

# CASE STUDY 004

V 001

10.19

## CASE:

**RCM - TPM**

## CLIENT:

**Fiat Foundry**

PSW  
GROUP

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## CASE: RCM - TPM

## CLIENT: Fiat Foundry

## Client Challenge

Tekfor is a first tier supplier to Fiat, one of the prestigious automobile manufacturing organizations in Italy. Tekfor is an ageing Italian large-scale foundry located in Turin. It is the leading supplier of forged components to Fiat consisting of Blocks, Crankshafts, Conrods etc.

The organization has not give much attention to the maintenance work. The machines were being checked and repaired only after the breakdown. But with higher demand and takt driven processes, it became necessary to adopt new concepts to survive in the market. The organization decided to adopt "Total Productive Maintenance (TPM)" for its survival.

## Solution

The challenge was develop and apply TPM Asset Stewardship to all assets at all locations in some way. For all assets that Tekfor owned it was imperative to identify the individuals accountable for the operation and maintenance of that asset.

The basic Asset Stewardship principles were developed through 2002/3 resulting in the '29 Steps' framework. These steps, when applied to any group of assets, led the operational owner and the engineering maintainer through the practical steps required to achieve a competent asset management solution.

Over the last decade, we have applied and refined this approach and it has matured into the current Asset Stewardship framework which is PAS 55 and ISO55001 compliant. This is a fully documented process approved by the management board and applied at all locations.

## Project Realisation

The six areas to focus on are data analysis, life cycle management, asset criticality, risk management, statistical failure analysis, and sustainable development. These six areas are applied in turn.

- Data analysis in its simplest form it takes the shape of descriptive statistics. By calculating the variability, management should be able to make more informed decisions.
- Life cycle management is essential to the process of asset management. We consider the complete life cycle of the asset, from acquisition, to utilisation, to maintenance, and finally to the disposal of the asset.

- Asset criticality analysis forms part of the failure mode and effect analysis (FMEA), and determines the severity of a failure. The FMEA is a qualitative analysis that is used to identify the failure modes and their causes and effects.
- Risk management assessments are done to determine the magnitude and probability of the loss. A variety of numerical methods where be used to conduct the risk assessment.
- Statistical failure analysis helps to determine the life cycle of the assets and how to manage the asset efficiently. It is important that an organisation shall establish, implement, and maintain processes and/or procedure(s) to analyse past performance, monitor current performance, and predict the future performance of the asset.
- Sustainable development is a long-term commitment by the organisation.

## Project Impact

As with all our interventions, the overall programme was designed to leave a legacy of self-sustaining improvement. Therefore as well as delivering outstanding operational performance, the programme also delivered:

- 10% reduction in capital expenditure
- 20% reduction in Maintenance costs
- 22% increase in plant availability