

**CONTROL**   
**TECHNIQUES**

**THE**  
**100**

**DRIVE OBSESSED**



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**AUTOMOTIVE, COMMERCIAL & MANUFACTURING, CRANES & HOISTS, ENERGY, ELEVATORS, ENTERTAINMENT & LEISURE, FANS & PUMPS, FOOD & DRINK, GLASS, MACHINE TOOL, MATERIAL HANDLING, MEDICAL, METALS, MINING, PACKAGING, PAPER, PRINTING, PROCESS, STAGE AND THEATRE, STEEL, TEST RIGS, TEXTILES, WATER, WIND, WIRE, WOOD WORKING.**



**AUTOMOTIVE**

# HOISTING, POSITIONING

## DRIVES INTEGRAL TO TRAIN LIFTING SYSTEM



### Company name

SNCF and TGV

### Country

France

### Customer profile

The Technicentre is the maintenance headquarters for the TGV Est, which links Paris to 21 cities in eastern France and 11 destinations in Germany, Luxembourg and Switzerland, and has drastically shortened journey times. Efficiency and a quick turnaround are paramount for train maintenance and to ensure that SNCF maintains its market position. Thus, the project to design a powerful train lifting system, led by Control Technique's sister company Leroy-Somer, sought an extremely reliable and accurate solution.

### Solution

Each of the 26 jacking stands located along the maintenance line is fitted with an 11 kW Unidrive drive from Control Techniques.

### Key benefits

- Extremely reliable
- Positioning accuracy
- Quick turnaround

### Customer view

"Because of the high-efficiency and reduced turnaround times of the new maintenance facility, SNCF is assured maximum availability of the 52 new train-sets, each representing state-of-the-art railway engineering capable of reaching a commercial speed of 320 kph and requiring nearly 100 fewer preventative maintenance inspections per year."

### Products used

Unidrive



**AUTOMOTIVE**

# UNIDRIVE THE DRIVE OF CHOICE FOR DAIMLERCHRYSLER FACILITY



## Company name

DaimlerChrysler

## Country

Germany

## Customer profile

The Sprinter production facility in DaimlerChrysler's Ludwigsfelde plant in Berlin, needed an update. The body shop, ventilation/extraction of the factory and the final assembly automation all needed a revamp.

## Solution

The drives are used in various functions, from the control of conveyor belts, scissor lifts, and advanced compact storage operations, to ventilation and extraction systems.

## Key benefits

- Programming versatility
- Extremely reliable
- Open & closed loop functionality

## Customer view

"We like the programming flexibility and openness of the Unidrive range, which enabled us to use a standard equipment range for all relevant applications and allowed us to use our own process expertise in the form of a standard user programme. To simplify maintenance, we have restricted ourselves to one make and one type of frequency converter for all applications over 1.1 kW, and the system was designed to eliminate long downtimes" said Mr Wagner, Technical Engineer at DaimlerChrysler.

## Products used

Unidrive

**HVAC/INDUSTRIAL,  
LIFTING,  
CONVEYING,  
HANDLING,  
PUMPS,  
AUTOMATED ASSEMBLY**



**AUTOMOTIVE,  COMMERCIAL  
& MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



## COMMERCIAL & MANUFACTURING

# LATVIAN BOILER COMPANY CUTS COSTS AND NOISE WITH COMMANDER DRIVES

### Company name

SIA GRANDEG

### Country

Latvia

### Customer profile

Latvian company SIA GRANDEG is one of Europe's leading suppliers of boilers and manufactures a range of wood pellet fuel boilers with heat outputs between 15 and 500 kW, for both domestic and commercial installations.

### Solution

Working with Control Techniques, a new control system for the screw feeders to improve performance and reduce energy and maintenance costs was developed. Commander provided smooth and accurate control of the screw-feed motors giving a steady supply of wood pellets. The Control Techniques system replaced a logic-controller, contactor and thermal relay so that as the boiler demands more fuel, the drive is accelerated up to the required speed, and ramped down as demand falls.

### Key benefits

- Lower energy & maintenance costs
- Improved performance
- Cuts operating noise
- Smooth & accurate control

### Customer view

"Because of the reduced stresses on the bearings and other components, the general reliability and lifetime costs are much reduced. What's more, because the drive has comprehensive diagnostics on its screen, most often problems can be resolved with a telephone call, eliminating the costs and resources required for a call-out. The introduction of Commander has also reduced the size of the control cabinet by some 30% and panel building costs have been lowered too."

### Products used

Commander



# CONVEYING



# **DIGITAX BOOSTS PERFORMANCE BY 30% AT ITALIAN FOOD PACKAGING PLANT**

## **Company name**

Automation One

## **Country**

Italy

## **Customer profile**

Automation One sought a solution for its customer, ENCA, to increase productivity and performance in its bespoke welding machines. Its systems are used to produce bags and packaging for fresh and frozen products, including food, medication and bodily fluids. Transporting these items requires complete thermal stability, which is achieved through the unique manufacturing processes provided by ENCA and Automation One's innovative solutions.

## **Solution**

A new machine, incorporating Digitax HD, was created which allowed better adjustment of cutting areas, and provided more precise control of film tension. Previously, the machine's stop-start motion had led to undesirable transients in the film. The new system, with Digitax at its heart, avoids this issue while also delivering a noticeable boost in performance.

## **Key benefits**

- Increased performance
- Backwards compatibility
- Reduced engineering costs

## **Customer view**

"Using Digitax enabled us to deliver a system which increases overall performance and productivity by 30%, compared to the previous system. This boost speeds up the welding machines while also guaranteeing the quality of the finished product."

## **Products used**

Digitax

**CUTTING  
POSITIONING  
WINDING**



# COMMANDER CUTS IMBALANCE AND NOISE IN WASHING MACHINES

## Company name

Fagor Industrial

## Country

Spain

## Customer profile

Fagor Industrial, one of Europe's leading manufacturers of commercial laundry equipment, has overcome the common issue of the imbalance in washing machine drums by using variable speed AC drives in its range of Evolution Technology washing machines.

## Solution

In a typical spin sequence, the drive accelerates from a washing speed of 8.5 Hz to 13 Hz for 20 seconds, while the drive's internal software assesses the level of imbalance. The imbalance detection program is on a LogicStick inserted into each drive and Fagor call it their 'auto breakdown diagnosis module'.

## Key benefits

- Reduced noise
- Extended machine life
- Simplified construction
- Easy programming

## Products used

Commander

# POSITIONING



#### **Customer view**

"We needed a simpler method for detecting an imbalance and initiating a tumbling sequence to untangle the load," explained engineer Christophe Tytgat, "and found that a Control Techniques' Commander could not only achieve this but fitted easily even into our smaller machines." "By changing to the Commander, we have significantly reduced noise and extended the effective life of the 'Evolution Technology' washing machines," said Christophe Tytgat, "as well as simplifying their construction – we now use standard squirrel cage AC motors instead of the more expensive two or three speed motors. And programming the drive couldn't be easier – the LogicStick is inserted into each drive. When the PLC asks if it is OK to proceed, the program simply says 'Yes' or 'No!'"



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# DRIVES ENSURE SAFE CLIMB TO THE TOP



## **Company name**

BP Coryton

## **Country**

England

## **Customer profile**

When Delta couldn't find a suitable climbing platform for its engineers strengthening the 94-metre refinery chimney at BP Coryton, the company decided to design its own. The result was a fast-climbing, ultra-safe modular system controlled by Control Techniques drives.

## **Solution**

The climber comprises a lower scaffolding ring and an upper boarded section both supported by manually clamped steel rings. Fifteen electrically-driven lead screw actuators are locked to the upper and lower structures. The software provides anti-skew control to ensure that when the master linear actuator's position is changed in auto-mode, all the other actuators on the system follow its position.

## **Key benefits**

- Ease of use
- Safe working environment
- Anti-skewing feature

## **Customer view**

"We realised that the success of this depended on the accuracy and reliability of the drive-actuator combination," said Nigel Matthews, Delta's Senior Engineer, who spent six months planning, designing and making the platform.

## **Products used**

Unidrive



# COAL LOADER DOWN UNDER RELIES ON CONTROL TECHNIQUES DRIVES

## **Company name**

Dalrymple Bay Coal Terminal

## **Country**

Australia

## **Customer profile**

A new shiploader at Dalrymple Bay Coal Terminal at Hay Point port in Queensland has been fitted with Unidrive. The 7,200 tonne per hour shiploader travels alongside a berthed ship on rails on a 200-metre wharf.

## **Solution**

Control Techniques Australia was awarded the contract by Clough Downer JV and designed a scheme where all drives communicate with a PLC via DeviceNet, with encoder feedback giving closed loop motor control, and additional on-board processing.

## **Key benefits**

- Compact drives
- Encoder feedback
- On-board processing
- Energy efficient system

## **Customer view**

The client was pleased with our solution based on Unidrive AC drives, the drives and switchgear were mounted back-to-back in specially designed compact cubicles. We had to commission the drives for the boom before it left the dock in the Brisbane River so that the boom could be lowered to pass under the Gateway bridge. Once installed at Dalrymple Bay, we completed the final commissioning, which was completed very quickly to the client's full satisfaction.

## **Products used**

Unidrive  
PLC

**MATERIAL HANDLING,  
WINCHING,  
POSITIONING,  
REGENERATION,  
WINDING**



# UNIQUE SOFTWARE ENABLES SUPERIOR CRANE OPERATION

### Company name

NTK Technik GmbH

### Country

Germany

### Customer profile

Crane control software incorporated into Unidrive has enabled crane control specialists NTK Technik GmbH to build unique operational features into a new design of crane by Jost Cranes of Germany.

### Solution

“We have worked closely with Control Techniques to produce sophisticated crane control software that runs in the drives’ application modules,” explained Bernd Niehoff, Managing Director of NTK Technik GmbH. “This incorporates two completely new features that include a new method of assessing load during the lift to eliminate the weighing delay – and its accompanying jolt – and a selectable operating mode that gives a constant load height irrespective of the luffing position of the crane.”

### Key benefits

- Highest level of safety
- Optimised hoist speed & comfort
- Unique crane software
- Compact, programmable drives

### Customer view

“Unidrive has many features that are ideal for crane control,” said Bernd Niehoff. “Its vector control, integrated space-saving braking and its superb dynamic response are all important, of course.”

### Products used

Unidrive



## CRANES & HOISTS

# AC AND DC DRIVES DELIVER IMPROVED SHIP LOADING AND UNLOADING TIMES

### Company name

DB Port Szczecin

### Country

Poland

### Customer profile

DB Port Szczecin is an important Polish cargo port which serves as a hub for sea, land and river transport. The crane at the port's container terminal is using Unidrive and Mentor MP drives from Apator Control, a Control Techniques distributor.

### Solution

Apator selected Unidrive AC and Mentor DC drives from Control Techniques. New drives were installed in the bridge travel, trolley travel and spreader lift, while the remaining electrical systems were integrated for operation through a PLC. The bridge travel's eight motors are controlled by Unidrive variable speed drives. The Mentor DC drive is responsible for powering and moving the trolley that transports containers from ship to shore.

### Key benefits

- Improved ship loading and unloading times due to precise positioning
- 50% reduction in signals in festoon suspension due to PROFINET
- Drive flexibility delivered via range or option modules

### Products used

Unidrive  
Mentor  
PLC

## MATERIAL HANDLING, HOISTING



### Customer view

"Apator Control has improved ease of use for operators by building three visual-monitoring stations on the crane: in the operator's cabin, in the machinery room and at the base."



# MEXICAN PORT CRANES UPDATED WITH CUTTING EDGE DC DRIVES

## Company name

TCY (Owned by Grup TCB)

## Country

Spain

## Customer profile

TCY, owned by Grup TCB of Spain, is the most important container and cargo-handling terminal on Mexico's Yucatan peninsula.

## Solution

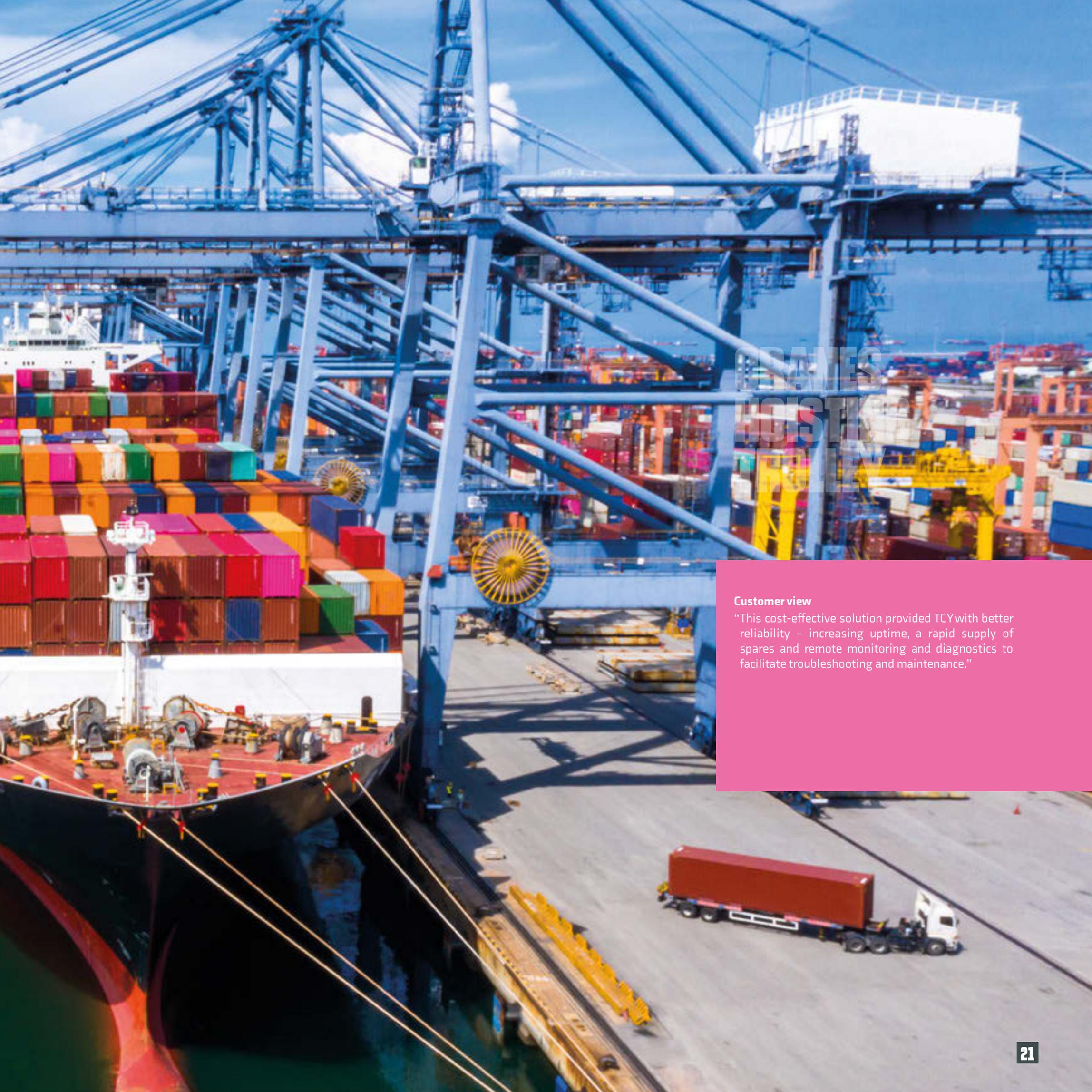
Control Techniques proposed an all-new, fully integrated drive and control system featuring the Mentor MP DC drive. The control system encompassed all the electrical equipment, including low-voltage auxiliaries, DC drives, PLC, I/O, crane management system and MCC. Also included were new remote I/O and control stations, RF Ethernet-based remote diagnostics, and a modern rotating operator's chair and consoles to replace the old sliding chair and fixed consoles.

## Key benefits

- Robust design
- Easy to maintain
- Extreme reliability & flexibility
- Maximum motor performance

## Products used

Mentor



# CRANES LOGISTICS

## Customer view

"This cost-effective solution provided TCY with better reliability – increasing uptime, a rapid supply of spares and remote monitoring and diagnostics to facilitate troubleshooting and maintenance."



# CONTROL TECHNIQUES CHOSEN FOR ITALIAN CRANE REFURBISHMENT

### Company name

La Spezia Container Terminal

### Country

Italy

### Customer profile

La Spezia Container Terminal (LSCT), owned by Contship Italia Group, is Italy's most important cargo-handling and container terminal and is the country's most advanced port in terms of high technology logistics.

### Solution

One of the last cranes to be refurbished was a ship-to-shore (STS) gantry crane manufactured by Italian crane company MGM OMG. Control Techniques Italy was responsible for replacing all medium voltage electrical equipment, low-voltage auxiliaries, drives, the controlling PLC and the crane management system.

### Key benefits

- Fast container handling
- Highly configurable
- Excellent technical support
- Maximum operating reliability

### Customer view

"Mentor was chosen because it is able to withstand harsh conditions, it's reversible and allows maximum speed control during acceleration and deceleration. Also, it saves energy by using regeneration during braking."

### Products used

Mentor

**MATERIAL HANDLING,  
WINCHING,  
POSITIONING,  
REGENERATION,  
WINDING**



CRANES & HOISTS

# ACCELERATED ROI FOR PORT WITH DIESEL SAVING SYSTEM

## Company name

Felixstowe

## Country

England

## Customer profile

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.

## Solution

The port's 12 RTGs were fitted with the Control Techniques RIS.GA system, which are drive-based systems managing diesel generators. The systems were supplied fully wired and assembled, and ready to connect in an IP65 protected stainless steel cubicle.

## Key benefits

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

## Customer view

"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."

## Products used

Unidrive

MATERIAL HANDLING,  
GENERATOR, HOISTING



## CRANES & HOISTS



# IMPROVED EFFICIENCY FOR STS CRANE IN HONDURAS

### Company name

Puerto Cortés

### Country

Honduras

### Customer profile

State owned Puerto Cortés container terminal is the main seaport in Honduras and is operated by Empresa Nacional Portuaria (ENP). It is capable of handling roughly 600,000 TEUs per annum. The port is equipped with two ship-to-shore (STS) cranes, five mobile harbour cranes (MHCs) and 12 straddle carriers.

