

# Case Study

# Volkswagen South Africa

Hydraulic Applications

**integra**<sup>TM</sup>  
intelligent fixed speed motor control

[suresense.co.uk](http://suresense.co.uk)



# Case Study



## Introduction

A total of 11 units were install on a large VW Car Manufacturing plant in South Africa, on presses and Hydraulic applications. The Hydraulic applications are used to make car parts and recycle scrap metal.

A Hydraulic pack is used on a machine that stamps out clamps to connect the engine pistons to the crank shaft , the integra u nit has the timed cut off feature enabled. The normal energy saving is active but when the hydraulic pack has not been used for a period of 5 min 25 s the Integra unit simply switches the motor off. The pre monitoring of the application revealed that the machine was only being utilised for 30% of the day, the rest of the time the machine was running idle.

A compactor is used to recycle the scrap metal left over from the mechanical presses, a lot of excess metal is generated and VW have a system of conveyor belts which transport the metal to a central recycling area. This automated system is continuously running and the amount of throughput of metal to be recycled depends on the production rate at any given time.

The hopper can take anywhere from 15 - 45 min to full, the automated system monitors the weight of the hopper and when the weight gets to 250Kg, the contents is emptied into the compactor.

The hydraulic rams of the compactor then squeeze the metal into cubes and sends them to the automatic magnetic skip filler.

## Energy Saving

This type of application is perfect for the Integra unit, when the hydraulic pack is not needed the Integra will save energy but also switch the pack off when left idling for long periods.



## Analysis Details

Type of Machine:	Hydraulic Pack
Motor Size:	30kW / 90kW
Motor Energy Rating:	IE2
Operating Hours:	24/5

## Key Benefits



### Soft Start

Integra Softstarts the hydraulic packs, reducing mechanical wear and tear + reduces peak demand.



### Energy Saving

Through the Loading cycle, the Integra unit will reduce the energy consumed by the hydraulic packs.



### Auto Switch Off

When the hydraulic packs are left running waiting for more product, the Integra unit will automatically detect for this and switch the hydraulic packs off.



