



The development of World Class Manufacturing

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The development of World Class Manufacturing

WCM was developed by Fiat and partnering firms in 2005. Hajime Yamashina, Professor Emeritus at Kyoto University in Japan, played a key role. (Note that the WCM concept of Fiat is not identical to Richard Schonberger's famous book from 1986 with the same name). From the outset, all Fiat-group companies took part in the new journey towards operational excellence. Consequently, WCM was launched in Fiat's automobile and powertrain divisions, in Maserati, in Lancia, in Alfa Romeo, and so on. The Fiat-owned companies CNH (manufacturer of Case agricultural equipment and New Holland tractors) and the truck- and engine manufacturer Iveco also use WCM as their XPS. In fact, today, companies as varied as the Royal Mail, Ariston (manufacturer of white goods), Unilever (consumer goods), Atlas Copco (industrial tools), Barilla (pasta) and 12 different transportation companies reportedly use the WCM concept.

The Chrysler Group joined the WCM when Fiat acquired majority shares in 2009 (as a consequence of the financial crisis driving Chrysler to bankruptcy). Today, Chrysler is known as *the Comeback Kid*. The incredible transformation is partly credited the WCM as a change programme. A stronghold of choosing WCM as an "off-the-shelf XPS" is that companies that join, get the benefit of a world-class benchmark from the other participating companies. Today, 166 manufacturing plants in 16 countries are active partners in the worldwide WCM Association. 30 of these are Chrysler plants, whereas 45 belong to Fiat.

The WCM system is made up of ten technical- and ten managerial pillars

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- 1) Safety (Occupational safety)
- 2) Cost Deployment (Distribution of Costs)
- 3) Focused Improvement
- 4a) Autonomous Maintenance
- 4b) Workplace Organization
- 5) Professional maintenance
- 6) Quality Control
- 7) Logistics & Customer Service
- 8) Early equipment Management
- 9) People Development
- 10) Environment (and Energy)

And the ten managerial pillars are:

- 1) Management Commitment
- 2) Clarity of Objectives
- 3) Route map to WCM
- 4) Allocation of Highly Qualified People to Model Areas
- 5) Commitment to the Organization
- 6) Competence of Organization towards Improvement
- 7) Time and Budget
- 8) Level of Detail
- 9) Level of Expansion
- 10) Motivation of Operators

Key characteristics of the World Class Manufacturing concept



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XPS. Cost Deployment is a seven-step accounting technique for assigning actual costs to each loss and waste that happens in a factory. This way, the prioritization of which loss to attack first can be made with economic reasoning. An additional advantage of Cost Deployment is that all improvement work in the organization is assigned an equivalent saving potential. This motivates further improvements and is the best argument for convincing remaining skeptics and cynics. To do proper Cost Deployment you need to team up persons from accounting, finance, and operations.

Another key characteristic of the WCM concept is that change always starts with a **model area**. The model areas are pilots for the implementation of the principles. For example, the plant typically chooses the worst performing machine as a model machine for the Autonomous Maintenance pillar. Through a dedicated project, using WCM tools and techniques, this model machine is “brought back to basic condition” and made the best performing machine in the plant. The learning points and good practices are thereafter shared with the rest of the plant. This is, however, a challenging way to implement an XPS; you risk making “islands of excellence” that do little good for the overall performance of the plant. I guess that’s where cost deployment comes in again and ensures that practices are spread.

A third interesting notion in WCM is the “**concept of zero**“. A manager in Brazil explained me: “You can’t discuss with zero; once you suggest another target, you’ll get into all kinds of unfruitful discussions”. The target of WCM is *zero waste, zero defects, zero breakdowns* and *zero inventory*. The model areas should prove *achievement of zero* for several weeks before solutions are spread.

For Chrysler, the latest WCM strategy is a strong focus on **education**. For that purpose, Chrysler has built a *World Class Manufacturing Academy* (WCMA) in Warren, Michigan. The WCMA is a state-of-the-art training center for all employees in Chrysler, making use of modern technology and the latest knowledge on practical training. Because 70 % of Chrysler’s workforce work in fair proximity to the Academy, many plants can afford to send their employees to training in Warren. The idea is that the plants should use

Cost Deployment to identify areas of improvements, and then send employees for specific training in needed tools and techniques—not just general training.

WCM is not a static never-changing improvement programme. In 2010, an **Energy** sub-pillar was introduced in the Environment pillar “to improve the ability to identify and implement measures to reduce waste and achieve greater energy efficiency”. Obviously, a production improvement programme can also contribute to the greater good!

For more on this topic and others check out Paramonos Research Labs, a cost savings & strategy consulting firm that partner with executives on solving complicated problems within their organization using the latest costs saving data collection tools and methodologies.

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