### Solution

Control Techniques switched the electrical system from DC to AC and replaced the LV electrical equipment and LV auxiliaries, the drives, the PLC and its devices, and the crane control software.

### Key benefits

- Maximised crane efficiency
- Optimised movements & trajectory
- Improved location
- Automatic diagnostics

### Customer view

“Control Techniques’ dedicated crane control software – the Crane Management System (CMS) – greatly improved the efficiency. The CMS relieves the operator of delicate and repetitive tasks by optimising the crane’s movements and trajectories, as well as improving position location and reducing load swaying.”

### Products used

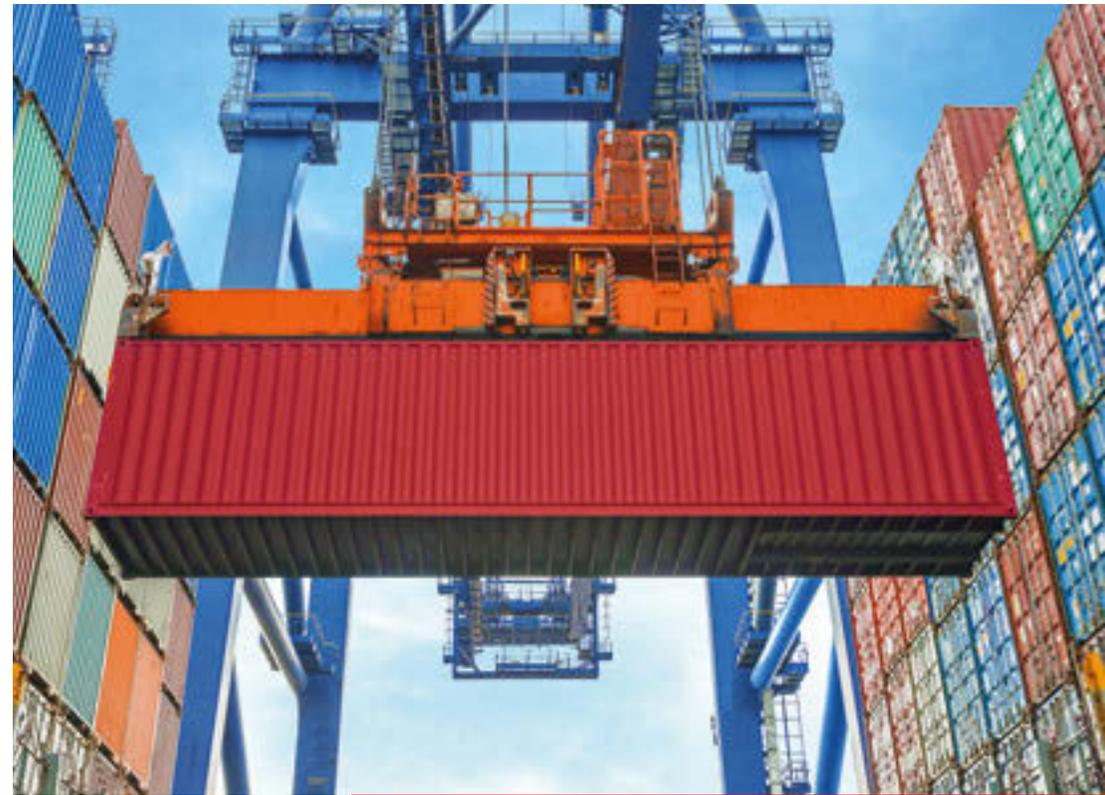
Mentor



## CRANES & HOISTS

MATERIAL HANDLING,  
REGENERATION,  
HOISTING,  
ENERGY SAVING

# SAVING ENERGY ON TURKEY'S BIGGEST SHIPYARD CRANE



### Company name

Vinçsan

### Country

Turkey

### Customer profile

Turkish crane manufacturer Vinçsan turned to Control Techniques AC drives to provide the power regeneration required on Turkey's biggest ever shipyard crane.

### Solution

The regeneration set-up comprises three paralleled Unidrive which feed all the motor drives on the crane. All of the drives are under the overall control of a master PLC that communicates with all of the drives by Profibus.

### Key benefits

- Regeneration mode
- Energy saving
- Flexible operation
- Local support & service

### Products used

Unidrive  
Profibus

### Customer view

"The drives are very flexible in operation and we appreciate the good local technical support and service. Control Techniques offered us the best technical solution in this instance with also the best price/performance ratio. Our experience of Control Techniques drives is that they are extremely reliable in operation."



CRANES & HOISTS

# UNIDRIVES RETROFITTED TO FLOATING GRAB CRANES

HOISTING





### **Company name**

IGMA Amsterdam

### **Country**

Netherlands

### **Customer profile**

IGMA, Amsterdam have four grab cranes, mainly used for ship to quay bulk handling.

### **Solution**

The two 16-tonne cranes were fitted with AC Unidrive variable speed drives and the two 25-tonne cranes with Mentor DC drives.

### **Key benefits**

- Cost savings
- Easy to program
- Energy efficient
- Extremely reliable
- Easy to maintain

### **Products used**

Unidrive

### **Customer view**

“The innovative solution provided cost savings by eliminating the need for an additional PLC and met all of the needs of crane builder – standard sizes, ease of programming and energy efficiency – and the needs of the user of exceptional reliability, flexibility in operation, ease of maintenance, safety and low spares requirement.”



**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS,  ENERGY, ELEVATORS,  
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MINING, PACKAGING, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



ENERGY

# VERSATILE DRIVES CHOSEN FOR WAVE ENERGY PROJECT

## Company name

Wavegen

## Country

Isle of Islay, Scotland

## Customer profile

Wavegen, part of Voith Siemens Hydro Power Generation, is one of the most advanced wave generating companies in the world. When Wavegen developed its facility on the Isle of Islay, they selected AC drives from Control Techniques.

## Solution

Two Unidrives were fitted – one to control the turbine speed, the second running in regenerative mode to feed AC power to the grid.

## Key benefits

- Ethernet connectivity for remote access
- High level programming language
- Exceptional support & service

## Products used

Unidrive



# FANS REGENERATION

## **Customer view**

“We considered five drives suppliers and Control Techniques proved to be a clear choice for several reasons,” explained Dr. Tom Heath, Engineering Manager at Wavegen. “The over-riding factor was the facility to program the drives in a high-level language, rather than an inflexible block diagram system. I had experience of dealing with Control Techniques previously and again received exceptional support and service throughout this project.”



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WIRE, WOOD WORKING.**



## ELEVATORS

# DRIVES CHOSEN FOR NEW RANGE OF ITALIAN LIFTS

### Company name

Sele S.r.l.

### Country

Italy

### Customer profile

Sele S.r.l., Italy's largest independent lift company, designs, manufactures, installs and maintains all of their own products, which include hydraulic installations and winch systems.

When choosing a drive partner for the range, Sele needed a highly flexible and versatile drive, and a drive company with experience with gearless elevator systems – they chose to partner with Control Techniques.

### Solution

The single-phase version of the new range is driven by a 220 V Unidrive and connected directly to a standard domestic electrical outlet. It is highly cost-effective, giving energy savings of around 70% compared to hydraulic systems, and is also the perfect solution for customers with limited space.

The latest product in the SELE range, the SHL300 elevator platform, is capable of reaching up to 8 floors with a load capacity of 300kg. It is driven by a 220 V single phase Commander, which, in conjunction with an 0.55 kW motor, ensures low noise, maximum travel comfort and a significant reduction in power consumption.

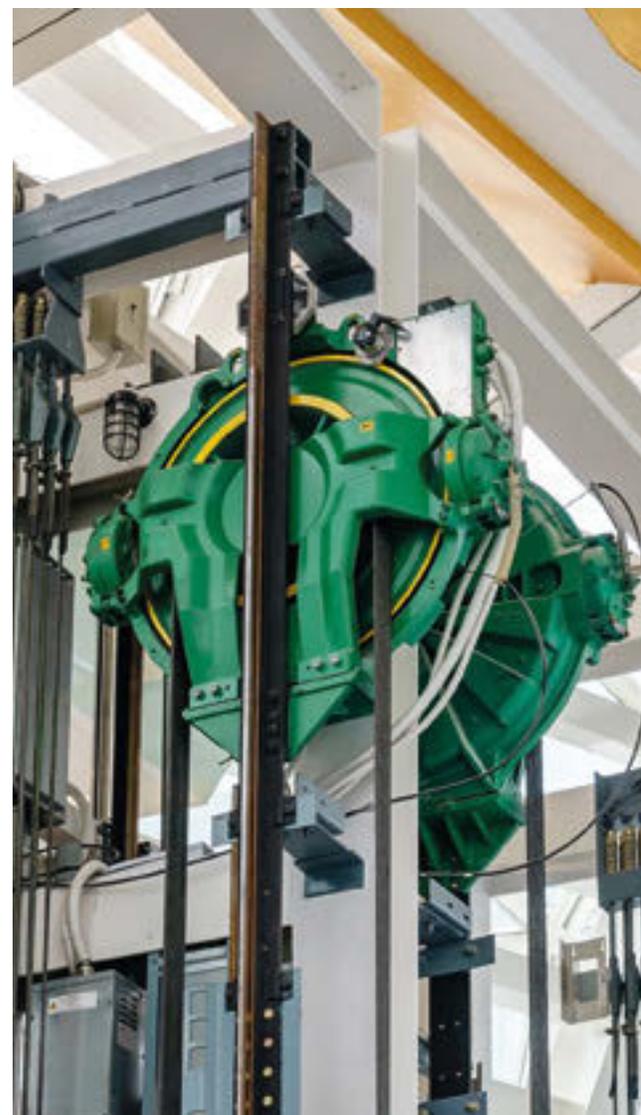
The result is a lift that can reach higher speeds than a standard hydraulic installation, with significantly lower energy consumption. It is also extremely quiet with virtually no vibration to give a more comfortable ride.

### Key benefits

- Significant energy saving
- Space-saving lift
- Extreme flexibility & versatility

### Products used

Unidrive  
Commander



# HOISTING, WINCHING



ELEVATORS

# DRIVE FOR QUALITY IN GERMAN LIFT MARKET

## Company name

OSMA-Aufzüge

## Country

Germany

## Customer profile

OSMA-Aufzüge, a leading German lift manufacturer based in Osnabrück, chose to fit Control Techniques drives. When OSMA launched a new gearless range, the company wanted to provide the flexibility and individuality it is known for with an extremely comfortable, accurate and smooth ride – while keeping costs down.

## Solution

Initially, OSMA was interested in the Commander AC drive but, as the programming capabilities of Unidrive opened up new possibilities in product design, it became the company's drive of choice and is incorporated in over 80% of projects.

## Key benefits

- Extremely reliable
- Accurate & smooth ride profile
- Secure disable safety feature
- Excellent technical support

## Customer view

"The 'fit' between the OSMA approach and Control Techniques is excellent," added Herr Hebbeler, "in terms of flexibility, quality and support. We have complete confidence in both the products and in the outstanding support we get from the German Drive Centre and, in particular, the whole technical team of Control Techniques. If CT promises to do something, they never fail to deliver!"

## Products used

Unidrive

HOISTING,  
WINGING,  
POSITIONING



ELEVATORS

HOISTING,  
WINCHING,  
POSITIONING

# ADVANCED ELEVATOR SYSTEM BASED ON DRIVE TECHNOLOGY

## Company name

Lifteknic

## Country

UK

## Customer profile

A set of lifts in the 14-storey Peel House building in Manchester were in urgent need of refurbishment. Previously, the lifts had a creep-to-floor control profile, where a series of shaft encoders returned position signals to the controller, indicating when to slow to creep speed. It had been assumed that gearless lift systems (which don't have the benefit of geared ratios to improve a drive's effective response) needed a load weighing device to provide the lift controller or variable speed drive with an analogue signal as a torque feed forward signal.

## Solution

Brought in by Manchester company ANSA Elevators, controller manufacturers Lifteknic supplied a direct-to-floor system based on Control Techniques' drives. The system is based on a Unidrive AC drive with a 22 kW synchronous permanent magnet gearless AC motor working in conjunction with the Lifteknic Quatrain control system.

## Key benefits

- Reduced costs
- Quicker & easier to install
- Direct-to-floor system

## Products used

Unidrive

## Customer view

"The innovative system is a massive improvement and gives independent lift suppliers a technical and performance advantage over the more traditional lifts suppliers. The system lowers costs as the load weighing device and fewer in-shaft sensors are required, and meets rigorous safety requirements."



## ELEVATORS



# DRIVES KEEP UP THE PRESSURE IN SWISS ELEVATORS

### Company name

Bucher Hydraulics

### Country

Switzerland

### Customer profile

Bucher Hydraulics of Neuheim, Switzerland design and manufacture advanced hydraulic elevator systems. Bucher is famous for its innovations, including its electronically controlled LRV valve that is insensitive to changes in pressure and temperature, and brought significant energy savings to elevator production, as well as shorter travel times and virtually eliminated creep-to-floor. Striving for further system improvements, Bucher was seeking a way to improve elevator control.

### Solution

Having carried out considerable research, Bucher decided to use AC drives from Control Techniques and created BERIPAC™, which uses a hydraulic counterweight with four-quadrant pump. It has direct-to-floor operation and has eliminated the need for an oil cooler.

The company chose Unidrive from Control Techniques for pump motor control as it is “the one which we consider has the best combination of accuracy and reliability – plus outstanding international support”, said Bucher Hydraulics Product Manager, Mr Grab.

### Key benefits

- High degree of accuracy
- Extremely reliable
- Excellent support

### Customer view

“This system sets new standards in ecology and economy,” said Mr Grab. “The closed loop control and continuous approach to floor produces a ride comfort that is as good as the best on the market and this is in part due to the dynamic response and consistent, accurate following of the calculated speed curve”.

### Products used

Unidrive

HOISTING,  
WINCHING,  
POSITIONING



## ELEVATORS



# UNIDRIVE CHOSEN FOR OPTIMAL LIFT CONTROL

### Company name

Kollmorgen Steuerungstechnik

### Country

Germany

### Customer profile

Cologne-based lift control supplier, Kollmorgen Steuerungstechnik, provides full in-house design, manufacturing, testing and support. Control Techniques has worked alongside the company and supplied its drives for more than 20 years.

“It used to be the norm that customers chose their inverter drives,” said Managing Director, Lars Kollmorgen, “but now, because interfacing is so important, the Control Techniques Unidrive is our preferred option.”

### Solution

Numerous Unidrives have been supplied, the largest being 55 kW. The drives provide direct-to-floor control and operate in closed loop mode for speed and positioning, with feedback, typically, from a linear encoder mounted in the shaft itself.

### Key benefits

- Direct-to-floor control
- Extreme flexibility
- On-board programmability
- Excellent worldwide support

### Customer view

“At Kollmorgen, we have developed a market sector that is differentiated by quality,” said Herr Kollmorgen, “and our key partners must be as addicted to quality as we are. Control Techniques meets this criteria and gives us outstanding local and international support too.”

### Products used

Unidrive



## ELEVATORS

# HOISTING, WINCHING, POSITIONING

# DRIVES GIVE PATIENTS A LIFT AT MILAN HOSPITAL



### Company name

Elex

### Country

Italy

### Customer profile

A 12-storey healthcare block at Sao Paulo Hospital in Milan has been equipped with a gearless winch-driven elevator supplied by leading Italian lift manufacturer Elex, using Unidrive drives from Control Techniques.

Elex has always pursued the highest possible performance and manufactures lifts that equal the highest quality lifts in the world.

### Solution

At Sao Paulo Hospital, Unidrives are closely integrated with the Elex lift controller, giving seamless immediate response to calls. The lift's load capacity is 1600kg, speed between floors is 1.6m/sec and the total travel over the 12 floors is 42 metres. In the event of a power loss, Unidrive activates an automatic return to floor strategy (RAP), automatically selecting the travel direction on the basis of an analysis of the current car load.

### Key benefits

- Ride comfort
- Vibration-free
- Start/stop roll-back eliminated

### Products used

Unidrive

### Customer view

"Thanks to integral brake management, motor control is synchronised during starts and arrivals, completely eliminating the momentary disturbing roll-back on start or stop and guaranteeing absolute comfort for Elex's lift passengers."



**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,**



**ENTERTAINMENT & LEISURE,**

**FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



## ENTERTAINMENT & LEISURE



# WATER FEATURE DAZZLES TORONTO SHOPPERS

### Company name

Don Mills Shopping Centre

### Country

Canada

### Customer profile

The Don Mills Shopping Centre outside Toronto features a stunning choreographed water and light show with a 22-axis motion control system incorporating Control Techniques drives. It is Canada's first robotic fountain and only the fourth in North America.

Fountain designers Karajaal had previously used Commander AC drives in water fountain pumps but the ambitious fountains at Don Mills went far beyond previous projects. The robotic fountain required drives to control 22 axes of movements, as well as the programmed sequence of 78 lights in and around the water feature.

### Solution

The 22 axes are controlled by a Control Techniques MC224 Motion Coordinator with motors controlled by Commander AC drives. Ten position the angle of the nozzles and 12 modulate the water flow to vary the height of the water jets. The MC224 also controls more than 100 I/O, turning 78 LED projectors on and off in programmed sequences in synchronism with the water movements to produce an amazing display.

### Key benefits

- Synchronised water & light sequences
- Easy to program
- Multi-axis control
- Remote access

### Products used

Commander

PUMPS,  
POSITIONING,  
DIAGNOSTICS,  
SENSORS,  
PRESSURE PLATES



ENTERTAINMENT & LEISURE

# CONTROL TECHNIQUES DRIVES ENSURE A SMOOTH RIDE FOR TOURISTS IN CHINA

## Company name

Sichuan Mining Machinery Company

## Country

China

## Customer profile

The Sichuan Mining Machinery Company, China's leading supplier of passenger and materials ropeway systems, chose Control Techniques drives for the cable car lift at Kongtong Mountain, a popular tourist and skiing destination in Gansu Province for their smooth operation and precise control.

