

## Video: The History and Origins of TPM

Total Productive Maintenance, and the story behind its creation, parallel the drive of modern societies to adjust to increasingly complex technology. In order to fully grasp this powerful Lean Methodology, it is helpful to have an understanding of its origins.

Total Productive Maintenance, or TPM, was developed primarily in Japan in the turbulent years following the Second World War. A variety of factors coincided to push forward the need for a comprehensive and proactive maintenance system.

Japan's defeat at the end of World War II devastated the country's industrial infrastructure. In order to regain a foothold in the growing world economy, Japanese industrial leaders began adopting American philosophies about quality management and quality control.

These ideas, which stressed the importance of Total Quality Management, were imported in the recovery years, when experts such as W. Edwards Deming toured and lectured in Japan.

At the same time, Japanese corporations began to turn increasingly toward highly technical, automated equipment. Although this move toward automation greatly increased the efficiency rate of production, it also brought along many unforeseen challenges.

Along with the large amounts of automated machinery came the belief that only skilled technicians could properly maintain them. This created a wedge between line operators and their equipment, and the mindset that maintenance issues were not their responsibility.

This mindset of separation, which was passed on to operators through the policies of upper management, quickly lead to losses of capacity and costly breakdowns.

The Japanese quickly realized they would never be able to reach their goals of consistent, high quality products with poorly-maintained equipment. And so,

in the early 1950s they began to focus on preventive maintenance techniques.

Preventive maintenance is the concept of daily maintenance designed to keep equipment in good operational condition and avoid failures through periodic inspections and the prevention of deterioration.

In spite of this trend, optimal conditions remained elusive. This was due to the continued division of maintenance tasks between operators and maintenance personnel.

These issues came to a head at Nippondenso, a parts supplier for Toyota, in the early 1960s. Nippondenso was one of the first companies to adopt plant-wide preventive maintenance.

However, with the introduction of more and more automation, more and more maintenance personnel were needed. Even with the addition of extra technicians, they were unable to meet their quality and equipment utilization goals.

To overcome this problem, top management proposed that line workers should perform routine maintenance on their own machines. This allowed for a reduction in maintenance personnel, and gave those who remained the time to focus on more major technical projects.

This Autonomous Maintenance, performed by the operators, combined with preventive maintenance techniques and a complete company commitment to high quality and zero losses, lead to the birth of Total Productive Maintenance.

Through the use of TPM, Nippondenso was able to achieve their goals and meet their customer's demands. As the rest of the Toyota group adopted similar policies, and combined them with other early Lean tools, they began to experience unprecedented levels of efficiency and success.

## Video: The History and Origins of TPM cont'd.

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TPM has now become an inseparable component to all Lean efforts and is practiced by many top companies all around the world. [u](#)