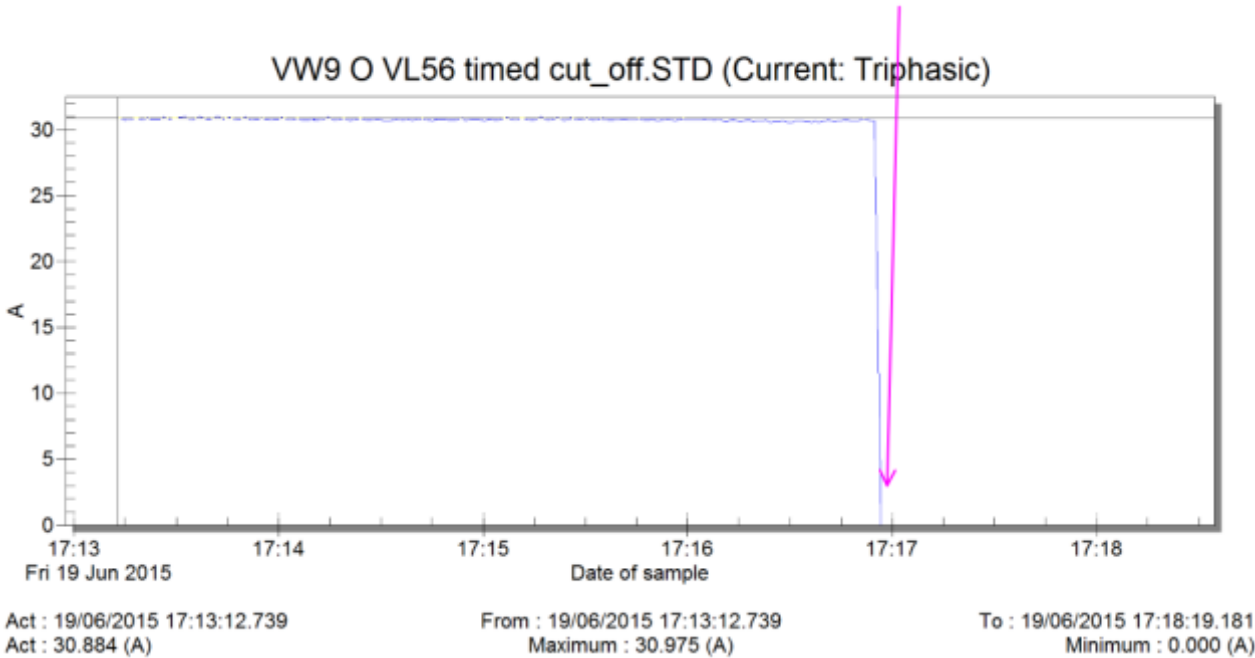
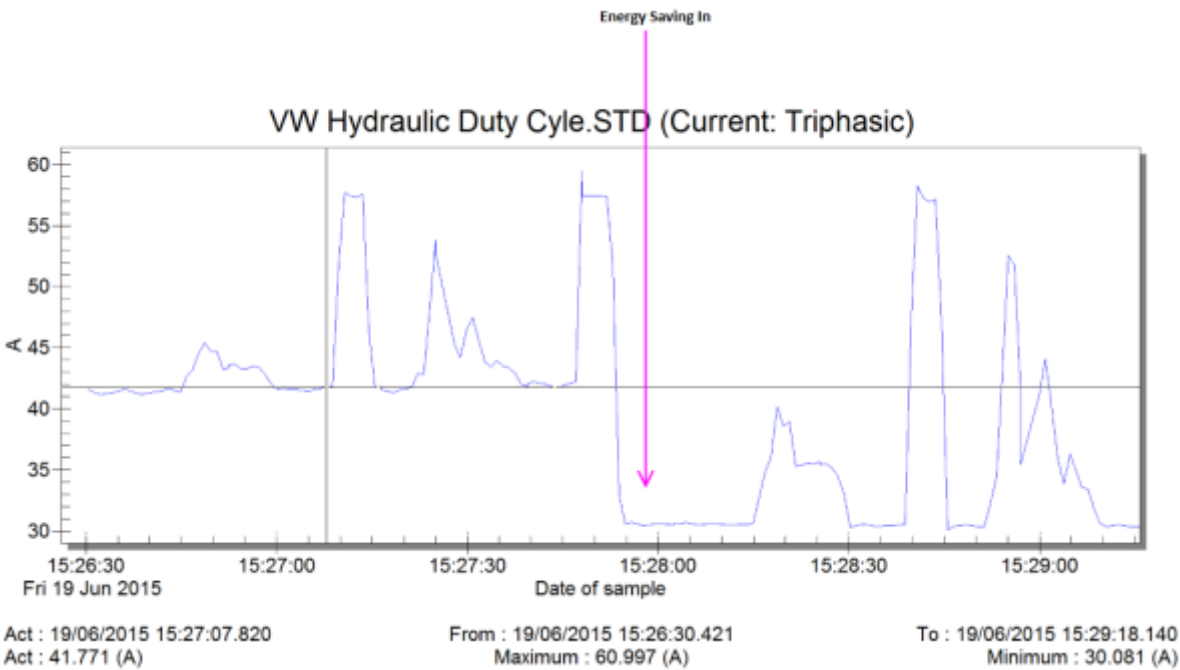
### ROI

