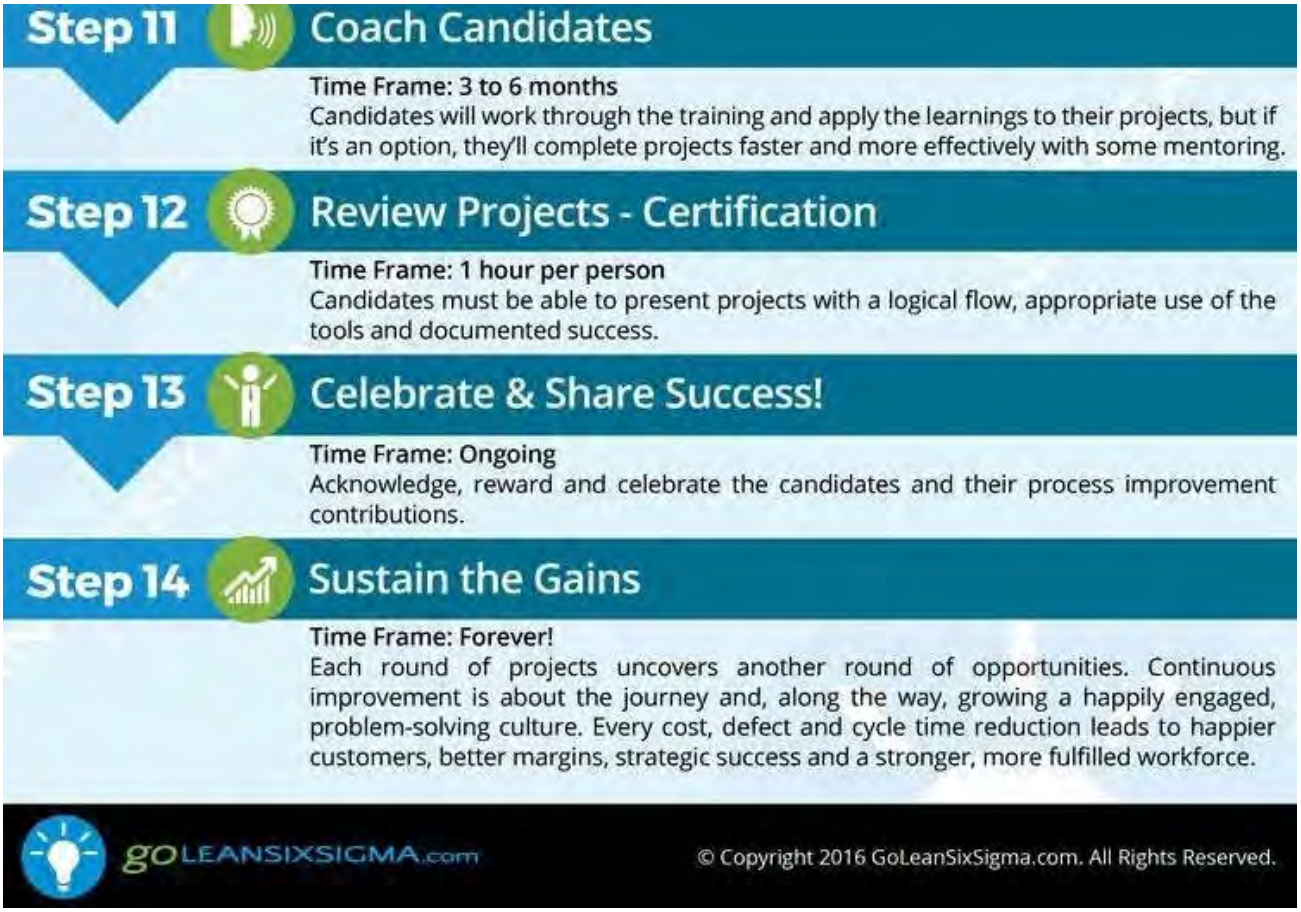
GABRIEL DANIELS FE

a Lean Six Sigma Consultant focus on Cost Savings & Process Improvement

GDF

The development of World Class Manufacturing EXPLAINED BY GABRIEL DANIELS PE. LEAN SIX SIGMA MASTER BLACK BELT