## Solution

The control of the cable car is by a 300 kW, four quadrant Mentor DC drive, fitted with a programmable plug-in MD29 module, operating in conjunction with a Modicon PLC. Standard functions of the Mentor DC drive include digital speed and position loop, centre-wind for coiling and uncoiling applications, shaft orientation, and kW signal for motor power consumption.

## Key benefits

- Extremely reliable
- Flexibility
- Safety of control
- On-board programming

## Products used

Mentor



WINCHING,  
MONITORING,  
POSITIONING



ENTERTAINMENT & LEISURE

# DRIVES PROVIDE GREAT BALL CONTROL AT SOCCER CIRCUS



CONVEYORS,  
HOISTING,  
POSITIONING

## Company name

Soccer Circus

## Country

UK

## Customer profile

Soccer Circus, the brainchild of Kevin Keegan, is an interactive indoor football centre at Xscape Leisure Park at Braehead near Glasgow. Visitors take part in a number of fun challenges to improve their football skills. During Powerplay Super League, players work as a team operating life-size models of footballers to kick balls at targets. The game designers needed a drive solution that would eliminate the requirement for a central drives controller and one that meant the game could continue even if there was an error in the automation system.

## Solution

Twenty-eight Control Techniques Unidrive AC drives are used throughout the game. At the start, the 20 targets, mounted on linear actuators with a long stroke length, are raised to their starting position. Each linear actuator is powered by a Unimotor under the control of a 5.5 kW (7 HP) Unidrive fitted with an on-board Programmable Automation Controller (an SM application).

## Key benefits

- Versatile drive
- High level on-board programming
- High speed communication
- Effective multiple redundancy

## Customer view

“Design Engineering Manager, David Birchall, said: “The versatility, communications and programmability of the Unidrive has proved to be integral to the final design. We’ve cut out the need for a central drives controller, with intelligence distributed around the drives, delivering a system that provides effective multiple redundancy. Should an error in the automation system occur, the show goes on, in the best tradition of show business!”

## Products used

Unidrive  
Unimotor



# UNIDRIVE AC DRIVES CHOSEN FOR THEME PARK RIDE REFURBISHMENT

## Company name

Compagnie des Alpes

## Country

Belgium

## Customer profile

The Dalton Terror, a zero gravity drop tower, one of the most popular attractions at the 3 in Belgium, was in need of refurbishment to maintain excellent safety standards for thrill seekers, and precise control for operators.

When updating The Dalton terror, the company required the same faultless and precise movement of speed profile of the previous Control Techniques drives originally installed in 1998 to haul the ride's seats to the top of the tower.

## Solution

The drop tower, 77 metres in height, has five rows of seats, each with four-person capacity in a ring around the circular tower. The seats, weighing 1.5 tonnes empty, are hoisted by speed-controlled Leroy Somer geared motors to the top of the tower, where they are released to drop in free fall at a maximum speed of 110km/hr, generating complete weightlessness.

The latest generation of AC drives and five heavy duty 75 kW Unidrives operating in closed loop flux vector mode were fitted as part of the total renewal of the control panels.

## Key benefits

- Faultless & precise movement
- Extremely reliable
- Reduced downtime
- Lower maintenance costs

## Products used

Unidrive



## Customer view

Dominique Fallon, Marketing and PR Manager, said, "This refurbishment dramatically reduces the downtime of the Dalton Terror as a result of breakdowns or repairs. So the flow of visitors through the turnstiles is greatly improved and our maintenance costs are consequently reduced. The revamping of the Dalton Terror has been a tremendous success that strengthens our position in the amusement park market."



# 30-YEAR-OLD DRIVE GETS A REFURB

## Company name

Aberystwyth Cliff Railway

## Country

UK

## Customer profile

Constitution Hill, Aberystwyth, rises dramatically from the sea, providing spectacular and uninterrupted views of the town, Cardigan Bay, and on a clear day 26 mountain peaks spanning the length of Wales. A popular and relaxing way to enjoy this majestic panorama is to travel by train on the longest funicular electric cliff railway in Britain, which has been transporting visitors to the summit since 1896. Client to The Motor Control Warehouse, Aberystwyth Cliff Railway, had a challenge to solve. The company realised the railway's control system was becoming harder to maintain due to components being made obsolete.

The original control panel was built in the 1980s and utilised Control Techniques' first-generation Mentor DC drive – the world's first variable speed drive to use a microprocessor in its control system.

## Solution

Control Techniques' Mentor MP was central to the winning solution. Readily available, Mentor MP eradicates the previously experienced maintenance issues. Controlled stopping was implemented using a four-quadrant drive, and additional fail-safes to stop the motor under an emergency stop condition, including limit switches to improve safety in case of failure. The solution was further enhanced by moving the safety circuit to a dual-channel, bringing the system up to date – now meeting SIL3 Category 1.

## Key benefits

- Controlled stops
- Safety and reliability improvements – now meets SIL3 Category 1
- Easy to maintain

## Products used

Unidrive

# HOISTING, WINCHING



## Customer view

"Thanks to the new system Aberystwyth Cliff Railway now comply with the relevant safety standards. They spend less time fixing and sourcing parts, but the sheer fact that the original drive was in service for over 30 years is a testament to the quality that is associated with Control Techniques. The flexibility and performance of the product range makes it ideal for any application."



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**GLASS, MACHINE TOOL, MATERIAL  
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PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



## FANS & PUMPS

# MOTORS AND DRIVES ACHIEVE SIGNIFICANT ENERGY SAVINGS AT SPAR DISTRIBUTION CENTRE

### Company name

Colruyt Group

### Country

Belgium

### Customer profile

The Colruyt group is a Belgian retail company. The group own a variety of brands and are a franchisee for Spar in Belgium.

In 2014, in order to continue developing its Spar distribution network, Colruyt acquired a new distribution center at Mechelen. The site had three identical centrifugal pumps for distributing cold glycol – two in constant use and one serving as a back-up. Like most distribution pumps with multiple users, the system was designed to be over dimensioned, meaning it would only work at partial loads throughout the year. Therefore, energy efficiency was crucial.

### Solution

The two main pumps were fitted with the Dyneo® solution: LSRPM permanent magnet motors from Leroy-Somer and Unidrive AC drives from Control Techniques.

### Key benefits

- Significant energy savings
- Constant differential pressure throughout the circuit
- Better efficiency at nominal load

### Customer view

“The Leroy Somer/Control Techniques motor and drive solution demonstrated a saving at each point in the process in relation to conventional motors, and the lower the flow rate, the higher was the associated energy saving.”

### Products used

Unidrive



FANS,  
PUMPING



# DRIVE PROVIDES COOL ENERGY SAVING SOLUTION AT HENRY DENNY

### Company name

Henry Denny & Co

### Country

Northern Ireland

### Customer profile

Henry Denny & Co manufactures a wide range of foodstuffs at its Portadown plant in Northern Ireland. As well as its own products, the company stores a vast amount of chilled products from other companies in the Kerry Group, which are housed in a complex of 20 chilled rooms. The company had to replace the soft starter so Ciaran McSherry, Henry Denny's Electrical Engineer, recommended a change to a variable speed AC drive.

### Solution

A large free-standing variable speed AC drive is set up in the chiller to give a feedback pulse for each kWh to the factory management system so that controllers can monitor energy usage very precisely.

### Key benefits

- 50% energy saving
- Six-month payback period
- Improved temperature control
- Compact drives

### Customer view

"We used to have a slow reaction time to temperature swings with the soft starter but now it is easy to hold the temperature pretty well bang on our target of minus 10°C, as well as cutting our energy bill by around 50%," said Mr McSherry. "The project has been enormously successful and has really reinforced the energy-saving benefits that can come from variable speed drives."

### Products used

Unidrive

COMPRESSORS,  
COOLING



**FANS & PUMPS**

# EXTRACTION, FANS

## DRIVE AND MOTOR COMBINATION DELIVERS RELIABILITY FOR UNDERGROUND SMOKE EXTRACTION FANS



### Company name

Emak

### Country

Turkey

### Customer profile

Established in 1968, Emak manufactures smoke extraction fans for underground railways, road tunnels, underground car parks or any other location where the accumulation of smoke or fumes could pose a risk to health.

The Ministry of Transport in Turkey asked Emak to design a smoke extraction system to service the newly created Ankara, Tandoğan – Keçiören M4 Metro Line: a 9,220 metre long stretch consisting of nine separate stations.

### Solution

Emak selected FLSHT motors from Leroy-Somer, which are designed specifically for smoke extractor fans, and Powerdrive drives from Control Techniques, which are engineered for fan, pump and compressor applications.

### Key benefits

- Product reliability
- Fast delivery
- Modular drive design

### Products used

FLSHT Motors  
Powerdrive

### Customer view

"F300 brings functional benefits because it's a dedicated fan application drive," says Mrs Öner. "The smoke extraction process is a critical application, so we needed motor drive operation we could count on during a fire event. We are very happy about using a motor and drive combination from the same company as it provides the optimum performance."



EXTRACTION,  
FANS,  
ENERGY SAVING

# PAYBACK IN MONTHS FOR TWO LARGE FAN DRIVES

## Company name

Civil and Marine

## Country

UK

## Customer profile

At Civil and Marine's Middlesborough plant, blast furnace slag, a waste product from the Corus steelworks next door, is ground into a fine powder called Ground Granulated Blast-furnace Slag (GGBS), used to enhance concrete.

Excessive wear and tear on dampers prompted Civil and Marine to look at alternative ways of controlling the airflow that extracts the abrasive fine powder from the ball mill and Sepol separator.

## Solution

Control Techniques recommended 200 kW and 132 kW modular Unidrive drives, retrofitted into existing cubicles, with both drives under speed control from a controlling PLC. Further Unidrive AC drives were installed on two 450 kW pre-grinders, with four drives on each working in load-sharing mode. The effect on this new section, that takes a mixture of the coarse pelletised and granulated GGBS, has been an overall increase in throughput from 50 to 70 tonnes of GGBS per hour.

## Key benefits

- Improved throughput
- Significant energy savings
- Noise reduction
- Payback in months

## Customer view

"A further benefit we hadn't anticipated is the reduction in noise," commented Mr Thwaite, "which makes the plant much more comfortable for operators. We also anticipate that fan motors and bearings will last longer and require less maintenance."

## Products used

Unidrive



# 2.4 MW OF FAN POWER KEEPS DUTCH SKYDIVERS FLYING HIGH

## Company name

Roosendaal Indoor Skydive Centre

## Country

Netherlands

## Customer profile

Roosendaal Indoor Skydive Centre in Holland relies on a system of twelve 200 kW fans at the base of the tower to provide precise air control for skydivers of all experience levels.

The indoor skydive centre was set up as somewhere for both professional skydivers and the general public to practice. The large fans that provide the air for the two flight chambers within the 23.5-metre tower needed a soft-start, simple speed control and maximum energy efficiency to keep costs down. In addition, the system had to bring fresh air into the tower to keep ambient temperatures within acceptable limits.

## Solution

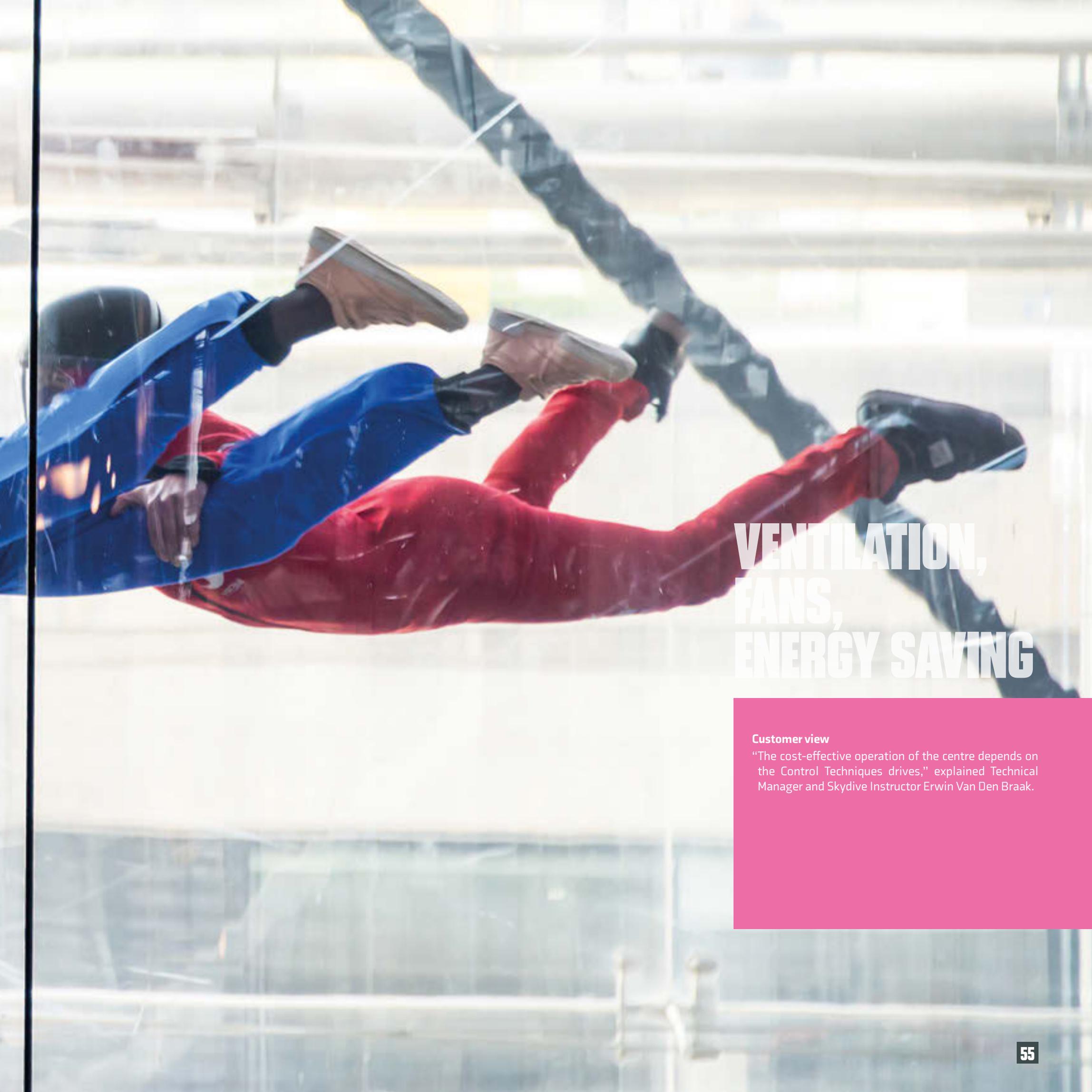
The founders, a group of professional skydivers, worked with Control Techniques to develop a solution comprised of a ring of 12 200 kW fans driven by Unidrive AC drives at the base of the tower. The fans blow air horizontally into the centre of each flight chamber, where it is deflected vertically at a speed of up to 250 kph by an aeronautically-shaped cone.

## Key benefits

- Precise air control
- Maximum energy efficiency
- Cost effective

## Products used

Unidrive



# VENTILATION, FANS, ENERGY SAVING

## Customer view

“The cost-effective operation of the centre depends on the Control Techniques drives,” explained Technical Manager and Skydive Instructor Erwin Van Den Braak.



### Company name

Mark Eire BV

### Country

Ireland

### Customer profile

Mark Eire BV, part of the Mark Holding Group, is Ireland's leading manufacturer of a wide range of standalone and integrated air handling units and heaters for commercial and industrial premises.

Finding a compact yet powerful drive was essential for Mark Eire as the units have a high throughput. Competitors' drives can be up to 50% larger by volume with panel footprints typically more than 40% bigger, which could not be accommodated, so the company sought another solution.

### Solution

Paraic ÓConaola, Purchasing Manager at the plant explained: "From the outset, we used Control Techniques Commander drives, then switched to the new Commander range when it was introduced. Whilst price is important in this very competitive market, the physical size of the drives is a crucial factor. The Commander drives are so compact that they can be integrated into the air handling unit itself, eliminating the need for a separate cubicle. In commercial and industrial premises, space costs money!"

### Key benefits

- Compact drives
- All major fieldbus connectivity
- Energy savings

### Customer view

"We are very pleased with the support we get here in Ireland from Control Techniques, with good delivery times, excellent training for our staff and, of course, competitive prices."

### Products used

Commander

# TOP MARKS FOR HVAC DRIVES



# COOL SOLUTION DOUBLES EFFICIENCY OF INDUCTION HEATERS

### Company name

Trithor GmbH

### Country

Germany

### Customer profile

World-leading producers of high temperature superconducting (HTS) systems, Trithor GmbH, based in Rheinback, Germany, have produced a new generation of non-ferrous induction heaters with twice the efficiency of conventional induction heaters using Control Techniques drives.

Conventional AC induction heating has an efficiency rate of around 45%, with the heat dissipated in both the coil and billet. Trithor sought to increase efficiency by finding a solution to reduce electric losses.

### Solution

The rotation is controlled by two 132 kW Unidrive AC drives, one at each end, in closed loop control with feedback from 1024 ppr absolute encoders. "Precise synchronism of the motor speeds is crucial, particularly as the billet is approaching its elastic state," said Trithor's Head of Sales, Dr Jürgen Kellers. This is monitored and controlled by the software in the intelligent option modules fitted to each drive.

### Key benefits

- Energy demand reduced by 50%
- 93% operating efficiency
- Increased quality
- Decreased maintenance

### Customer view

"Control Techniques has been involved right from the initial development stage in this and other projects. We like the flexibility and programmability of the Unidrive drives, which are ideal for all types of motors, including asynchronous linear motors used in direct drive applications, such as our new Limodraw contactless tube drawing machines."

### Products used

Unidrive



# MICHELIN DUNDEE DRAMATICALLY CUTS ENERGY USAGE

## Company name

Michelin

## Country

UK & Ireland

## Customer profile

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.