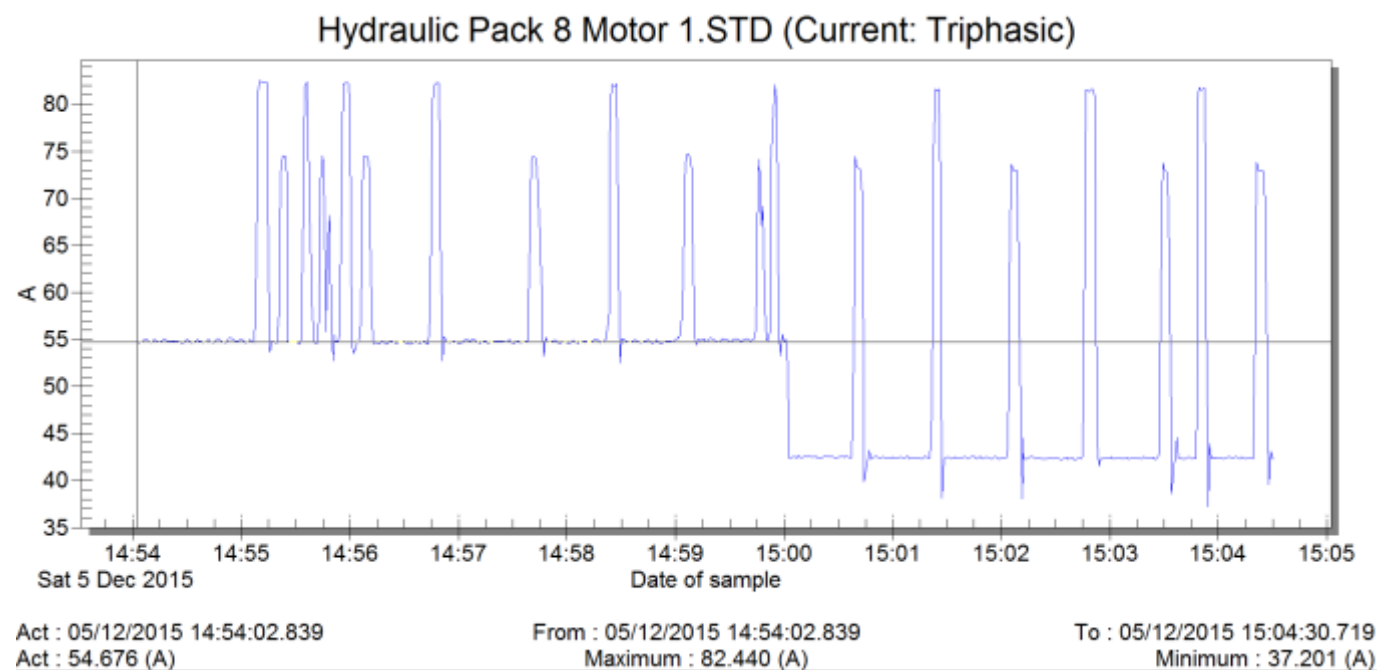
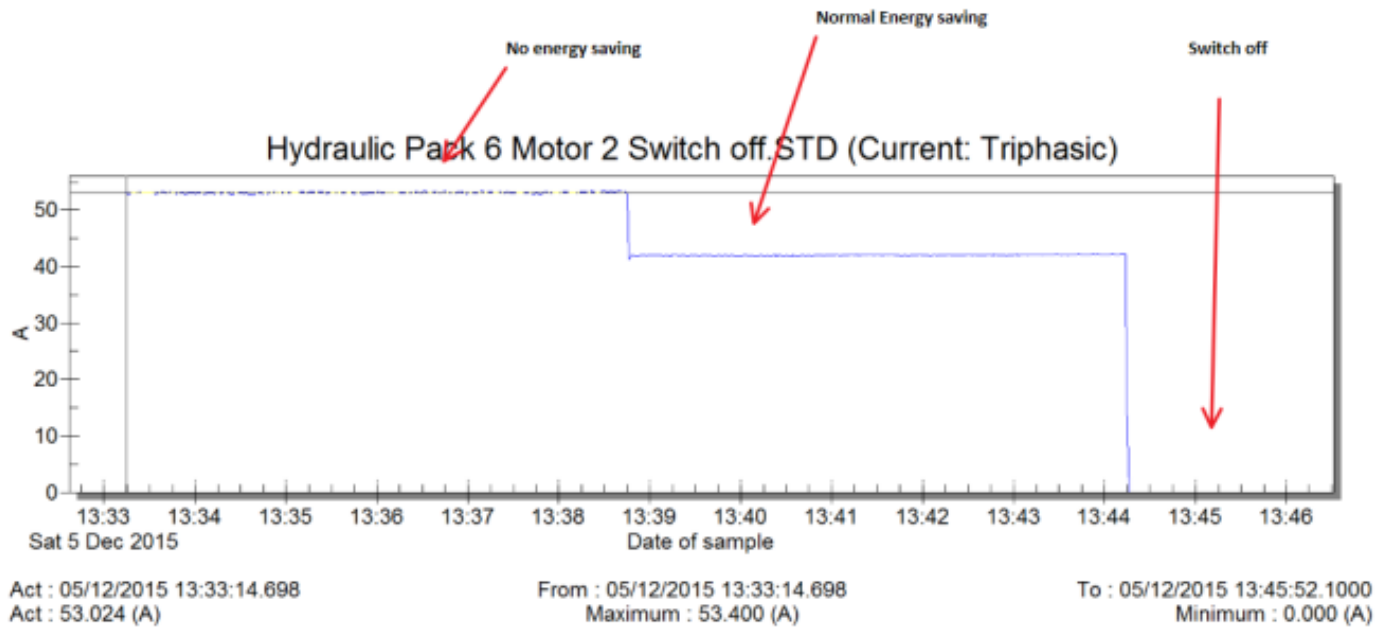
Return On Investment 6 Months.



