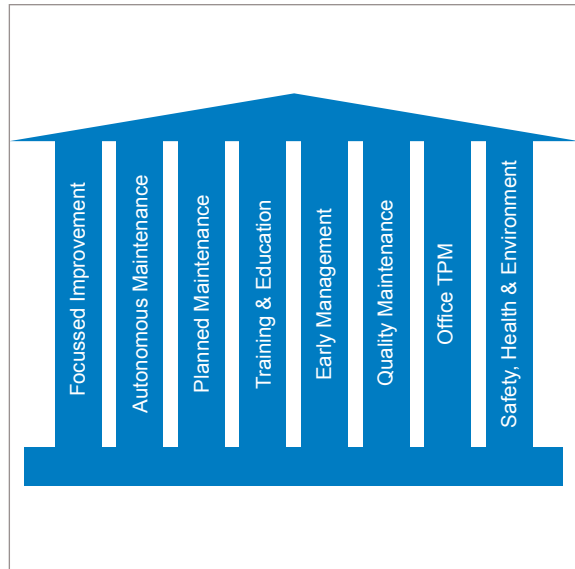


## Reducing costs through the application of Total Productive Maintenance



### Background

Philips Lighting Uden are part of Philips Electronics. The core business in Uden is the development and manufacturing of translucent ceramics (Alumina) for HID (High Intensity Discharge) lamps. HID lamps are widely used for retail, shop lighting and offices. These HID lamps have a unique combination of quality of light and lowest cost of ownership (low energy consumption). CDM lamps use only 20% of the energy, compared to Halogen lamps.

Over the last years Philips changed over the main production technology from extrusion to Ceramic Injection Moulding (CIM). With a, highly mechanized, annual CIM production capacity of 25 Million translucent ceramic components, Philips Uden is the largest translucent ceramic injection molding facility in the world.

### The Challenge

Philips (Uden) has been using Lean Improvement techniques to improve the productivity, delivery and quality of the factory for several years but they recognised the need to reduce costs even further to ensure that they remained competitive against emerging market competition.

### The Objectives

The introduction of TPM was seen as a long term solution for the company which would allow the losses within the business to be identified and eliminated. This would allow them to achieve a production cost of €0.40 for a typical 70W ceramic component, a reduction of over 60% within a 4 year period.

### The Industry Forum Solution

In 2010 Industry Forum and Philips (Uden) conducted initial management training and a pilot TPM project, focused primarily around Autonomous and Planned Maintenance on the Front and Mid End process. Following on from this a decision was taken by the Senior Leadership to use the Japan Institute of Plant Maintenance (JIPM) Total Productive Maintenance Award as a structure to drive sustainable business improvement within the organisation.

During early 2011, further TPM Pillar training was conducted with members of the leadership team, followed by a roadmap activity to help establish a TPM Pillar structure and align it to the Vision and Strategy of the Philips (Uden) factory.

This improvement structure is known as 'One Uden World Class Manufacture'. It includes the standard 8 TPM pillars that are assessed by JIPM together with 2 additional Philips Specific Pillars: Lean and Supply Chain.

Activities to support the introduction and sustainability of TPM within Philips (Uden) were conducted throughout the following 3 years. Periodic assessments against the JIPM Award criteria have shown that the Philips (Uden) team is on track to be to apply for the first level TPM Award in 2014.

Philips (Uden) already have examples of zero breakdown equipment and zero accidents, operators have ownership for their areas and OEE, delivery and quality has improved across all areas of the factory.

### The Customer's View

**Marijke Swaving, Manager Operational Excellence and Cost Eng. , Philips Lighting B.V.**

"With the implementation of TPM we have focus for our improvement process. The improvements are on all areas of the factory, and the co-operation between departments is significantly improved! IF has given us direction where to go to. In the beginning the support was explaining the concept and benefits of TPM, and later in the process IF regularly audited our progress and kept us on track."

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