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.

## 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.

## Key benefits

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

## Customer view

"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!"

## Products used

Unidrive

HEATING,  
FANS,  
PUMPS,  
COOLING



# FAN CONTROL ENSURES RELIABILITY FOR SLOVENIAN CEMENT WORKS

## **Company name**

Hidroinering d.o.o.

## **Country**

Slovenia

## **Customer profile**

Production at Slovenia's premier cement producer, Hidroinering d.o.o. of Ljubljana, has been assured with the installation of a drive and motor supplied by Control Techniques reseller PS Logatec.

The aim of the project was to improve reliability of the huge 4-metre fan supplying hot air from the output of the cement oven. One critical feature of the control was to avoid it running at its resonant frequency, causing oscillation and damage to the fan.

## **Solution**

PS Logatec built and installed the drive panel for the air-conditioned plant room. A Unidrive modular drive was chosen with one master unit and eight slave modules that together make up the required total of 1 MW.

## **Key benefits**

- Improved reliability
- Security of operation
- Remote monitoring
- Energy saving options

## **Products used**

Unidrive

## **Customer view**

"Because Unidrive is modular, there is complete security of operation as, even if one module fails, the drive is capable of running at reduced power."



**FANS & PUMPS**



**DRIVES PROVIDE UNIQUE  
COST-SAVING SOLUTION  
IN THE WATER INDUSTRY**

### Company name

Byzak Limited

### Country

UK

### Customer profile

Byzak Limited, a Framework Contractor to Northumbrian Water, worked with Control Techniques to develop a solution for pump blockages at Seaton Sluice, near Whitley Bay. Variable speed drives have been programmed to automatically reduce the problem of 'ragging' and eliminate the need for human intervention.

### Solution

Key to this unique solution is the detection of ragging at a very early stage and Unidrive AC drives were chosen for two main reasons: the drives measure true load torque in real time and have a powerful internal PLC, which has a reaction time measured in microseconds.

### Key benefits

- Reduces pump blockages
- Lowers maintenance costs
- Remote monitoring
- 100% redundancy

### Customer view

"This is an excellent example of modern technology providing a cost-effective solution to a long-standing water industry problem, giving significant improvements in performance, as well as cutting downtime and maintenance call-outs."

### Products used

Unidrive

PUMPS,  
MONITORING



# COMMANDER STOPS NOISY VIBRATIONS, IMPROVING CUSTOMER EXPERIENCE AT LONDON BOWLING ALLEY

## Company name

Axxa LTD

## Country

UK

## Customer profile

Axxa LTD's client All Star Lanes in Bloomsbury London, experienced noisy vibrations from their ventilation system, disturbing diners in the restaurant. Being underground, the bowling alley needs to have a constant flow of fresh air. This was the job of the current fan system. All Star Lanes had two objectives: bring clean air in from above and extract fumes from the kitchen.

## Solution

Axxa LTD worked with All Star Lanes to come up with a suitable solution, they supplied the drive and enlisted, locally based, APS Engineering to install it into the system. Commander delivered big benefits for the bowling alley. First, the NEMA bracket provided safe mounting onto the wall. It protects all the cables going in, ensuring the safety of the general public. Furthermore, the new drive is half the size of the original one, creating extra space. Previously, the system ran continuously at 30 amps. Commander runs at a much lower rate of 10-15 amps, generating significant savings of 50%, resulting in a better flow of air. By tuning the drive to a lower level, not only does it use less power, but it also stops the noisy vibrations going through the ducting.

## Key benefits

- Stopped vibrations and noise
- Improved customer experience
- Halved power consumption and energy bills

## Products used

Commander

VENTILATION  
EXTRACTION  
FANS



#### Customer view

Srdan Stojiljkovic, says: "The fan motor works at a lower rpm than the old drive and has made a great difference in our restaurant area. With the new drive, the wall has stopped shaking and the venue is not noisy anymore."

Per Lutteman, APS Engineering Director, adds: "From my point of view, this was a very simple project for us. Setting the drive up was very easy. It was up and running, the way we wanted, within half an hour. It was also easy to program; All Star Lanes have excellent support on hand if they ever need it."



# 120,000 TONNES OF MIXED WASTE AT STATE-OF-THE-ART RECYCLING PLANT

## Company name

Avelair Compressed Air Solutions

## Country

UK

## Customer profile

Imagine a state-of-the-art recycling facility that processes 120,000 tonnes of mixed waste per year, from which it produces aggregates and refuse-derived fuel. Avelair won the prestigious contract to design a full compressed air system, including four 110kW rotary screw air compressors, air treatment equipment, compressor management, and the complete pipework system, for a new recycling facility designed to do just that.

The new site deposits mixed wastes via processes that are mainly automated and consist of shredding, optical sorting, trommels, ballistic separators, magnets, and baling.

To guarantee the plant's efficiency, Avelair required a drive to power the compressors, allowing the ramp-up of the motor speed to produce the compressed air to meet onsite demand.

## Solution

Control Techniques' Commander and Unidrive power the four units. The onsite management controller is programmed to switch lead compressors, at intervals, to share the load between the four compressors, establishing a super-efficient process. The variable speed air compressors employ Control Techniques' inbuilt inverter technology on the main high-efficiency motor and fan motors, ensuring maximum energy savings.

## Key benefits

- Energy efficient
- Robust and reliable
- Simple to install and pair with motor
- Excellent Safe Torque Off function

## Customer view

"This is one of our largest UK compressed air installations. Our team designed and manufactured four variable speed 110kW rotary screw air compressors for the recycling plant at our facility in Bury St Edmunds."

## Products used

Unidrive



**PRESSURE, COMPRESSED AIR**



AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES &  
HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS,  **FOOD & DRINK,**  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.



# THE DRIVE TO PRODUCE MORE POT NOODLES

## Company name

Unilever Pot Noodle

## Country

UK

## Customer profile

Unilever Best Foods plant in Crumlin South Wales makes one of Britain's most popular hot snack foods, producing approximately 150 million Pot Noodles every year. Unilever was looking for a way to boost production to meet the ever-increasing demand for instant fast-food.

## Solution

The line comprises a number of pasta mixing and processing operations, and a feed into the next section completes the packaging process. There are 12 Unidrives on this section of the production line, varying from 1.1 kW for the fryers, up to 7.5 kW for the roller drives.

## Key benefits

- Increased throughput
- Reduced downtime
- Extremely reliable
- Additional flexibility

## Customer view

"The result has been excellent, with the line exceeding its daily targets."

## Products used

Unidrive



**MIXING,  
PACKING,  
CONVEYORS,  
CUTTING**



# THE DRIVES BEHIND SWISS CHEESE PRODUCTION

## Company name

LEU Anlagenbau AG

## Country

Switzerland

## Customer profile

LEU Anlagenbau AG of Uetendorf, a Swiss manufacturer of specialist machines for the automatic selection, rotation and washing of cheeses, has standardised on AC drives from Control Techniques.

## Solution

Each action required to handle a cheese board, rotate the cheese, scrub it with brine, then return it to its tray and back to its position on the racking is a servo axis controlled by a Control Techniques Unidrive AC drives.

The drives are 4 to 7.5 kW – the size depends on the size and weight of the cheeses. There can be up to 11 further axes, depending on the machines, each of which is under the control of a 0.55 or 1.5 kW Commander AC drive.

## Key benefits

- Excellent customer support
- Extremely reliable
- Compact drives

## Products used

Unidrive  
Commander

## Customer view

“The drives enable precise control of each action, with repeatable positional accuracy of  $\pm 0.1$  mm, and enable manufacturers to turn much larger quantities of cheese. “We have considerable confidence in Control Techniques,” Managing Director, Beat Blätter, reported. “We have received excellent support from the Zurich Drive Centre and their drives have potential that we have not yet fully exploited. We have moved 100% to Control Techniques drives due to their reliability and compact size.”

POSITIONING  
MULTI-AXIS



**POSITIONING,  
PORTIONING,  
WRAP & SEAL,  
BOXING,  
PACKAGING**



# PROVIDING PRECISION CONTROL IN MASSIVE ICE CREAM PLANT

## **Company name**

Algida (Walls' in the UK)

## **Country**

Italy

## **Customer profile**

The Unilever-owned Algida ice-cream factory in Caivano, Southern Italy is one of the largest of its type in Europe, producing around 1.4 billion items each year – or 250 every minute. When dealing with such large quantities, marginal errors can be hugely wasteful and expensive, and the production process requires precise motion control at every stage.

## **Solution**

Unilever relies on variable speed drives from Control Techniques for a range of control and positioning applications throughout the factory. On the 100-metre long Magnum and Solero lines, for example, around 50 Unidrive AC drives in servo mode and fitted with programmable application modules are twinned with Unimotor servo motors for a range of multi-axis position control applications.

## **Key benefits**

- Excellent precision & control
- Highly configurable
- Plug-in modules
- Programmable application modes

## **Products used**

Unidrive  
Unimotor



POSITIONING,  
PORTIONING,  
CONVEYORS,  
MATERIAL HANDLING



# CHEESE BECOMES FAST FOOD FOR FRENCH SUPPLIER

## **Company name**

Tippagral S.A.

## **Country**

France

## **Customer profile**

Based in Dijon, Tippagral S.A. is a leading cheese supplier for the wholesale and food manufacturing markets in France and central Europe. The company uses a bespoke cheese cutting machine from Northwood Food Machinery of Stoke-on-Trent for portioning blocks of cheese weighing up to 85 kg.

The Challenge: Director of Tippagral SA, Neil McAuley, explained, “We portion some 7,000 tonnes of cheese per year, mainly Emmental, but also Cheddar, Gouda, Edam and Mozzarella. Some 75% of our throughput is grated, but many customers, particularly wholesalers and manufacturers of pizza and sandwich/

baguette producers, require the cheese to be cut into specific sizes and shapes, e.g. 9x9cm, 7.2x7cm and 12x5cm. This machine will dramatically streamline this aspect of our operation and cut our labour costs.”

## **Solution**

Control Techniques was confident that it could give the degree of position control required, using the smallest of its general industrial drives, the Commander. On the first trial, these drives stopped the motors on target – and without any additional cost of braking resistors!

## **Key benefits**

- Highly accurate
- Lower labour costs
- Excellent support
- Increased productivity

## **Customer view**

“We are delighted with the results,” said Mr Southwick, “the Commander drives have exceeded our expectations. We simply could not have achieved these results with any other drive – and we’re very pleased with the support we’ve received from Control Techniques, who helped us set it up and provided us with the programming.”

## **Products used**

Commander



**FOOD & DRINK**

# DRIVES SAVE THE DAY AT DANISH DAIRY



**POSITIONING,  
HOISTING**

## **Company name**

MD Foods Rødkærsbro Dairy

## **Country**

Denmark

## **Customer profile**

MD Foods Rødkærsbro Dairy in Denmark processes five tonnes of cheese an hour so when part of the cheese drying system broke the dairy needed a quick solution.

## **Solution**

An elevator in the cheese drying system broke down, bringing the entire plant to a standstill.

Control Techniques Denmark carried out a complete rebuild of the elevator control system using Unidrive AC drives and Unimotor servo motors under the overall control of the existing PLC controller.

## **Key benefits**

- Faster system response
- Increased accuracy
- Improved reliability
- 24-hr local support

## **Customer view**

“This is a very busy plant,” concluded Mr Hansen, “and any stoppage has major cost implications. That is why I have to have complete confidence in my drives and in the local support that is available. With Control Techniques, I have both!”

## **Products used**

Unidrive

Unimotor



# DIGITAX DELIVERS CONSISTENT FILLING PERFORMANCE

## Company name

CMI Srl

## Country

Italy

## Customer profile

North Italy-based CMI Srl manufactures a range of bottling machines, closing systems and labelling machines designed to meet the specific needs of the detergent, chemical, food and cosmetics industries.

The company needed a drive with high precision and repeatability that was easy to program and flexible in operation. The drive was needed to control a new range of linear filler machines – known as Line – featuring brushless motors.

## Solution

CMI opted for the Digitax that features a full functionality motion controller optimized for high performance machines requiring synchronized motion. On-board drive-to-drive networking links multiple axes and enables distributed control. Filling and capping is fully automatic and is run by the Digitax brushless control system.

## Key benefits

- Improved precision
- Flexible operation
- Easy to program and control
- Eliminates need for external PLC

## Products used

Digitax

FILLING,  
GAPPING



CONVEYORS,  
WRAPPING,  
POSITIONING



# DRIVING OUT PACKAGING PROBLEMS

## **Company name**

Rewinds & J Windsor

## **Country**

UK

## **Customer profile**

When reject rates on a choc-ice packaging line began to climb, the company needed an engineering solution. The resulting scheme, featuring Control Techniques Drives, has cut rejects by 90% and given a rapid payback measured in months.

## **Solution**

Rewinds & J. Windsor, a Control Techniques drives reseller, analysed the problem and designed a solution based on six servo drives. The key was precise synchronisation between the drives themselves and the choc-ice production line.

High performance DC servo amplifiers were chosen to control the lane/crimping drives, another for the wrapper feeder and a 7.5 kW Unidrive for the jaw drive. The on-board application module provided complete programming for the wrapping machine through SyPT programming software.

## **Key benefits**

- Rejects cut by 90%
- Lower production costs
- Unique flexibility & connectivity

## **Customer view**

“The key to this project is the functionality of the Unidrive. Now, any length of product can be accommodated by simple parameter adjustments and the whole system is digitally locked into precise synchronism.”

## **Products used**

Maestro  
Unidrive



POSITIONING,  
PORTIONING,  
DISPENSING

# INCREASING THROUGHPUT ON ROCKY BARS LINE



## Company name

Fox's Biscuits

## Country

UK

## Customer profile

When Fox's Biscuits upgraded the production line for Rocky bars at its Kirkham plant in Lancashire, the company fitted precision drives from Control Techniques.

Fox's development team wanted to increase the throughput speed on the line, previously limited by the caramel depositing station, and sought help from Wymbs Engineering.

## Solution

The solution comprised a pressurised Wymbs multi-head manifold, with 2-axis movement, fed by metered pump. Four Unidrive 2.2 kW AC drives provide precision control of the depositing manifold and the metering pumps. Two drives control the manifold positioning, one the dispensing pump into the manifold, and the fourth controls the pump that dispenses caramel into 'tote' bins for transfer to other production plants.

## Key benefits

- Increased throughput
- Less downtime
- Precision control
- Easy to program

## Customer view

"The programming was very straightforward and intuitive," said Mark Walker, Wymbs' Systems Engineering Manager. "We built and programmed the panel here at Bollington and on site, did little more than connect it up, switch it on and walk away."

## Products used

Unidrive



**FOOD & DRINK**

**MIXING,  
FANS,  
PUMPS**



# **CONTROL TECHNIQUES PROVIDES SWEET SOLUTION AT BRITISH SUGAR**

## **Company name**

British Sugar

## **Country**

UK

## **Customer profile**

British Sugar, Cantley chose Control Techniques drives for its new beet finisher drum, with associated high pressure spray water pump.

## **Solution**

Unidrive AC drives were selected for all the key motor control operations, an investment in excess of £1 million.

## **Key benefits**

- Increased yield
- Safe torque off
- Direct communications
- Reduced maintenance

## **Customer view**

“Control Techniques is our drive of choice for a number of reasons, they give us increased reliability, compared with other drive systems.”

## **Products used**

Unidrive



**FOOD & DRINK**

# FOOD & DRINK



# UNIDRIVE REDUCES DOWNTIME BY OVER 50% AT THAI SUGAR PLANT

## Company name

Mitr Phol Sugar Corp

## Country

Thailand

## Customer profile

Mitr Phol produces two million tons of sugar a year. To do this, the firm needs to process 20 million tons of sugarcane. At its Phulaung plant in northeast Thailand, the company recently opted to replace the drive on its principle variable speed sugarcane conveyors to help meet demand.

## Solution

Mitr Phol chose the Unidrive variable speed AC drive from Control Techniques along with an optional SI-Encoder module to provide closed loop rotor flux control for induction motors (RFC-A mode).

The encoder was vital because the equipment conveys sugarcane to each process station, including the crushing station. It is important that the factory runs at full capacity, particularly from September to March, which is when sugarcane comes into season. Any downtimes during these months can be very damaging to the supply of sugar in the off-season.

## Key benefits

- Plant downtime reduced by over 50%
- Improved overload torque

## Customer view

“We received highly responsive technical support during pre-sales and after-sales from Control Techniques and its local partner Contrologic throughout the process,” said Mr Wanchai. “We certainly plan to incorporate additional products from Control Techniques into our business moving forwards.”

## Products used

Unidrive



**AUTOMOTIVE, COMMERCIAL & MANUFACTURING, CRANES & HOISTS, ENERGY, ELEVATORS, ENTERTAINMENT & LEISURE, FANS & PUMPS, FOOD & DRINK,  GLASS, MACHINE TOOL, MATERIAL HANDLING, MEDICAL, METALS, MINING, PACKAGING, PAPER, PRINTING, PROCESS, STAGE AND THEATRE, STEEL, TEST RIGS, TEXTILES, WATER, WIND, WIRE, WOOD WORKING.**



**GLASS**

# LANCASHIRE COMPANY PROVIDES SOLUTION TO GLASS CULLET SHORTAGE

## Company name

Tek-Dry

## Country

UK

## Customer profile

Using patented air technology and Control Techniques drives, Tek-Dry Systems has manufactured a revolutionary commingled recycling separation machine designed to overcome the national shortage of glass cullet.

## Solution

Commander AC drives control the speed of the five conveyors and three 15 kW process air supply fans. Each one is fitted with a Profibus-DP communications module to provide drive-to-drive communication and communicate with the PLC controller and HMI.

## Key benefits

- Flexibility & performance
- Compact drive
- Easy to program

## Products used

Commander

# CONVEYOR, FANS



## Customer view

"We are confident Comsort brings a new dimension to the industry," said Scott Thompson, Project Engineer at Tek-Dry Systems. "No process that we are aware of can produce such high-quality glass cullet – and at a fraction of the cost of many other technologies. We feel Comsort has a role to play in changing the face of recycling and is a machine capable of meeting today's more demanding recycling requirements. Glass that should be recycled as cullet is simply being wasted, and we aim to reverse that trend!"



