OPERATIONAL EXCELLENCE: THE HISTORY

LEAN

6 SIGMA

THEORY OF CONSTRAINTS

18th CENTURY

JB Vaquette de Gribeauval, French General, advocated standardized construction of cannons and interchangeable modules to make repairs and replacements easier on the battlefield.

1937

William Edwards Deming consolidates quality tools into the Total Quality Management system.

1937

The German aeronautics industry is implementing a production management tool, "ProduktionsKita," which is based on a production schedule: the Takt.

1962

Toyota creates "Just in Time"

TOYOTA

1975

Fujio Cho applies Lean in services.

1988

14 European companies have joined forces to found the EFQM to formalize a benchmark for operational excellence through quality approaches.

2007

This is the consecration for Toyota, which becomes the world's leading car manufacturer.

1914

Henry Ford sets up continuous flow production lines at the Highland plant to produce the Model T.

1940s

Kaoru Ishikawa creates the fishbone diagram to help Quality Circles in problem solving.

1984

Eliyahu M. Goldratt publishes the industrial novel The Goal, which presents the theory of constraints.

1986

At Motorola, two engineers developed a method to improve quality using applied statistics: Six Sigma.

MOTOROLA

TODAY

Expansion of Operational Excellence approaches in all sectors (Lean Engineering, Lean Finance, Lean Accounting, Six Sigma, etc.)

1986

Jack Welch is rolling out 6 Sigma at General Electric. Certification levels are categorized by belt color.
A very large number of trained people will enable us to achieve all levels of excellence.

12th CENTURY

The Venetians developed a standardized method of continuous flow assembly on a line to build around a hundred galleys per year.

EARLY 1940s

Toyota is deploying TWI (Training Within Industry), a learning and knowledge sharing method that takes place directly in the field.

1975

Maturity of the TPS (Toyota Production System) inspired by total quality, the principles of total quality and Kaizen (Continuous Improvement).

1988

Appearance of the term Lean in an article in Sloan Management Review published by John Krafcik (former Toyota engineer in the USA who joined MIT).

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