

# Case Study



## Jaguar drives mixers to €1000 per day energy saving.

IMO is enabling a manufacturer of paper bleaching agents to fight back against rapidly rising energy costs. The manufacturer, Tielle S.R.L. is benefiting from savings of €1000 per day in production costs following the installation of 8 – 280kW IMO Jaguar drives to grinding mixers at its plant in North West Italy.

“This application ably demonstrates the potential for energy saving with AC drives, outside of the normal areas such as pumps, fans and compressors,” said Rob Robbins, IMO Product Manager for Drives. “The rapid rise in the price of oil is hurting manufacturers all across Europe; but with applications like this we are opening up possibilities for reducing energy costs across a wider area of a company’s operations.”

The Tielle application was piloted by Claudio Bozza, at IMO’s Italian office. He visited the company following attempts by Tielle personnel to use mechanical means to reduce some of the huge energy costs associated with the mixing application. These involved modifying the diameter and shape of the paddles in the eight large mixing vessels, which are used sequentially in the manufacture of

the bleaching agent. However, the quality of the finished product could not be guaranteed using this method, and so another solution was sought.

Each of the mixing vessels is equipped with a vertically mounted 250kW/400v/4-pole motor, which drives the grinding paddles through reduction gearboxes. IMO’s proposal was to equip these motors with energy-saving IMO Jaguar drives.

Working closely with IMO, a local system builder Delta-I installed the 8-IMO Jaguar VXM280K Variable Frequency Drives in a substation, adjacent to the mixing hall.

This involved leaving the original motor cables in place, but diverting them from the existing starter panels into the inverter modules. In addition, local and remote controls were installed for stop, start, frequency control and monitoring. Finally, each inverter was fitted with a suitable DC reactor to limit the harmonic distortion in the factory power supply.

Once installation was complete, each inverter was tuned to its respective motor and commissioned by IMO engineers. The result is that the original mixer configuration has been re-

### Jaguar Drives mixing things up

**Customer:**  
Tielle S.R.L

**The application:**  
Mixing vessels equipped with a vertically mounted 250kW/400v/4-pole motor, which drives the grinding paddles through reduction gearboxes.

**The solution:**  
IMO Jaguar Drive

**The result:**  
Tielle S.R.L. is benefiting from savings of €1000 per day in production costs following the installation of 8 – 280kW IMO Jaguar drives to grinding mixers at its plant in North West Italy.



instated, but, crucially, operating at a reduced in-verter/motor frequency of approximately 42Hz. This reduction in running speed and motor current is not causing any quality issues, but is saving Tielle in the order of €1000 per day in production costs.

### Notes on Energy Saving:

Climate change can be defined as: A regional change in temperature and weather patterns. Current scientific evidence indicates a noticeable link between climate change over the last century and the increased burning of fossil fuels.

### What is being done and is your business already being effected?

Climate Change is recognised as a global problem and nations are working across the world to reduce their greenhouse gas emissions by 5.2% by 2012. The UK's target is 34% (1990 emission levels) by 2020 and will increase to 42% if international agreement is secured.

The UK is affected by the Climate Change Levy. This came into effect on 1st April 2001 and applies to energy used in the non-domestic sector (industry, commerce and the publicsector).



### What is a Jaguar Drive?

With energy saving payback points typically varying between 12 and 18 months, the IMO Jaguar's unique FIVE year warranty makes it the only inverter in the world that actually underwrites your energy cost savings.

IMO define the Jaguar Inverter as a product with over 25 years continuous innovation putting you in total control of your motor performance, operation and output.

IMO Jaguar Inverter sizes:

- Jaguar Cub 0.37KW to 2.2KW
- Jaguar VXR 0.37KW to 7.5KW
- Jaguar VXG 0.37KW to 500KW

## Where technology and engineering excellence come together

From single products, to complete application solutions, IMO's Automation and Controls range fully meets the sensing, control and switching demands of today's factory automation and control environment. IMO Electronics is at the leading edge of electromechanical PCB component technology, providing the very latest high spec products to meet the most demanding applications.

IMO Precision Controls Limited  
1000 North Circular Road  
Staples Corner,  
London NW2 7JP  
United Kingdom

Tel: +44 (0)20 8452 6444  
Fax: +44 (0)20 8450 2274

Email: [imo@imopc.com](mailto:imo@imopc.com)  
Web: [www.imopc.com](http://www.imopc.com)

IIMO Jeambrun Automation SAS  
Centre D'Affaires Rocroy  
30, Rue de Rocroy  
94100 Saint-Maur-Des-Fosses  
France

Tel: +8000 452 6444  
Fax: +8000 452 6445

Email: [info@imopc.fr](mailto:info@imopc.fr)  
Web: [www.imopc.fr](http://www.imopc.fr)

IMO Automazione  
Viale A. Volta 127/a  
50131 Firenze,  
Italia

Tel: +39 800 783281  
Fax: +39 800 783282

Email: [info@imopc.it](mailto:info@imopc.it)  
Web: [www.imopc.it](http://www.imopc.it)

IMO Canada  
Unit 10, 1 Whitmore Road  
Woodbridge,  
Ontario L4L 8G4  
Canada

Tel: +1 905 265 9844  
Fax: +1 905 265 1749

Email: [imocanada@imopc.com](mailto:imocanada@imopc.com)  
Web: [www.imopc.com](http://www.imopc.com)