**GLASS**

**CUTTING,  
MATERIAL HANDLING**



# PILKINGTON AUTOMOTIVE DRIVEN BY CONTROL TECHNIQUES DRIVES

## Company name

Pilkington

## Country

Germany

## Customer profile

The Pilkington Automotive plant commissioned a new advanced bending and toughening process and a new, world-leading lamination shaping and cutting line for the high value windscreen 'plastic' lamination material. Conventionally, rolls of the material have to be wide enough to accommodate the curve of the windscreen, which generates considerable amounts of waste after the material is cut to shape. Designers at Witten set about finding a solution to eliminate as much of this waste as possible.

## Solution

The machine's movements are under the control of 12 Unidrive AC drives, varying in size from 0.75 to 4 kW, with functions varying from positioning systems, linear movement controlling linear motors, conveyor control and cut-to-length.

## Key benefits

- Extremely versatile
- On-board programming facility
- Precision control

## Customer view

"One design of drive performs a variety of tasks within one line. We like the fact that individual drives can be programmed using the application modules and whatever feedback we need, there's the facility to incorporate it."

## Products used

Unidrive



**GLASS**

# AUTOMATION PRODUCTS IMPROVE PRODUCT QUALITY AT GLASS MANUFACTURER

## **Company name**

Glaston America

## **Country**

USA

## **Customer profile**

Glaston America is a leading manufacturer of glass tempering ovens. The company, based in New Jersey, has established a strong reputation for excellence in the commercial and residential glass markets.

Cardinal IG had a problem with tiny scratches that were occurring as a result of glass being tempered without precise speed control on the oven's drives. To overcome the challenge, Glaston researched the market for an alternative to its existing drives supplier.

## **Solution**

Glaston chose Unidrive AC drives along with Unimotor hd servo motors from Control Techniques and Leroy-Somer. Unidrive was chosen due to its new features and functionality. In particular, the option to add PROFIBUS communications and application modules to increase the drives' flexibility was crucial.

## **Key benefits**

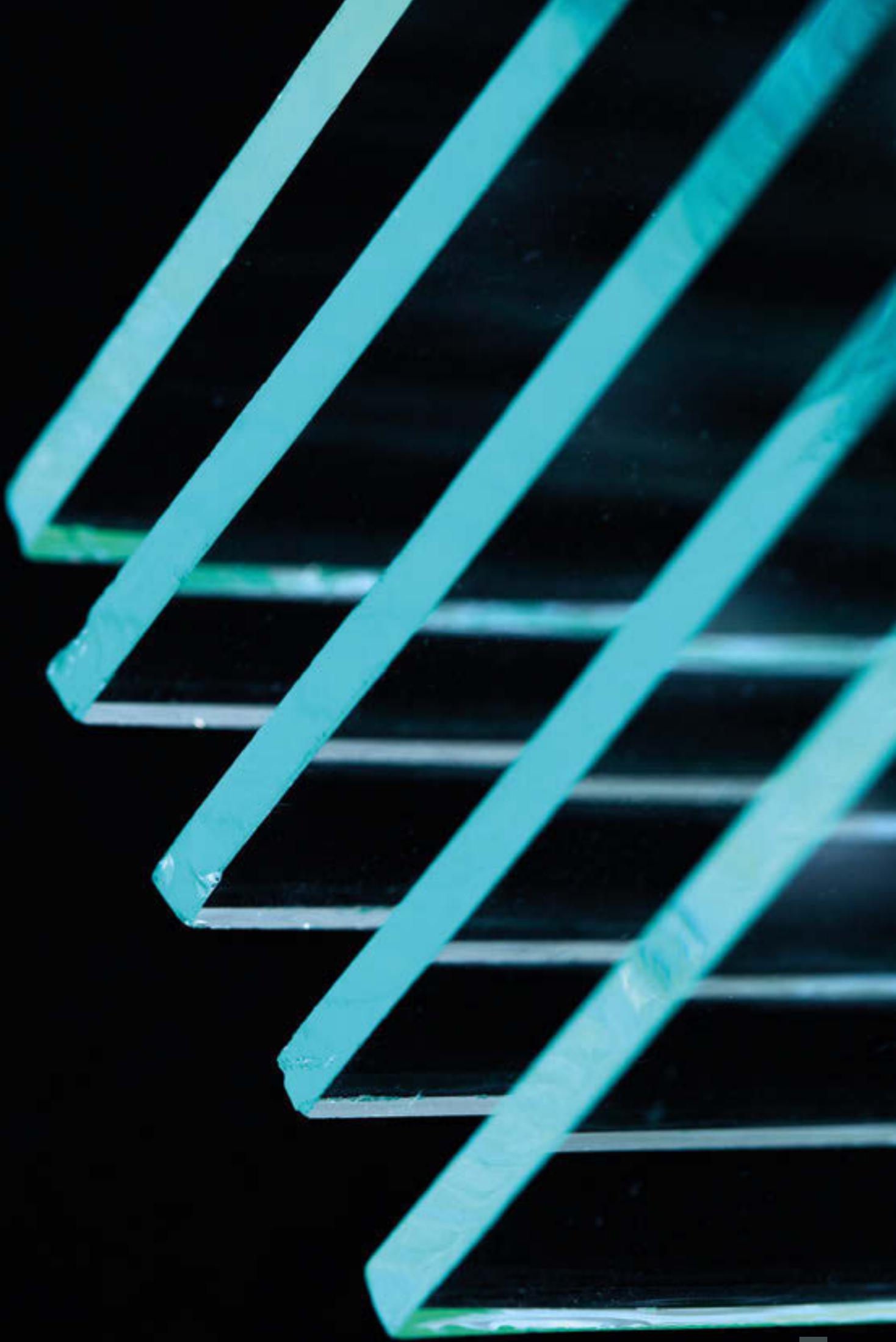
- Precise speed control
- Comprehensive diagnostics capability
- M701 drive contains two encoder interfaces

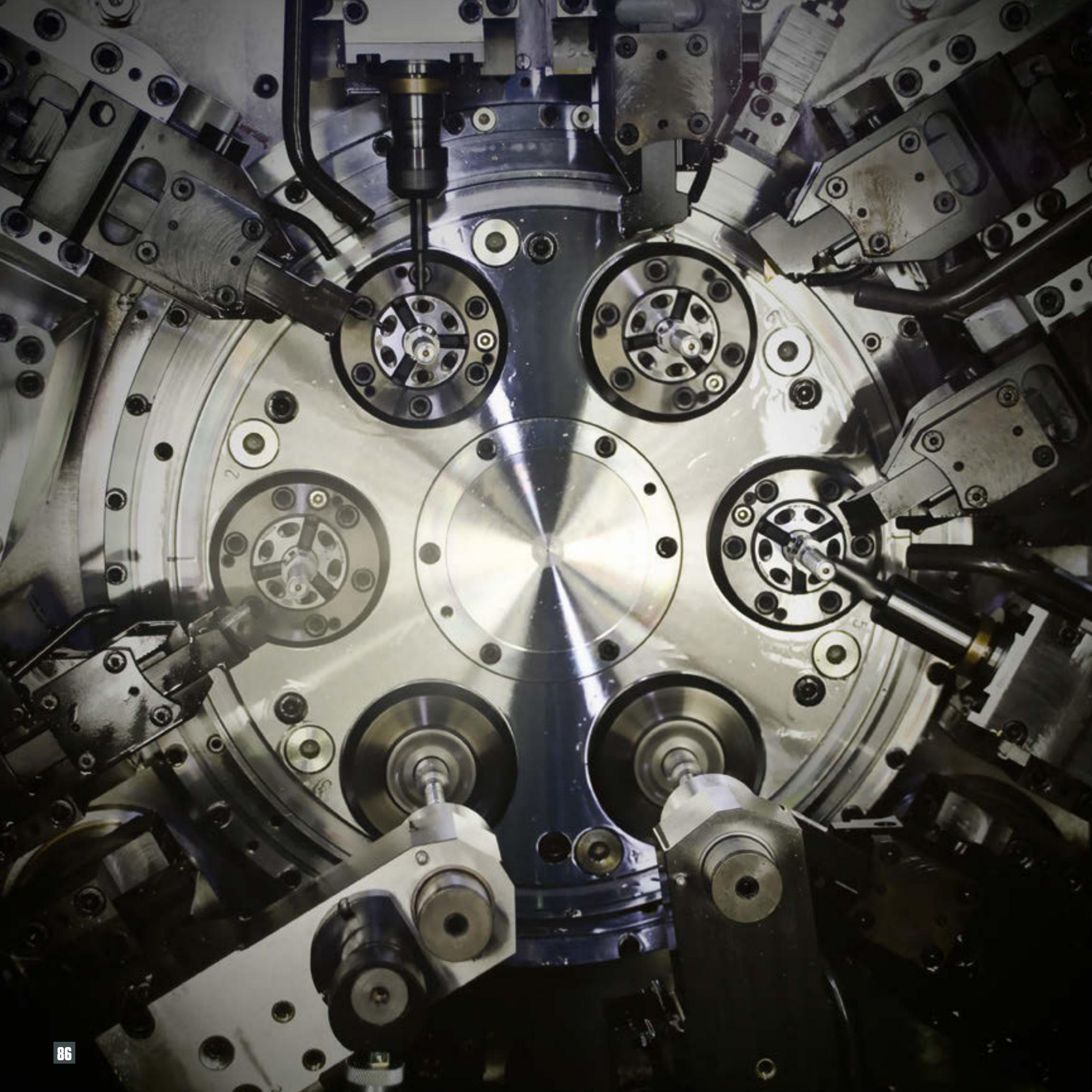
## **Products used**

Unidrive

Unimotor hd

# ROLLERS, OVENS





**AUTOMOTIVE, COMMERCIAL & MANUFACTURING, CRANES & HOISTS, ENERGY, ELEVATORS, ENTERTAINMENT & LEISURE, FANS & PUMPS, FOOD & DRINK, GLASS,  MACHINE TOOL, MATERIAL HANDLING, MEDICAL, METALS, MINING, PACKAGING, PAPER, PRINTING, PROCESS, STAGE AND THEATRE, STEEL, TEST RIGS, TEXTILES, WATER, WIND, WIRE, WOOD WORKING.**



**MACHINE TOOL**

# COMMANDER PROVES COST EFFECTIVE FOR SPECIALIST WELDING MACHINE

## Company name

Automatic Technologies International

## Country

UK

## Customer profile

Automatic Technologies International required precision control for the production of a heater assembly for a central heating boiler, which entails welding a 22mm pipe to a blank tube end, welding the tube end onto an 80mm tube, then completing the task by welding a flange to the other end of the tube.

## Solution

An alternative solution was found using the on-board PLC functionality of the 0.25 kW Commander drives to provide two drive programmes and on/off control of the TIG welding torch.

## Key benefits

- Compact drive
- Simple programming
- Cost effective solution

## Customer view

“Commander simplified the whole design,” explained Alex Wilson, Managing Director of Automatic Technologies International, “and the drive’s very compact too, which also helped.”

## Products used

Commander

WELDING



**MACHINE TOOL**

# SPINNING, PRECISION

# COMMANDER PROVIDES TIMELY SOLUTION FOR CREVOISIER SA



## **Company name**

Crevoisier SA

## **Country**

Switzerland

## **Customer profile**

Swiss company, Crevoisier SA, are a leading machine manufacturer for several industries including watch-making. When it launched its first lapping and polishing machine to feature a drive, the company chose a Control Techniques Commander drive.

## **Solution**

Commander was key to achieving these objectives. It can attain the high level of precision required and its compact frame could be set inside the C-5001. Furthermore, polishing sequences could be programmed directly onto the drive, eliminating the need for a PLC – saving space and money.

## **Key benefits**

- Variable speed
- Precision control
- Compact drive
- Programmable

## **Products used**

Commander

## **Customer view**

“Control Techniques have really helped us in the design of the new machine, the technical support they have provided, such as programming the HMI panel, has been invaluable. The quality of their products was known to the company and they were able supply the whole package – the drive and HMI panel.”



**MACHINE TOOL**

# WELDING, PRECISION

## Company name

Witter Towbars

## Country

UK

## Customer profile

Witter Towbars, a Deeside based towbar manufacturer that produces more than 850 towbar variants, has been able to automate jig control in the welding process using Control Techniques drives. Witter wanted to automate the handling task, previously done manually, and required the solution to integrate with the welding robots.

## Solution

Control Techniques was able to provide a simpler, more cost effective solution that didn't require a PLC, and guaranteed complete safety for loading each job with the secure disable feature. The new rotating jigs were designed and produced by Telford-based Automatic Technologies International (ATI) using Unidrive AC drives with UMD servomotors from Control Techniques Dynamics, with programming provided by on-board EZMotion modules.

## Key benefits

- Welding time reduced by 50%
- Increased production
- Quality improved
- Simple secure disable

## Customer view

"Now, as well as much less handling, we get improved weld quality. It's consistent, there's much less chance of human error, and of course, there's up to 50% time saving on the whole of the welding procedure."

## Products used

Unidrive  
Servo Motors

# AUTOMATED WELDING BOOSTS TOWBAR PRODUCTION



MACHINE TOOL

# UNIDRIVE BRINGS THROUGHPUT AND EFFICIENCY IMPROVEMENTS TO FASTENING PRESSES

# ENERGY SAVING

## Company name

Penn Engineering

## Country

USA

## Customer profile

Penn Engineering, a global leader in fastening solutions, needed to change its existing systems from air over oil to electric. This would result in a number of positive benefits, including the elimination of oil leak issues which were crucial in specific markets.

## Solution

Working with Control Techniques, a highly customised system was commissioned utilizing Unidrive AC drives which control one linear device. The motors enable and disable on the fly to hand off from one motor to the other, with seamless motion, to control the same linear device.

## Key benefits

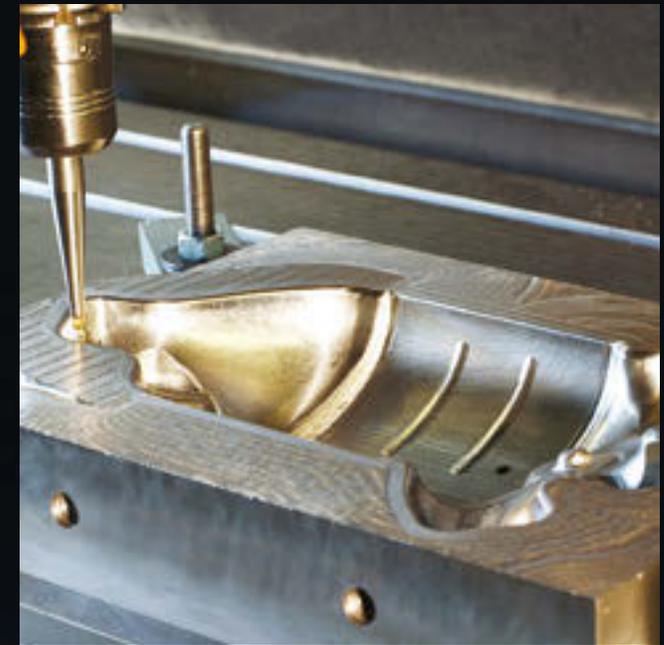
- Increased yield
- Safe torque off
- Direct communications
- Reduced maintenance

## Products used

Unidrive



# DRIVES USED FOR PRECISION CUTTING WITH STYLE



## Company name

STYLE High Tech

## Country

Netherlands

## Customer profile

STYLE was searching for more dynamic and flexible drives to incorporate in its machines when it came across Control Techniques' Rotterdam Drive Centre. Anton Lammers, STYLE Technical Director said, "We looked at 12 drives suppliers and found that Control Techniques was the best for us in several ways."

## Solution

Control Techniques started supplying STYLE with around 250 servo axes and 100 spindle drives every year, with STYLE ordering standard 'kits of parts' for just-in-time delivery.

Control Techniques Commander drives are used for open loop spindle control and Unidrive for closed loop control (from 5.5 to 15 kW). Control Techniques Dynamics' Unimotors with SLM control were chosen for the X,Y and Z axis servo control.

## Key benefits

- Excellent precision
- Stiff servo control
- Flexible service
- Additional options

## Products used

Unidrive  
Commander



# CUTTING, PRECISION, POSITIONING

## Customer view

“We particularly like the SLM technology that gives high precision and stiff servo control – and it’s easy to commission too. It is very straightforward to add additional functionality that a customer may require by programming the application module in the Unidrive – it’s a very flexible drive. We also like the fact that both the Unidrive and Commander have the same footprint and connection arrangements, which simplifies our design and build requirements. The just-in-time arrangement we have with Control Techniques works very well and has saved us at least €100,000 because we don’t hold drives in stock.”



AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL,   
**MATERIAL HANDLING**, MEDICAL,  
METALS, MINING, PACKAGING,  
PAPER, PRINTING, PROCESS,  
STAGE AND THEATRE, STEEL,  
TEST RIGS, TEXTILES, WATER,  
WIND, WIRE, WOOD WORKING.



# AUTOMATION TAKES THE STRAIN TO LOWER COSTS OF PAVING

**Company name**

Robostreet

**Country**

Netherlands

**Customer profile**

Dutch company Robostreet has developed Streetwise 1200, the first of a range of machines to lay block paving. Control Techniques drives control the hydraulic pump and compressor, and control the servo adjustment of a camera system and rotating laser.

# PUMP, COMPRESSOR, POSITIONING

## **Solution**

Each vehicle uses Commander AC drives: a 5.5 kW model controls the hydraulic pump, a 3 kW drive provides compressor control, and two small 0.25 kW drives provide rotation control for two positioning lasers. Another small Commander provides precise height positioning of the camera in the vision-control system.

