INTRODUCTION
Cutting & Wear Resistant Developments started in 1968 manufacturing hardfacing materials for the oil and gas drilling industry. They have since diversified and alongside developing its hardface technology they now also manufacture downhole tools.

THE CHALLENGE
Cutting & Wear were looking to reduce their energy consumption at their 38,000 sq ft manufacturing facility based in Sheffield.

As a company they look to minimise their effect on the environment by reducing & recycling waste, controlling emissions and preventing pollution.

THE SOLUTION
Through a site evaluation, voltage profile measurement and analysis of the sites electrical characteristics, the Powerstar team recommended replacing the current HV distribution transformer with a 800kVA Powerstar HV MAX – a super low-loss amorphous core transformer, with electronic dynamic voltage optimisation.

Replacing the current transformer with the amorphous core model significantly reduced transformer losses (both iron and copper losses), providing the site with a more efficient and cost effective transformer. The electronic-dynamic optimisation from Powerstar ensures significant savings can be made in addition to those from upgrading the transformer through optimising, cleaning and conditioning the incoming power supply.

The transformers used in the Powerstar HV MAX systems already exceed the upcoming Eco Design 2021 efficiency specifications, providing a high efficient solution which provides greater returns on investment over the transformers lifespan in comparison to conventional low-loss transformers.

KEY FIGURES
- Energy consumption savings: 9.5%
- Annual kWh saving: 107,659
- Tonnes of CO2 saved: 58.7

SIGNIFICANT SAVINGS: The installation of Powerstar provided annual consumption savings of 9.5%