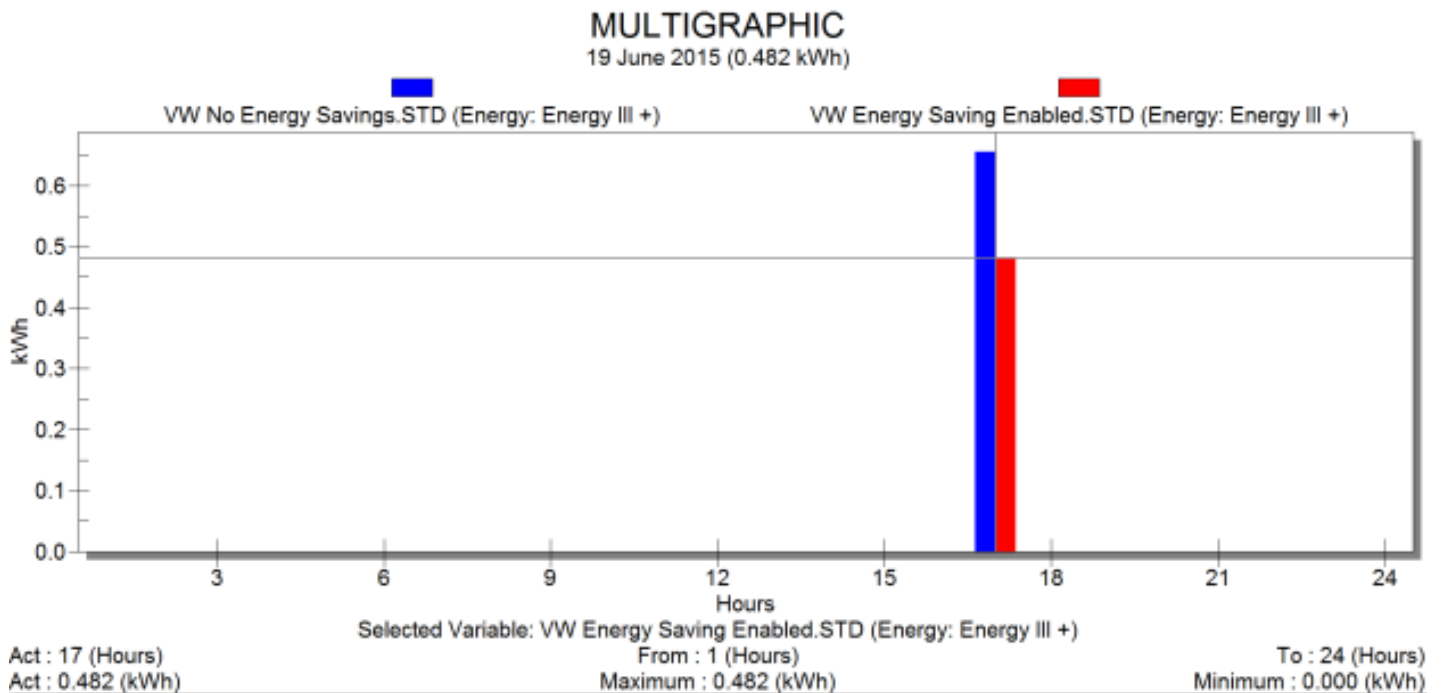
### Savings

Savings Gained.









## Total Energy Saving Effect

In both hydraulic applications the packs are fully optimised:

- The Integra Soft starts the motors reducing inrush current and peak demand.
- The Integra Saves energy through the loading cycle.
- In all cases there is a possibility of the application being idle for long periods.
- The integra will automatically switch off the applications and switch the process on again when required.
- The overall effect will also include reduced reactive component in the system.

## Benefits

Integra integrates fully with its surroundings and can even switch your motors off automatically when they are not being used, or use stored energy in certain applications (such as flywheel mechanisms) to reduce your electricity consumption even further.