## **Key benefits**

- Lower operating costs
- Less back injuries & time off
- Compact drive
- Extremely versatile

## **Customer view**

“Control Techniques Commander drives were chosen because unlike the other drives that were tested, they have sufficient DC residue to ride through a large dip in AC power from the on-board diesel generator without tripping. A further factor was the drives’ compactness. The new automated system means that the heavy work is done by a machine rather than a human, which has reduced injuries, particularly back strain. It makes the paving process safer, quicker and more cost effective, and the local authority in Rotterdam purchased 22 machines immediately on completion of the development.”

## **Products used**

Commander



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C-HL1 2 HS1 2  
Tr2d1 7 / 180

5cm TI 100 0  
E TR 6890 0  
TP 0 TE 78 0  
SP P10 4 TA 04 22  
SL 5 0/1 5 BW 80 0  
Fov 184 245 p2 MIDIS2D  
158 258  
W 956  
C 442

MR C12  
HLS  
+LPH

MR C12  
HLS  
+LPH

MR C12  
HLS  
+LPH

**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING,  **MEDICAL**, METALS,  
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PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



**MEDICAL**

# SERVO DRIVE PROVIDES ACCURACY REQUIRED FOR TOTAL BODY IRRADIATION TABLE

## Company name

Oncology Ljubljana

## Country

Slovenia

## Customer profile

A servo drive from Control Techniques has delivered the precision and reliability needed for a total body irradiation (TBI) table at the Institute of Oncology Ljubljana in Slovenia. Total body radiation (TBI) is an advanced life-saving radiotherapy procedure for treating predominantly hematological diseases, such as lymphomas. The dose must be delivered within + – 3% and this precision is difficult to achieve because of variations in the thickness of the patient's body and the density of tissue. The Institute's key requirements were for very accurate speed control, so the radiation dose could be adjusted by the speed of the table, and ultra-reliability, as the table must never stop while the radiation source is on.

## Solution

A magnetic system that measures the actual speed of the table, rather than just motor speed ensures complete reliability. The signals are evaluated within the Digitax servo drive's processor, with actual speed constantly compared with the servo motor speed. As a further safety back-up, an IFM counter monitors the table speed and disconnects the radiation source if it drops below a minimum level.

## Key benefits

- Increased precision
- Improved reliability
- Simple & quiet operation

## Customer view

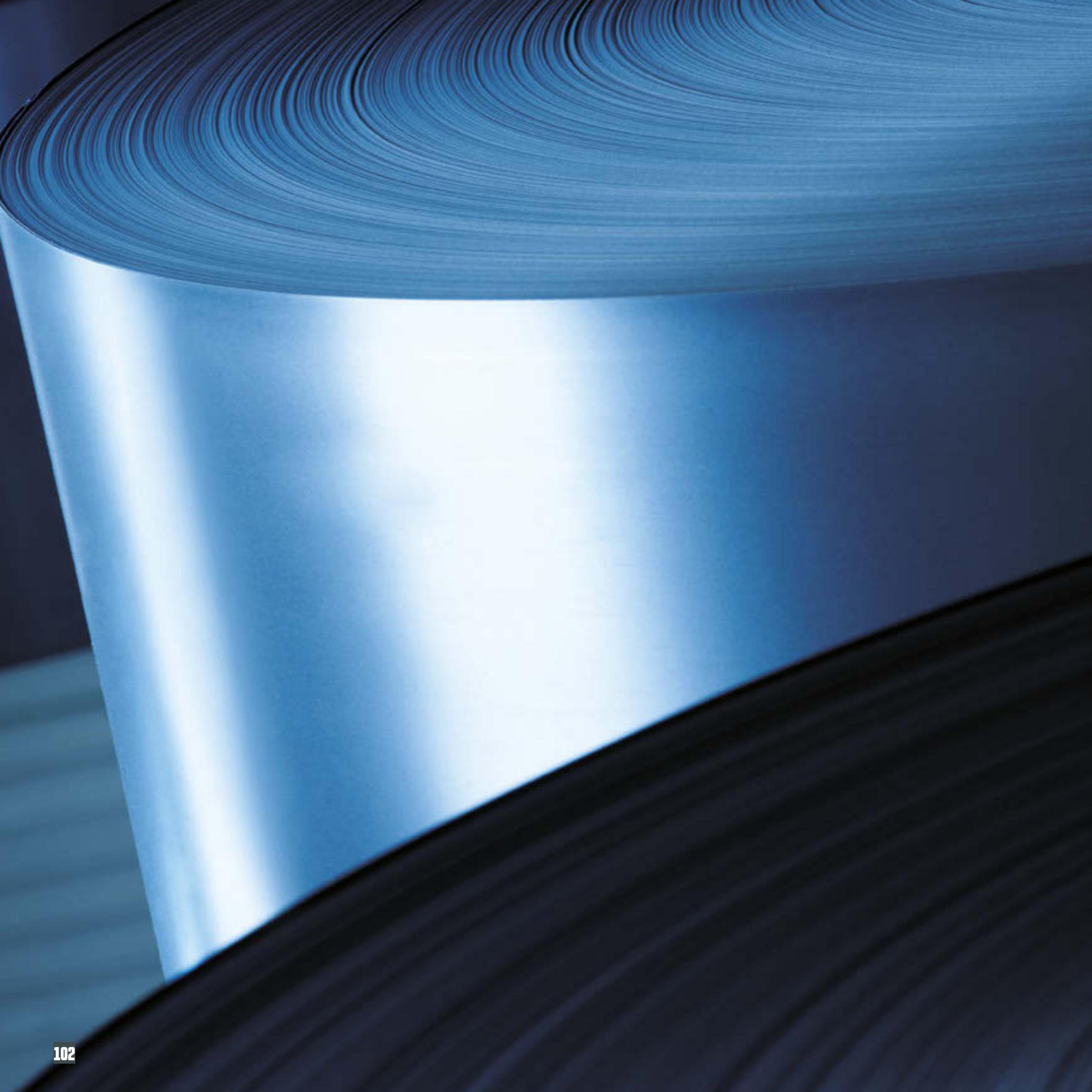
"The drives provide the reliability and control required for safe operation of the TBI table and ensure that it cannot stop when the radiation source is on. All of the programming is built-in so the system is also simple to operate and less costly, and quiet."

## Products used

Digitax

SPEED CONTROL,  
MONITORING





**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL,  METALS,  
MINING, PACKAGING, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



## METALS

CUTTING,  
POSITIONING



# UNIDRIVE INCREASES PRODUCTION SPEED BY 300%

### Company name

Athader

### Country

Spain

### Customer profile

Athader, based in northern Spain, manufactures coil processing lines, mainly slitting lines and levelling and cut-to-length lines for steel, stainless steel and aluminium material. The company's customers include steel coil processors, rolling mills and profile and tube manufacturers.

### Solution

Athader manufactures a variety of high-specification machines. One recent example was the development of a cutting line for steel bands. The solution includes a cabinet with 19 AC drives in a DC bus configuration. The cutting line uses Unidrive's with SI-Application modules and dedicated unwinder software.

### Key benefits

- 300% increase in production speed
- Commissioning time reduced by 1/3
- Maximized uptime

### Customer view

"Athader chose Unidrive due to its performance and reliability, as well as impressive speed and response which allows high dynamic application control with repeatable precision. Athader says working with Control Techniques' support team has allowed optimization of machine design. For instance, production speeds have increased by more than 300% for longitudinal systems. In addition, the machines can now process steel bands that are twice as thick as was previously possible."

### Products used

Mentor  
Unidrive  
Unimotor



# STATIC CUT-OFF MACHINE UPGRADE SLASHES DOWNTIME AT CORUS

## Company name

Corus Tubes

## Country

UK

## Customer profile

Reliability and throughput of a static cut-off machine at Corus Tubes, Hartlepool have been dramatically improved by switching to drives from Control Techniques. “The existing Mannesmann Demag system was obsolete and unreliable, with no support,” commented Dave Watt, Senior Electrical Project Engineer at the plant. “The reliability was poor with the software and documentation difficult to follow. Replacement was needed urgently, but was far from straightforward. We asked Drives and Automation Ltd to recommend a solution and they put forward a scheme featuring drives and servos from Control Techniques.”

## Solution

The replacement control system includes a Mentor, two Unidrive 18.5 kW servo drives and new servo motors. An applications module provides position control over each X and Y axis as well as high-speed communications using CT-Net.

The existing servo-motors were replaced with new Unimotor FM servo-motors – they are compatible with Unidrive servo drives and provide a similar speed and torque profile. The system provides precise position control at all times.

## Key benefits

- Increased throughput
- Improved reliability
- Significantly reduced downtime
- Straightforward set-up & operation

## Customer view

Dave Watt concluded, “Drives and Automation Ltd provided a complete drive package to replace a very complicated obsolete control system. The equipment was provided on time and successfully commissioned within the shutdown. The system has run continuously ever since its installation and never missed a beat. We are very pleased with the local support.”



# CONTROL TECHNIQUES AWARDED SOUTH AFRICAN STEEL CONTRACT

## Company name

Columbus Stainless (Pty) Ltd

## Country

South Africa

## Customer profile

South African company, Columbus Stainless (Pty) Ltd, is South Africa's sole producer of stainless steel flat products. As well as supplying the domestic market, the manufacturer also exports products to the rest of the world.

The organisation was seeking a partner to supply the controls for the new bridle and transport drives at the entry section of one of its anneal and pickling lines. It is one of the largest of a number of projects where Control Techniques drives are replacing older drives; a total of 19 drives were supplied for the new entry section.

## Solution

The scope of the system is to control 16 wringer roll motors, each 5.5 kW, 4-pole, 525 volt geared motors, plus two 110 kW, 525 volt bridle motors and a 30 kW exhaust fan. Each of the wringer roll motors is controlled by a 7.5 kW panel-mounted Unidrive AC drive and the larger bridle motors have 110 kW modular Unidrive drives with regenerative mode for accuracy of tension control and maximum efficiency saving.

## Key benefits

- Flexibility of operation
- Accurate tension control
- Maximum efficiency savings

## Customer view

"Control Techniques provided close engineering support and advice throughout the process, including detailed training of maintenance staff."

## Products used

Unidrive



**METALS**

### **Company name**

CAMU Srl

### **Country**

Italy

### **Customer profile**

CAMU Srl of Bressanvido (based in Vicenza, Italy), a leading manufacturer of sheet metal working machines, has standardised on AC drives from Control Techniques.

In order to meet market demand and produce a more competitive product, CAMU needed to reduce the maintenance required and increase reliability of its drives.

### **Solution**

As part of the upgrade project, CAMU switched from DC to Control Techniques' AC drives for all of its re-designed cut-to-length machines, straighteners and slitting lines, with drives ranging from 0.75 kW up to 1.5 MW. Unidrive drives were used for a variety of applications, from open-loop control for material handling, closed loop control for slitting lines and servo control for high-precision feeding and cutting.

### **Key benefits**

- Versatility
- Simple programming
- Greater reliability
- Customer energy savings

### **Products used**

Unidrive

### **Customer view**

"We have considerable confidence in Control Techniques. We receive excellent support from the Vicenza Drive Centre and its applications knowledge has helped us to produce better solutions for our customers."

# **INTELLIGENT DRIVES CHOSEN FOR PRECISION METAL CUTTING**

**CUT-TO-LENGTH,  
MATERIAL HANDLING,  
SLITTING**



# AUTOMATION SOLUTION CUTS ENERGY COSTS BY 40% ON ASPIRATION SYSTEM

## **Company name**

Zanardi Fonderie

## **Country**

Italy

## **Customer profile**

Zanardi Fonderie is a leading producer of Austempered Ductile Iron. The business, based in Italy, is a family owned company that has spanned four generations – originally founded in 1931. The aspiration

system, which removes harmful gasses from the air inside the foundry, is essential to protecting the health of factory operators but consumes an enormous amount of energy. Zanardi wanted to investigate ways in which these costs could be reduced without impacting on employee safety.

## **Solution**

Energy saving experts from Control Techniques and Leroy-Somer, working in collaboration with Zanardi staff, collected data to provide a clear picture of how

the equipment operated. Engineers replaced the existing drive system with an upgraded high-efficiency AC motor and a Powerdrive MD2 variable speed drive.

## **Key benefits**

- 40% Reduction in energy costs
- Payback period of less than two years
- Energy savings of 800 kWh per day

## **Products used**

Powerdrive



# ENERGY SAVING, FANS & PUMPS, EXTRACTION

## Customer view

“The drive and motor solution has delivered a 40 percent reduction in energy costs for the aspiration system – which now consumes less than 1,200 kWh per day on average (down from 2,000 kWh per day previously) and will have a payback period of less than two years.”



**METALS**

# MAINTAINING THE PRESSURE AT GERMAN ALUMINIUM PLANT

## **Company name**

Alcoa Extrusions Hannover GmbH & Co.

## **Country**

Germany

## **Customer profile**

When a German aluminium plant in Alcoa, Hannover upgraded its extrusion line the company chose to install Control Techniques variable speed drives.

The pumps on the original hydraulic plant sent additional oil through a by-pass to give the required thrust, so they effectively ran at full speed all of the time, which is very inefficient.

## **Solution**

The plant installed six 160 kW Unidrive modular drives, which integrate with the hydraulic controller using Profibus and give exactly the required power at every stage of the operation. This saves 40% of the power and provides better control, giving improved quality of extrusions. The extrusion press produces 800-900 tonnes of aluminium extrusions per month, operation runs 24 hours a day, 365 days a year, so the installation was carried out with the line in full operation.

## **Key benefits**

- Energy saving
- Compact
- Increased throughput
- Lower maintenance costs

## **Products used**

Unidrive



#### **Customer view**

“We particularly like the new modular Unidrives”, Herr Stefan Heine, who has responsibility for technical operations and purchasing at the plant, explained. “They are extremely compact and easily fitted into our plant room. We like the Unidrive range generally and routinely use SmartCards to speed up the setting of parameters when we install a new drive. Most of the drives in our plant are connected by Profibus to the factory management system.”

# EXTRUSION, PUMPS



**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
 **MINING**, PACKAGING, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



# CONTROL TECHNIQUES WINS GOVERNMENT CONTRACT FOR OPEN-CAST MINE

## Company name

Te-Ko Kostolac Mine

## Country

Serbia

## Customer profile

The government-owned Te-Ko Kostolac mine is the second largest open-cast coal mine in Serbia and directly supplies an adjacent coal-fired power station.

The application is for the drive and control of a huge two-part conveyor system used to remove the earth and rock scoured from above the coal seams. Diggers load earth onto the 1.6m wide conveyor system, which carries it onto a dispensing conveyor. Both conveyors can be moved to where they are needed by a caterpillar system and the total length can be up to 2 km. The load operation is fairly even over 24 hours, with capacity varying between 3,000 and 5,000 tonnes per hour.

## Solution

Four 315 kW heavy duty Unidrive free-standing drives were supplied, each fitted with a Profibus module that communicates directly with the central PLC and ESA HMI panels. The drives operate in Control Techniques' unique open loop RFC mode, and control two pinch-drums, with one 315 kW, 1490 rpm motor at each end of each drum. The control system monitors the load and adjusts the drives' speed to ensure an even distribution of motor power.

## Key benefits

- Compact drives
- Easy to install & maintain
- Energy saving mode

## Customer view

"The compact size and easily installed and maintained modular format of the drives were key factors in the selection of these drives. Petar Mikovic, Project Manager at ATB Sever added, "Our close working relationship with Control Techniques and Master Engineering combined with our experience of such schemes and our customer support all contributed to winning the contract."

## Products used

Unidrive

# CONVEYOR, ENERGY SAVING





AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING,  **PACKAGING**, PAPER,  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.



## PACKAGING

# SERVO TECHNOLOGY IMPROVES RELIABILITY AND ACCURACY OF NEW PACKAGING MACHINE

### Company name

CMC Machines

### Country

Italy

### Customer profile

CMC Machines, based in Italy, designs and manufactures fast, reliable and technologically advanced systems for the paper and film wrapping industry. It needed an advanced servo system for a new design of packaging machine: Cartonwrap.

Cartonwrap machines use an inexpensive corrugated cardboard roll to make boxes of virtually any size, adapting the container to the size of the item.

### Solution

CMC chose a servo drive solution from Control Techniques: each Cartonwrap machine uses 22 Digitax servo drives and Unimotor FM servo motors. The Digitax drives use multi-network management via a central PC and Ethernet for coordinating all production menus and motion parametric equations on the individual process components.

### Key benefits

- Bespoke software developed for CMC's machines
- Increased communication speed

### Customer view

"CMC started using Control Techniques' drives in the early 1990s and our engineers have consistently been closely involved in the creation of the specific software needed for CMC's complex motion control systems."

### Products used

Digitax  
Unimotor FM

CONVEYORS,  
WRAPPING



**PACKAGING**

**WINDING,  
PRINTING,  
HOT FOIL**

# SERVO SOLUTION CHOSEN FOR ANTI- COUNTERFEIT LINE BY ROTARY LOGIC SYSTEMS



## **Company name**

Rotary Logic Systems

## **Country**

UK

## **Customer profile**

UK-based Rotary Logic Systems supplies machines and modules for the converting and finishing industries.

Rotary Logic Systems was designing a series of six lines for a manufacturer in India. Each was a multi-stage anti-counterfeit line for packaging incorporating high precision application of a hot-foil hologram.

## **Solution**

Rotary Logic Systems chose Digitax servo drives and Unimotor FM servo motors, from Control Techniques. The servo drives and motors control the feeds and various other aspects of the machines. A variety of Application modules are employed on many of the drives, including Ethernet and I/O. The whole line is coordinated using Control Techniques' own high speed network, CT-Net.

## **Key benefits**

- Flexible operation
- Straightforward programming
- Fast response with on-board controller
- Compact size of drives and motors

## **Products used**

Digitax  
Unimotor FM

## **Customer view**

"We need drives that are flexible in operation, straightforward to program and with very fast response – that's why we use Digitax plus servo drives from Control Techniques."

Equally, the compact size of the Unimotors is critical on many lines. But, above all, it is our relationship with Control Techniques' engineering and software departments that has been so important over the last few years. As a company, they are prepared to be flexible and provide excellent support."