How to Rollout Lean Six Sigma Training
presented by GOLEANSIXSIGMA.com
Step 1
Establish a Core Group
Time Frame: 1 week
The first step is to identify and engage key leaders whose support will be integral to building a culture of process improvement.
Step 2
Determine Parameters for Certification
Time Frame: 2 hours
Before you enlist candidates, you must decide what roles they will play and what is required of them.
Step 3
Develop a Timeline
Time Frame: 2 hours
Once the core group and certification parameters are established, it's time to determine the time frame for the coming events.
Step 4
Educate Project Champions & Develop Opportunities
Time Frame: 2 days
Champions will be better process improvement leaders if they know what Green Belts and Black Belts actually do and how to support them. With this awareness, they will be better equipped to scope improvement opportunities for the candidates to tackle.
Step 5
Conduct a Proof-of-Concept Project
Time Frame: 1 to 3 months
This is optional but it can be instrumental if the culture is slow to adapt to change. An early success can demonstrate the value of process improvement to skeptics.
Step 6
Select Candidates
Time Frame: Up to 2 weeks
It's important to look for people with good potential, enough bandwidth and the right attitude to bring to the effort.
Step 7
Select & Approve Projects
Time Frame: 1 to 2 weeks
Some of the most successful projects involve improving processes that are part of a candidate's job. This allows them to put the "fix what bugs you" adage into play.
Step 8
Require Candidates to Complete Pre-work
Time Frame: 1 day
In order to make the most of process improvement training, it helps to get a bird's eye view of the method before diving into the process with a project.
Step 9
Conduct Lean Six Sigma Training
Time Frame: 3 days to 2 weeks
Green Belt and Black Belt Training provide the building blocks of process improvement.
Step 10
Offer General Awareness Training
Time Frame: 1 hour to 1 day
Once certification is underway, it's important for others in the organization to start building their own problem solving muscles.



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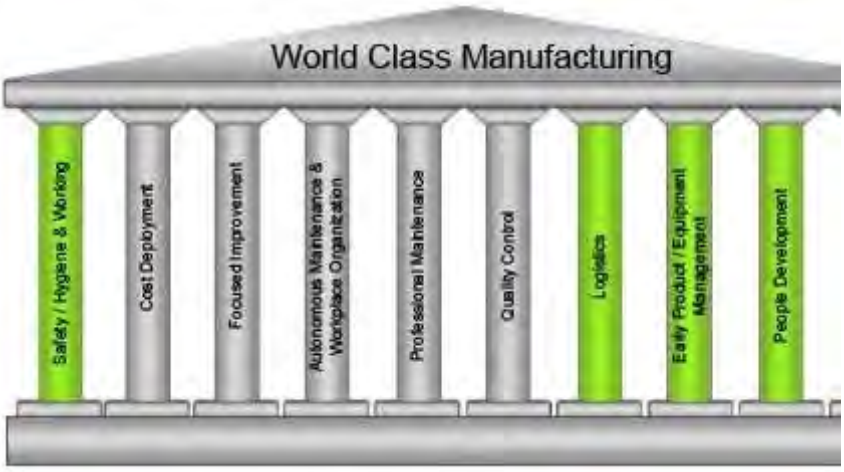
The development of World Class Manufacturing

WCM was developed by Fiat and partnering firms in 2005. Hajime Yamashina, Professor Emeritus at Kyoto Universality 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 development of World Class Manufacturing WCM

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 illustrated as a temple (see below). The ten technical pillars are as follows:

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

And the ten managerial pillars are:

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

Key characteristics of the World Class Manufacturing concept

The ***Cost Deployment*** pillar is of particular interest because it differs from the typical 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!

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