

**CONTROL**   
**TECHNIQUES**

# **DRIVING EFFICIENCY IN OPERATION**

**MICHELIN DUNDEE | AUTOMOTIVE**

**DRIVE OBSESSED**

# ENERGY SAVINGS OF OVER 176KW/H

**Michelin is one of Europe's leading tyre manufacturing plants with tyre factories in Ballymena (bus and truck tyres) and Dundee (car tyres), as well as a truck tyre re-treading factory in Stoke-on-Trent. Control Techniques drives are the drives of choice for Michelin plants worldwide.**

## The Challenge

**While making considerable investment into its Dundee plant to boost production and create new jobs, as part of its commitment to the environment, Michelin wanted to cut its annual energy consumption by a massive 1,500 MWh.**

In addition to supplying cooling water for production requirements, the new cooling plant at the Dundee plant also needed to supply chilled water to the air handling units to cool the factory in the summer months. In the winter, the same system needed to provide heating.

## The Solution

**Control Techniques worked closely with Michelin to install a new cooling tower for processing water.**

Key to the savings was the close speed control of fans and pumps, using AC drives from Control Techniques, which matched supply with demand and reduced the cooling plant power consumption, when idling, to about that of a domestic kettle.

The project was driven by Project Manager Mike Barklie, who identified that the existing plant was over-sized. "I measured actual cooling requirements and realised that there were further potential savings to be made by putting in variable speed drives to match the supply of cooling water to demand," he said. "It was a major investment, but we have achieved a tremendously successful result that has a return on investment of less than three years!"

## Overview

- Huge energy savings
- Close speed control
- Matching supply with demand

## The Benefit

**The new SPX Marley high-efficiency cooling tower has two 30 kW cooling fans for the dual 300m<sup>3</sup> cells and six large pumps – three 22 kW pumps for the hot water to the tower and three 90 kW 4.4 bar pumps to return the chilled water back to the factory.**

The fans in the cooling tower are designated as main and standby, the drive for the standby only starts when the demand on the main fan drive exceeds 60%. The average consumption per hour has now dropped from 242 kW to just 66 kW over all the pumps and fans associated with the water cooling system – a saving of 186 kW per hour – over 4 MWh per day.