# MOTORS AND DRIVES DELIVER UPGRADE AT CHAMPAGNE PRODUCER

## Company name

Nicolas Feuillatte

## Country

France

## Customer profile

The Centre Vinicole – Champagne Nicolas Feuillatte is the leading Champagne producers' union. It comprises 80 cooperatives and represents over 5,000 wine-growers. Its facility in Chouilly, in the Marne region, is one of the most automated plants of its type, with a workforce of 235 people. Output reaches 23 million bottles a year.

Nicolas Feuillatte needed to replace a series of drive and motor systems, in a gradual process. The first conveyor system scheduled for upgrade consisted of an automatic controller, an axis controller, a variable speed drive and a motor. The job of the conveyor drive system was to place the empty bottles with extreme accuracy before cleaning and filling. The system needed to run at a rate of 4,000 to 6,000 bottles an hour while offering maximum availability in operation.

## Solution

A system was designed consisting of Control Techniques' Unidrive variable speed drive with an MCI machine control module, connected to an automatic controller and combined with a Leroy-Somer Dynabloc servo gearbox with a low backlash. The system uses Unidrive's embedded Advanced Motion Controller, allowing different configurations to suit the various bottle shapes.

## Key benefits

- Reduced system complexity
- Expert technical service partnership
- High overload tolerance, torsion strength and accuracy
- Simple programming

## Products used

Unidrive  
Dynabloc



# CONVEYORS, FILLING, SEALING

## Customer view

“With its technologies, expertise and service, Control Techniques and Leroy-Somer have fully met our expectations and we are in the process of deploying their solutions across our entire site.”

Fredrick Lopez,  
Centre Vinicole Automation Manager



## PACKAGING



# UNIDRIVES INCREASE LABEL MACHINE THROUGHPUT 50%

### Company name

Afinomaq

### Country

Portugal

### Customer profile

Portuguese company Afinomaq makes a wide variety of machines for the food and drink industry, including semi and fully automatic labelling machines.

The company was experiencing problems with the ketchup bottle labeling machine, with photocell failures because of intensive wash-down procedures and misalignment of labels due to line speed variations. The machine applied three labels to each ketchup bottle – front and rear plus another on the bottle's neck. There is an input conveyor and a movement 'star' on which the labels are applied in turn by three servo-controlled labeling heads.

### Solution

The scheme proposed by Control Techniques local agent Harker Sumner comprised three sets of Unidrive 0.75 kW AC drives in servo mode, twinned with Unimotors to control the three heads on the rotating head labeling machine. Each drive was fitted with an additional Universal Encoder Plus module to monitor the absolute encoder feedback of line speed, as well as an Applications module to provide powerful on-board programming.

### Key benefits

- 50% increase in throughput
- Improved reliability
- Easy programming

### Customer view

"The result has been a big increase in machine reliability plus a massive 50% increase in throughput speed and, as a bonus, bottles are less stressed in the star unit, eliminating breakages!" said Afinomaq Technical Manager, José Marques.

### Products used

Unidrive



# SWEET TASTE OF SUCCESS IN CONFECTIONERY PACKING

## Company name

IPAC s.r.l

## Country

Italy

## Customer profile

IPAC has manufactured traditional Zambelli-type boxing machines to place packets of all sizes and shapes in multi-layer boxes for many years. The machine uses a sequence of mechanical gears, levers and cams to package round sweet packets into display boxes containing 15, 18, 20 and 40 pieces divided into two, three or four layers.

This technique was successful but limited when it came to changing formats as new products and packaging designs were introduced. Changing box formats took a significant amount of time as major parts had to be replaced and many adjustments were needed to perfect the final product.

## Solution

Working closely with Control Techniques, IPAC redesigned and modified the machine, and the principal gears and parts were replaced with three Control Techniques servo motors controlled by Unidrive drives, in servo mode, equipped with applications programmable plug-in second processor modules.

## Key benefits

- Flexibility & functionality
- Format changes quick & easy
- High level of accuracy & repeatability
- Store production recipes

## Customer view

“Machine functionality is much more flexible and format changeovers are not only possible but also much quicker. The ability to change the parameters quickly and easily for packing sweets into boxes has added flexibility and functionality and helped IPAC develop a whole new generation of machines for use in the confectionery industry.”

## Products used

Unidrive



## PACKAGING

# A FRESH APPROACH TO FRUIT PACKAGING



### Company name

Tiber Pack S.r.l.

### Country

Italy

### Customer profile

Italian company Tiber Pack designs and builds automatic packaging machines, creating customised installations equipped with the latest technology in machine management, self-adjustment and self-diagnosis. When developing the new machine, the company wanted to automate the complex and delicate process of packing fresh fruit baskets into cardboard boxes or plastic crates. The process had previously been done manually, limiting the production rate to what was achievable by human labour.

### Solution

The company chose to install intelligent drives from Control Techniques to provide the high degree of precision required. Digitax servo drives provides synchronisation via CT-Sync and CT-Net of the various pick and place and shifter axes, while 0.75 to 1.1 kW Commander AC drives coordinate all steps to prepare and package fragile, easily bruised products that must be handled with the utmost care.

### Key benefits

- Extremely high production rates
- Simple to program
- High level of precision
- Online monitoring & control

### Products used

Digitax  
Commander

### Customer view

"The drives are extremely reliable, providing a high performance to increase operating speed ratio, repeatability and accuracy, while at the same time reducing panel sizes and costs. The line's production rate increased to approximately 120,000 baskets per hour and Tiber Pack's software team found programming of the system straightforward and intuitive."

# PACKING, SORTING, POSITIONING



PACKAGING

# SERVODRIVES CRUCIAL TO HIGH SPEED VERTICAL PACKER

PACKING,  
SEALING,  
POSITIONING,  
CONVEYORS

## Company name

Comek S.r.l.

## Country

Italy

## Customer profile

Comek S.r.l. of Carpenedolo, northern Italy has an enviable reputation for manufacturing automatic systems for packaging fresh, frozen and dry foodstuffs, powders, creams and vacuum-packed goods. The new VPC 330 B-HS vertical packer was designed to meet demanding customer specifications in terms of performance, reliability, flexibility and ease of use.

## Solution

Four brushless Unimotor FM servo motors controlled by Control Techniques Digitax servo drives generate a mechanical speed of more than 165 pillow packages of 420 x 310mm per minute and more than 80 four-seamed, square-bottomed packs per minute up to a maximum film band of 1505mm. Film is drawn by laterally mounted belts in a vacuum system, which means mono-layer, multi-layer and co-extruded materials can be used without affecting the productivity of the machine.

## Key benefits

- Extremely reliable & flexible
- High productivity
- Easy to use

## Customer view

"Partnering with Control Techniques has enabled Comek to attain the high levels of performance the market demands: reliability, high productivity, advanced technology, ease-of-use and customised solutions to help customers find the right solution to meet their needs."

## Products used

Digitax  
Unimotor FM



**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING,  **PAPER,**  
PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



**PAPER**

**WINDING,  
DRYERS,  
SUCTION ROLLS**



# UNIDRIVE DEMONSTRATES LEADING PERFORMANCE CAPABILITY IN THE PAPER INDUSTRY

## **Company name**

Mostafa Paper Complex Ltd

## **Country**

India

## **Customer profile**

Mostafa Paper Complex Ltd (MPCL), an established paper mill based in Bangladesh needed a solution for use on its latest paper machine. The company was looking for a drive with the capability to manage a complex arrangement of suction rolls, paper guide rolls and dryers.

## **Solution**

Mostafa chose Control Techniques because it offered a complete drives package which includes the Unidrive AC drive and encoders, as well as design and commissioning. Unidrive's high performance motor control and the elimination of the need for an external PLC were key factors.

## **Key benefits**

- High performance motor control
- On-board PLC functionality
- Quick installation and setup
- Control Techniques' expertise in the paper industry

## **Customer view**

"Aside from high performance motor control, Control Techniques were selected for the project based on the strong industry knowledge of its technical teams, fast delivery and rapid commissioning."

## **Products used**

Unidrive



**PAPER**



# TISSUE MANUFACTURER BENEFITS FROM MIGRATION TO LATEST CONTROL TECHNIQUES PRODUCTS

## Company name

Soffass S.p.A.

## Country

Italy

## Customer profile

Soffass S.p.A, based in Porcari, Italy, is part of the Sofidel group of companies. It produces a range of products aimed at the global consumer tissue paper market. These include toilet paper, kitchen towel and napkins. Soffass is a long-term user of variable speed drives from Control Techniques. However, with products such as Commander and Unidrive moving into the next stage of their life cycle, Soffass was keen to upgrade to the latest generation of products.

## Solution

Soffass chose to use next generation Unidrives for asynchronous motor control in its conveyors, and the remainder of its applications. Among the principal uses for Unidrive at Soffass is the embosser, where paper veils

are matched together to make the final product thicker and softer. The drives also control the print units, as well as the winder, which deliver materials to further stages of the process.

## Key benefits

- Compatible dimensions and weights
- Existing mount holes can be reused
- Same power and control wiring philosophy
- Same menu and parameter structure
- Parameters can be transferred easily via software or Smartcard

## Customer view

“We have complete trust in the Unidrive platform and wanted to upgrade for many reasons, not least the ease of programming, set-up, commissioning and cabling,” says Mr. Dinelli, a maintenance team leader at Soffass. “Furthermore, we liked technical features such as synchronous Ethernet, on-board Advanced Motion Control and the multi-protocol encoder connector.” We like Control Techniques because its products are reliable and easy-to-use. In addition, Control Techniques supported us in the design and development of the machines, and responded positively to our demands in terms of throughput and budget.”

## Products used

Unidrive

WINDING,  
TENSIONING,  
CONVEYORS



AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING, PAPER,  
 **PRINTING**, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.



PRINTING

# SCREEN PRINTING COMES OF AGE WITH ADVANCED SERVO CONTROL

## Company name

Reggiani Macchine S.p.A.

## Country

Italy

## Customer profile

Italian company, Reggiani Macchine S.p.A. of Bergamo, one of Europe's leading manufacturers of flat and rotary screen printers for the textile market, turned to Control Techniques to provide the control required for its Prima range of flat-bed printers.

Advances in screen printing focus on features that produce perfect repeats to minimise waste and maximise throughput. Control of the printing head, known as the 'squeegee', and the screen lift are paramount, which meant that Unidrive was the best solution.

## Solution

Each Unidrive was fitted with additional modules: Application for control, by means of the integral PLC, of the operating logic of the print units and management of communication with the operator interface, Profibus for communication with the machine PLC and Resolver for the resolver feedback of motor position.

## Key benefits

- Waste minimised
- Throughput maximised
- High positioning accuracy
- Extreme reliability

## Products used

Unidrive



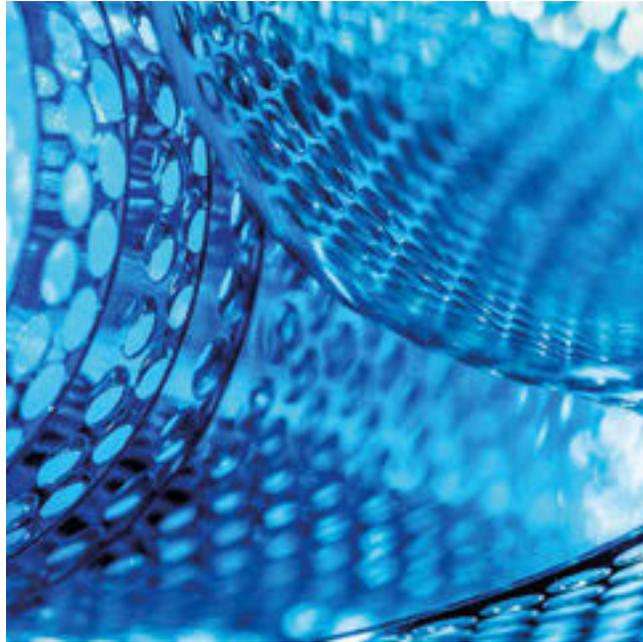
**Customer view**

"The specification was demanding, combining ultra-reliability with standalone capability, high accuracy of positioning and Profibus communications. Flexibility and adaptability, along with worldwide service and market availability, were also essential. Unidrive drives were able to achieve this and have enabled Reggiani Macchine to achieve its goals of minimising waste and maximising throughput through optimal control."

**PRINTING,  
WINDING,  
POSITIONING,  
MONITORING**



## PRINTING



# REMOTE DRIVE MONITORING DELIVERS IMPROVED PERFORMANCE FOR PERFORATOR MACHINES

### Company name

APS Engineering

### Country

UK

### Customer profile

APS Engineering designs and manufactures perforator systems for the security and commercial printing industries. The company is based in the UK and exports its machines globally.

### Solution

APS chose to replace its existing drives with Unidrive drives from Control Techniques that come equipped with on-board Ethernet for communications and also have a built-in PLC.

### Key benefits

- Fewer onsite maintenance visits required
- Increased uptime through remote performance monitoring
- Improved production accuracy via remote performance adjustment
- Build cheaper and smaller machines due to on-board PLC features in the drive

### Customer view

"Now, with remote communications capabilities, APS can accurately monitor drive performance around the world, and can make real time adjustments while machines are in operation to ensure that production stays accurate."

### Products used

Unidrive



PRINTING

# DRIVE IMPROVES CONTROL AND CUTS ENERGY USAGE BY UP TO 50%

## Company name

Pantec Engineering AG.

## Country

Switzerland

## Customer profile

Pantec Engineering AG, a high-end system designer, provides electronics solutions for the printing industry. In collaboration with Control Techniques' engineers, the company launched a highly innovative controller for UV-drying and curing applications (UVC).

Pantec sought to improve the efficiency and effectiveness of ultra-violet drying and curing systems widely used in the printing and manufacturing industries.

## Solution

To meet the UV-application's requirements on Unidrive, Control Techniques developed a special program to support Pantec with the integration. Pantec used Unidrive drives for their feasibility study where it quickly achieved the required ignition times for the UV-lamps.

## Key benefits

- Improved effectiveness & 97% efficient
- Up to 50% energy saving
- Reduced operating costs
- Excellent connectivity

## Customer view

"The new control system is producing significant energy savings that can be as much as 50% compared with previous methods of control. On an 8-head system, this saving can translate to 40kW, meaning lower operating costs and higher profits."

## Products used

Unidrive

UV CURING,  
PRINTING



**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING, PAPER,  
PRINTING,  **PROCESS**, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



## PROCESS

# MILLING, MIXING



# MAJOR TIME, ENERGY AND COST SAVINGS FOR ANIMAL FEED SUPPLIERS

### Company name

O. Bouman B.V.

### Country

Netherlands

### Customer profile

O. Bouman B.V. experienced considerable cost benefits when the Dutch animal-feed supplier switched to a Control Techniques AC drive on one of the company's hammermills. The hammermills are used to reduce the size of the animal feed particles to a specified size to tailor make animal feed 'recipes'.

### Solution

Ad Van Genderen of Control Techniques local Drive Centre explained the solution to Bouman's problem: "The speed control was a straightforward one for a drive, but the braking required a little more thought. Conventional braking resistors were out of the question because of the potential hazard of dust explosion – so we agreed to turn a problem into a benefit by feeding braking power through a regen unit back into the plant power supply.

### Key benefits

- Less downtime
- Energy & cost savings
- Better product quality
- Precise speed control

### Customer view

Downtime has been cut too. "It gives us considerable time savings", said Johan Van Tilburg, "plus energy savings and most important, we now have precise speed control for each mix, which improves our product quality. We have been very pleased with the support we've had from Control Techniques and its ability to supply custom-made systems to meet our precise needs."

### Products used

Unidrive



PROCESS

# MAJOR DRIVES PROJECT AT BULGARIAN ANTIBIOTIC PLANT

STIRRING,  
MIXING

## Company name

Biovet

## Country

Bulgaria

## Customer profile

Biovet is one of Bulgaria's largest pharmaceutical companies and is a specialist manufacturer of antibiotic feed additives and pharmaceuticals for farm animals and domestic pets.

The batch fermentation process, which incorporates 30 vessels with cycle times varying from one to three weeks, is an important part of the manufacturing process of a number of well-known products. "It is crucial that the agitation process, which adds oxygen to the mixture, does not stop," explained Borislav Mladenov, Manager for Control Techniques Process Management in Bulgaria.

## Solution

40 variable speed Control Techniques AC drives of between 100 and 160 kW were integrated into the second fermentation area at the plant in Peshtera to control the agitators in the vessels. The drives were configured to ensure that, should the drive approach overload levels, rather than trip out, it would back off to below the motor rated current, set to 90% of the motor current trip limit. This eliminates unnecessary downtime and ensures that the stirring process continues uninterrupted.

## Key benefits

- Increased stability & reliability
- 30% improvement in performance
- 10% labour cost saving

## Customer view

"The stability and reliability of the new system is outstanding and Biovet has not experienced a single incident that has damaged production or equipment since it was installed."

## Products used

Unidrive



**AUTOMOTIVE, COMMERCIAL &  
MANUFACTURING, CRANES  
& HOISTS, ENERGY, ELEVATORS,  
ENTERTAINMENT & LEISURE,  
FANS & PUMPS, FOOD & DRINK,  
GLASS, MACHINE TOOL, MATERIAL  
HANDLING, MEDICAL, METALS,  
MINING, PACKAGING, PAPER,  
PRINTING, PROCESS,  **STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.****



STAGE AND THEATRE

WINCHING,  
HOISTS,  
LIGHTING RIGS,  
STAGE REMODELLING,  
POSITIONING

# DRIVES HAVE A MAJOR PART TO PLAY IN RSC AUTOMATION

## Company name

Royal Shakespeare Theatre Trekwerk

## Country

UK/Netherlands

## Customer profile

As part of a four-year £112 million transformation at the Royal Shakespeare Theatre in Stratford-upon-Avon, Dutch theatre automation company Trekwerk was responsible for the renovation of the over-stage installation. The contract was awarded to Control Techniques' Rotterdam Drive Centre and around 100 AC drives and servo motors were used throughout the project.

