between every single project and the actual cost is extremely clear. Cost deployment is our compass in WCM, pointing us toward the priorities that need to be addressed. Production and Finance people work together to systematically address cost issues.

Customer needs are at the center of World Class Manufacturing. The customer will pay for the time that a worker is actually putting something on a vehicle. But if the operator is walking back and forth between the assembly line and a parts rack or to retrieve a tool, all that time is non-value-added, and you can't expect the customer to pay for it.

The success of WCM depends on fully engaging the entire workforce in planning, executing and problem solving. Team leaders and team members themselves are counted on to drive change.

This structured approach empowers teams to solve problems and make improvements in areas such as safety, efficiency, quality, ergonomics and logistics by rooting out all forms of waste and losses, by comparing expected standards with real conditions.

With the contribution made by people in the plants, we are able today to develop a detailed list of defined losses. On the importance of this point, let me quote Sergio Marchionne who once said to us: "Waste is unethical!"

Regular audits are part of the rigorous process. They keep us focused and create further learning.

The audit covers all of the technical and managerial pillars. The top plants achieve Bronze, then Silver, then Gold, and finally, World Class status. We have set a target for the first Chrysler plants to reach the Bronze level later this year.

During an audit, we take into account the skill level of every person in relation to the know-how he or she needs to have at a particular position. This allows us to develop a plan to improve skills going forward.

This is part of our investment in people, so that they can use their knowledge, their experience and their creativity to drive improvements.

"People Are Our Most Important Asset." You've heard that before, I'll bet.

For many companies, it's a standard part of what they claim in their presentation about themselves.

But what does it really mean, unless you are giving people a genuine chance to participate? That's what WCM does.

In this incredibly fascinating story, as we journey from hell towards excellence, the protagonists are our executives, our managers, and our workers who are not just increasing their technical competencies and making our processes eventually competitive. They are also contributing to the development of the methodology itself.

The importance we give to our people and the way we succeed in modifying their thinking from Reactive to Preventive, and then to Proactive, constitute the real advantage versus our competitors. This is the most important change in WCM.

Regarding skilled trades, for example, the classic approach is that we need them because machines will have breakdowns – this is totally reactive! Also, we calculate how many skilled trades we need to hire in this same way.

The WCM point of view is totally different: we have skilled trades because we want to use their experience and know-how to proactively improve a facility's performance. This means that the electrician, for instance, has to accept that some easier activities can be done by the people on the shop floor. At the same time, the electrician can devote more time to really managing the line.

That's a BIG CHANGE – and change is not easy for people. Now our workers are not just organizing their days differently, but also the approach to their jobs and their reasons for coming into the plant.

I recently was in our Windsor Assembly Plant in Ontario, where the shop floor team showed me a big modification to the door line. This was the fourth time that they improved the line in a few months! This idea that teams on the shop floor can revolutionize the line, adapting it to their needs and improving productivity, safety and quality, is another HUGE CHANGE.

This new way to work also involves our engineers in the plants. They have abandoned their former routines and their performance is now measured by the savings they generate by solving problems. Another BIG CHANGE.

But all this can work only if management clearly understands the importance of having extremely COMPETENT people on the teams. So, the training plan has been completely revised, and the education priorities are based on the six main matrices. Planning starts with prioritizing issues and understanding the level of workers' know-how in order to determine how to attack the problems.

With Fiat and Chrysler operating as a global alliance, it's important to be sensitive to cultural differences.

Why?

The principles of WCM are the same everywhere, but how you appeal to people is different. You need to understand why people go to the plant every day, and it's not just for the wages.

Let me explain. When we launched a new vehicle at Tofas, in Turkey, to show our appreciation to the workers, we gave each one a flat-screen TV. They proudly called all their relatives to come and watch the new TV, and see how much the company appreciated them.

At the next product launch, the plant decided to present cash as a sign of appreciation to the employees because the economic times were tough. But many workers were unhappy – they said they could not show off money to their family and friends. So this was an important lesson for us.

My experience in Argentina, a country familiar with a boom or bust economy, is that you need to appeal to the workers' sense that they are building something important for a stable future.

In Italy, when you travel 100 miles, even the pasta is different. So are the people.

In the Mirafiori plant in Turin, it's important that you explain everything because they want to know the reason you want to do something before they buy in.

At the Pomigliano d'Arco plant near Naples, the people are accustomed to seeing something new and changing in their daily lives, so it's important that you stimulate them and constantly give them something fresh.

The Melfi plant is located in an area that has always been relatively isolated and you have to appeal to their pride.

In the U.S., employees are justifiably proud of a history of adapting to a new environment to build a new country. Now they are challenged to demonstrate leadership again under the new realities of the global economy.

The point is that the principles of WCM apply to plants all around the world, but it's important that you understand each plant's unique culture so you know how to best motivate the people who work there to make the necessary changes.

WCM is playing an important role in reviving Chrysler, just as it also helped turn around Fiat.

The number of worker suggestions at Fiat plants has grown to one million a year – or about 10 proposals per person each year, with as many as 15 per year in the best plants.

Meanwhile, absenteeism has gone down by about 14 percent, an indication that workers are more eager to come to work in an environment that encourages their participation in improving how the work is done.

From 2006 through 2009, Fiat implemented 44,000 significant improvement projects that resulted in total savings of 730 million euros. And as you can see, the rate of cost savings is accelerating.

Although Chrysler's experience with WCM is much shorter than Fiat's, we have made notable progress.

In 2010, Chrysler plant workers offered more than 230,000 suggestions – that comes to about 6.6 per person. About 10, 000 significant improvement projects were undertaken, producing $316 million dollars in annualized savings.

We made improvements on important safety measures – reducing incidents on the First Aid Index by 25 percent and decreasing lost time injuries by 40 percent, results that were achieved because workers are participating in a system that identifies unsafe conditions and acts.

Our controllable manufacturing cost savings came to 9 percent, as we beat our target of 8 percent.

On the quality front, first-time capability improved by 13.2 percent during 2010.

Third-party surveys also are confirming that we are on the right path to improving quality. For example, J.D. Power and Associates recently ranked the 2011 Chrysler Town & Country and the 2011 Dodge Challenger as tops in their segments in the Initial Quality Study.

There are still some important challenges ahead as Chrysler goes through the same WCM implementation process that Fiat went through.

It takes about a year to a year-and-a-half just to learn the methodology.

At our plants, we identify the most important areas and attack those first. As you might expect, many of our best people are involved during this period.

As you expand the system, in every plant you reach a threshold when you can no longer work with two different systems. You have to abandon the old mentality of just "firefighting," and adopt the systematic WCM approach.

The plant manager knows this threshold has been crossed when the people in the plant begin themselves to push for the WCM methods. They become the real engines of change.

Looking ahead, it's clear that WCM is fast becoming a two-way street. Fiat still provides about 20 people at any one time to help
Chrysler implement the system. But Chrysler is becoming more and more capable of giving back.

Already, many of the Chrysler plants have made contributions to our global book of standards and best practices. Individual plants want to be the first to come up with an idea that can be shared.

And next year, Chrysler will begin to send some of its specialists to Fiat, to bring our experiences to them.

This is the natural progression of World Class Manufacturing, as everyone comes to understand that the changes made today are not the last ones. WCM is a continuous process.

Thank you very much for your attention.

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