

**CONTROL**   
**TECHNIQUES**

# **EFFICIENT DRIVES REDUCE FUEL COSTS**

**GANTRY CRANES | CRANES & HOISTS**

**DRIVE OBSESSED**

# A RAPID RETURN ON INVESTMENT IN UNDER 3 YEARS

Felixstowe is the UK's largest container port and one of the leading container ports in the world, with a continuous quay of over 2.3 km and 27 ship-to-shore gantry cranes. The dedicated container terminal handles over 3 million TEUs (twenty-foot equivalent units) each year and over 40% of the UK's import and export trade passes through the port.

## The Challenge

Diesel generators on board Rubber Tyre Gantry cranes (RTGs) and mobile harbour cranes (MHCs) usually run at constant speed to provide the drive system and auxiliaries with a constant supply voltage regardless of whether the crane is in operation or standby, thus making them inefficient to run.

With huge energy demands, rising diesel prices and the carbon tax, the port authorities sought to increase energy efficiency to reduce fuel costs, and invest in a solution that would also bring them a rapid ROI.

## The Benefit

**The RIS.GA software, pre-loaded onto a 37 k VA Unidrive SP AC drive, is set to allow the diesel generators to run on for a minute before initiating rundown to tick-over speed.**

At tick-over, the diesel generators produce 300 volts, which is boosted by the drive with RIS.GA up to the 415 volts required for operation of the auxiliary equipment. When required, the diesel generator will run up to operational speed in 5 seconds.

Analysis of the RTG oil samples showed that periods of idling have not been a problem and savings have been substantial, varying with duty up to around 30% though generally averaging at 25%, which will give a ROI in under three years.

## Overview

- 25% reduction in fuel consumption
- ROI in under 3 years
- Maximum motor performance

## The Solution

**The port's 12 RTGs were fitted with the RIS.GA system from Control Techniques.**

The RIS.GA is a drive-based system that manages the diesel generator allowing its speed to be reduced during standby while maintaining essential power for auxiliary and safety equipment. They are rated at 40 tonnes under the spreader, have a hoist speed of 50m/min, a trolley speed of 70m/min, a gantry speed of 140 m/min and each is fitted with a 670 kVA diesel generator. The systems were supplied fully wired and assembled, and ready to connect in an IP65 protected stainless steel cubicle.