The challenge was to automate the movement of back-drops and scenery, and the complex system of lighting arrays, which included the development, design, manufacture and installation of 60 winches plus hoists for 30 light arrays.

## Solution

A total of 46 drives were fitted to 60 winches with at least half positioned above the thrust stage. Any of these could be configured for different duties from lifting scenery to controlling actors' 'flight'. Sixteen of these winches were positioned in the 'slot area' specifically for reconfiguring the stage and 14 unique Trekwerk Synchro Disc winches provided silent five-line lifting of the 'flybars' for rapid scenery changes during productions. All of the winches were fitted with Control Techniques 15 kW Unidrive AC drives operating in servo mode and twinned with Unimotor 190 fm servo motors, fitted with double encoders for precise positioning and speed control.

## Key benefits

- Extremely flexible
- Virtually silent
- Safe operation

## Customer view

"The theatre renovation was designed to bring actors and audiences closer together with stage remodelling and lighting effects that could only be achieved with the cutting-edge electronics offered by Trekwerk and Control Techniques."

## Products used

Unidrive  
Servo Motors

# SPINNING, MOTION, CENTRIFUGE

# REVOLUTIONARY ROTACASTER ROCKS AND ROLLS WITH COMMANDER DRIVES



## Company name

Ethical Innovatory Solutions (EIS)

## Country

UK

## Customer profile

Control Techniques' AC drive, the Commander, has been selected as an essential component in a revolutionary rotational casting machine designed and manufactured by Ethical Innovatory Solutions (EIS). The new Rotacaster evenly distributes moulding compound within an empty mould, to create a hollow and lightweight model.

## Solution

The level of control is provided by two Commander variable speed drives, one for the turntable that spins the mould and the other for the primary arm, which provides 360° movement of the mould. Ewan MacPherson of EIS, chose the Commander drives for the project because, "the drives are virtually 'plug-and-go' as all our settings are stored on a memory stick, this allows us to load the key parameters to each drive in seconds!"

One of the first companies to own a Rotacaster is Cod Steaks, a world leading special effects and model making company who made the props for Oscar winning Wallace and Gromit film "Curse of the Were Rabbit".

## Key benefits

- Quick to operate
- Extremely reliable
- Excellent control
- Faster production

## Products used

Unidrive

## Customer view

Matt Sanders, Construction Supervisor and Model Designer for Cod Steaks stated, "It is at least three times faster than thermo casting for example, the new machine gives a perfect, bubble-free casting in just a matter of minutes." Cod Steaks' customers often have tight deadlines and the Rotacaster has made meeting their deadlines easier. Matt Sanders continued, "With a recent order for robots used in an advertisement, we were able to sculpt the models, produce moulds, cast parts for three complete robots, paint and finish them in just two weeks."



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AND THEATRE,  **STEEL**, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



STEEL

# CONTROL TECHNIQUES DRIVES CONTINUOUS SLAB CASTER AT CORUS STEELWORKS

## Company name

Corus Steelworks

## Country

UK

## Customer profile

Control Techniques drives feature on the continuous slab caster at Corus steelworks in Port Talbot, South Wales, controlling critical operations at the head of the line. The total output of the plant, up to 3.5 million tonnes a year, is dependent on drives from Control Techniques.

## Solution

Two AC Drive Motor Control Centres (Form 4 MCCs), employing 60 AC Unidrive variable speed drives and Leroy Somer AC motors were supplied. New AC motors were also supplied by Control Techniques fitted with digital encoders and brakes on the vertical part of the caster.

## Key benefits

- Extremely reliable
- Easy to use & configure
- Increased speed
- Reduced turnaround times

## Products used

Unidrive  
AC Motors



# CONVEYORS

## Customer view

“The whole system is more modular,” explained Roger Morgan, Corus Concast Engineer. “The intelligence in the system is distributed rather than central, and this means that just one Unidrive Inverter is designated as the master and communicates with the plant PLC. This Master then communicates via CT-Net with all the other strand drives, keeping them digitally synchronised. For reasons of dual redundancy, ‘Automatic Seamless Master Transfer’ – passes Master control to the next drive in line, in the event of failure. This means that, if necessary, the line could be run manually.”



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RIGS, TEXTILES, WATER, WIND,  
WIRE, WOOD WORKING.**



TEST RIGS

# MODULAR DRIVES CHOSEN FOR REGEN TEST STANDS

## Company name

D&V Electronics

## Country

Canada

## Customer profile

D&V Electronics manufactures and distributes automotive computerised testing equipment to the OEM and aftermarket. The Canadian company were looking for versatile drives that could accept a wide variety of motors, feedback devices and communications protocols, as well as the ability to regenerate power onto a common bus.

## Solution

The modular Unidrive range was able to meet all of D&V Electronics's requirements. The test routine requires access to detailed motor characteristics to provide an accurate and repeatable measure of the tested motor's performance. The Unidrive range facilitates this through a variety of communications protocols including Ethernet (using a plug-in Ethernet module).

## Key benefits

- Optimal power consumption
- Running cost savings
- Extremely versatile
- Regenerative mode

## Customer view

"The result is that the test stand only has to supply enough power to cover the losses due to friction, windage and power conversion, meaning users can test a large motor of 150 kW or more without needing large amounts of power from the grid, creating considerable running cost savings."

## Products used

Unidrive Modular

# TEST RIG



## TEST RIGS

# PRECISION CONTROL MAKES UNIDRIVE FIRST CHOICE AT ADVANCED FURNITURE TESTING

### Company name

Advanced Furniture Testing

### Country

Netherlands

### Customer profile

Advanced Furniture Testing of Holland, Michigan is a market-leading furniture testing specialist. It needed a drive for a new multi-axis machine designed to test chair strength and rigidity. The machine is designed to complete multiple, repetitive cycles of pulling on the back of the chair and pushing on its seat.

### Solution

The company chose Control Techniques Unidrives due to their precise control and accuracy. Unidrives control the motors, which in turn control the electromechanical actuators.

### Key benefits

- Precise control delivers load application within 2% accuracy
- Remote programming and data logging via on-board ethernet

### Products used

Unidrive

## TEST EQUIPMENT



### Customer view

"Unidrive is just a beautiful machine that delivers everything we need. We now plan to use Unidrives for all future machines, and will upgrade our own in-house test machine to feature this innovative technology."

Douglas Woodard,  
UL Furniture Division Leader.



## TEST RIGS

# CUSTOMISED SOLUTION FOR OCEAN ENERGY TESTING RIG

### Company name

Hydraulics & Maritime Research Centre

### Country

Ireland

### Customer profile

At the Hydraulics and Maritime Research Centre (HMRC) at University College Cork, a laboratory scale rig has been developed to emulate the power testing required at sea. The project demanded the flexibility, programmability, safety and robustness provided by Control Techniques drives.

### Solution

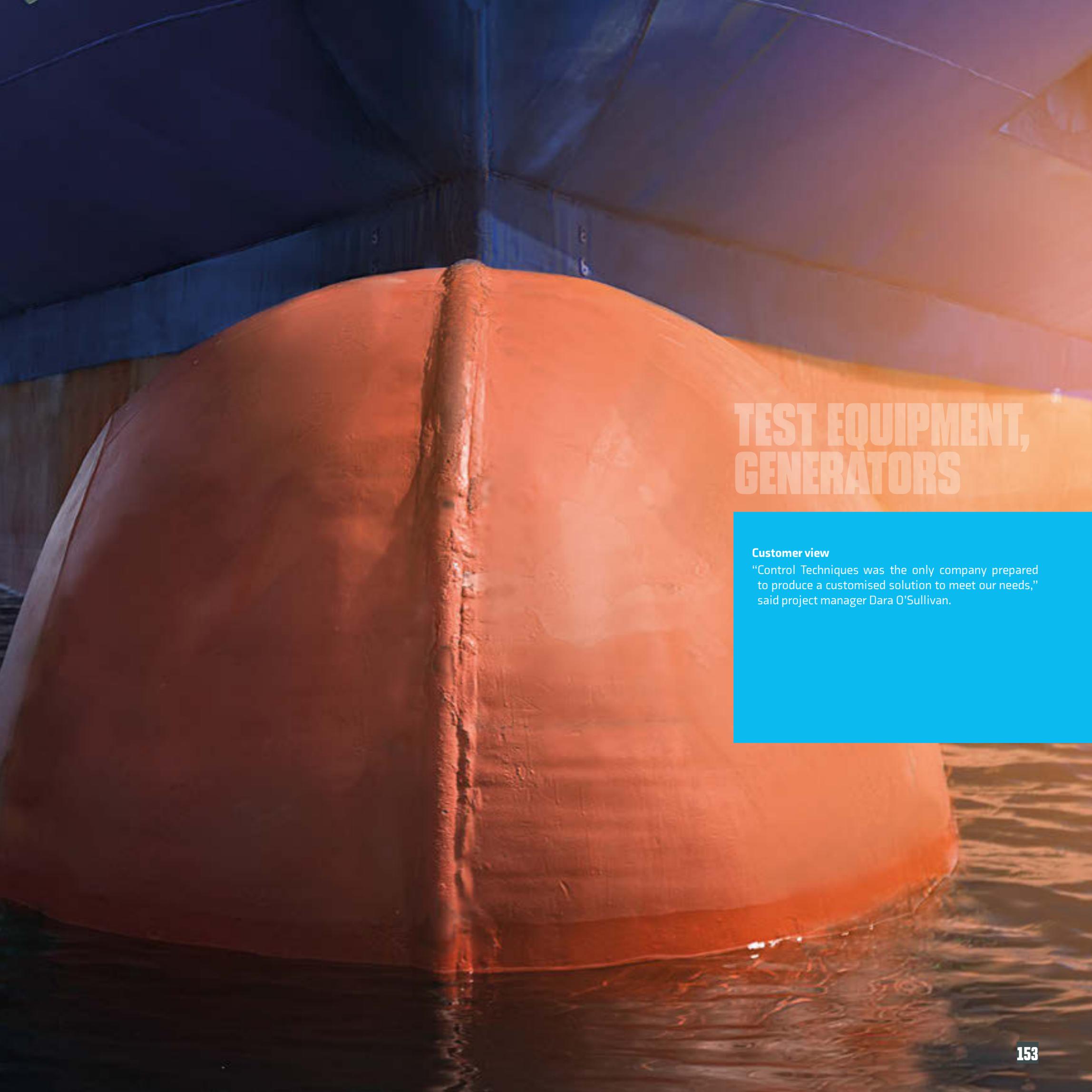
Three Unidrive AC drives were used: one to control the 'prime mover', and two connected in a back-to-back configuration to control the generator and, in regenerative mode, to convert the power from the generator from the control frequency needed to maintain the generator speed, to the 50 Hz frequency synchronised with the grid.

### Key benefits

- Flexibility in operation
- Programmability
- Safety
- Industry quality robustness

### Products used

Unidrive



# TEST EQUIPMENT, GENERATORS

## Customer view

“Control Techniques was the only company prepared to produce a customised solution to meet our needs,” said project manager Dara O’Sullivan.



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AND THEATRE, STEEL, TEST RIGS,  
 **TEXTILES**, WATER, WIND,  
WIRE, WOOD WORKING.**



## TEXTILES

# PRECISION CONTROL FOR COATING LINE

### Company name

Phoenix Dryers

### Country

UK

### Customer profile

Variable speed drives from Control Techniques are the drives of choice for a number of reasons for drying and coating lines at UK-based Phoenix Dryers.

A typical line for Phoenix Dryers is one for rubber-coating a cotton web as the first process in the production of industrial textiles. It is important that the drives they use retain tension, are simple to install and operate, and provide exceptional reliability.

### Solution

This line uses a total of 14 Unidrive and Commander AC drives from Control Techniques. Sensors monitor the levels of solvent in the exhaust and feedback to the drives. Levels in the recirculating air are kept well below the lower explosive limit (LEL) by controlling the amount of flow to the exhaust. The exhaust air is then fed to an abatement plant to prevent release of solvents into the atmosphere.

### Key benefits

- Simple to install & program
- Exceptionally reliable
- Rapid support
- Connectivity

### Customer view

“We always fit drives from Control Techniques unless the client specifies otherwise. We find them easier to install and program and they are exceptionally reliable. We have found problems with maintaining tension with some other drives but drives supplied by Control Techniques always give accurate tension control,” Mr Beardsworth said. He concluded: “Drives from Control Techniques are our drives of choice for so many reasons. Feedback from customers confirms that they are very, very reliable – but if there is a problem, it’s reassuring to know that the worldwide network of Drive Centres with stockholding will provide rapid support and replacement if needed.”

### Products used

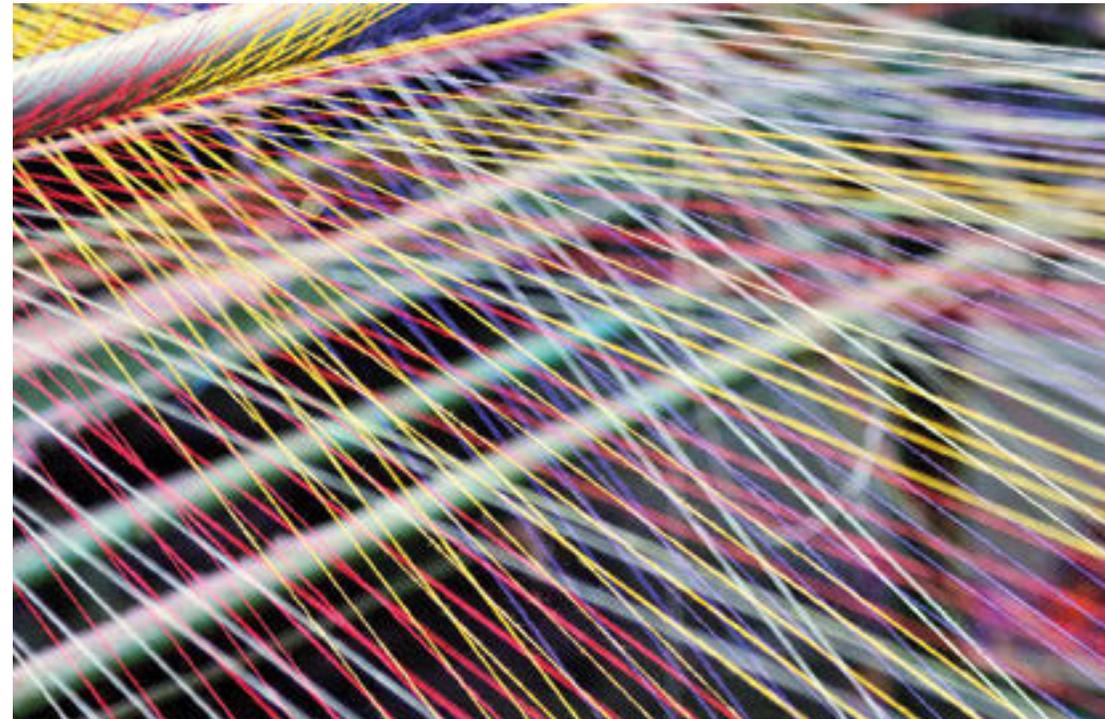
Unidrive  
Commander

DRYING,  
TENSIONING,  
FANS,  
MONITORING



## TEXTILES

# UNIDRIVES SELECTED FOR SPANISH YARN SPINNING MACHINES



### Company name

Pinter s.a.

### Country

Spain

### Customer profile

Pinter s.a. in northern Spain manufactures specialist spinning machinery used in the textile industry all over the world. The company makes equipment for producing core spun yarn, slub, multicount and multitwist yarns, and for a unique test laboratory – Merlin – which is used for research and testing.

Every Pinter machine is built to an individual design. It has the capability of changing production from normal to special yarns (and vice versa) quickly and simply, and requires high torque, flexibility and fast acceleration.

### Solution

The tension of each roller in the positive-feed insertion system is controlled by a Control Techniques servo-motor with resolver feedback to a Unidrive AC drive operating in servo-mode.

The Merlin all-in-one spinning test laboratory features Control Techniques servo systems as well. Merlin is a small spinning frame that incorporates different systems and programmes to create all types of yarns and their countless combinations for research.

### Key benefits

- Dynamic performance
- High Torque
- Fast acceleration
- Worldwide support

### Products used

Unidrive  
Servo motors

### Customer view

"We have standardised on Control Techniques servo systems because of their dynamic performance, high torque, fast acceleration – and the motors do not require fans," explained Technical Director Francesc Castellà. "The drives are set up to show the draft on the drive's display, which is a good feature. Control Techniques provide us with good support and can also support our systems wherever in the world they may go. That's important to us."

# TENSIONING, WINDING



## TEXTILES

# WARPING SYSTEM RELIES ON UNIDRIVE

### Company name

Rius Textile Machinery

### Country

Spain

### Customer profile

Spanish company Rius Textile Machinery of Barcelona has standardised on drives from Control Techniques for its warping systems and knitting machines. The company is carving out new market niches in medical/sanitary, agro-textiles, mechanical and food wrappings, producing machines designed for leading edge fibres in high performance products.

The sectional warp winding machine gathers together up to 2,000 yarns and prepares the yarn for weaving by winding it in a prescribed sequence onto a beam (drum).



### Solution

"The speed must be absolutely constant and stable during winding," explained Valentí Rius Jr, Sales Director at Rius, "and at a constant tension. As the diameter of the wound drum increases, its speed is decreased to keep the winding speed constant."

This has been achieved using Control Techniques' winder software loaded onto the plug-in Application module fitted into the Unidrive. In addition, an Encoder Plus is fitted to provide an interface for an additional encoder to be connected to the Unidrive, to be used as position and speed feedback for the drive.

### Key benefits

- Constant speed
- On-board programming
- Worldwide network & support

### Products used

Unidrive

### Customer view

"Our machinery has to accelerate very fast and maintain precise torque control, to prevent fibres breaking," explained Valentí Rius Jr. "We often use non-standard motors, such as OML high-speed, low inertia motors, which have extremely dynamic performance. Other motors have completely different characteristics, but we find that the Unidrive from Control Techniques can be set up to give optimum performance across the range. And, because we export some 90% of our output worldwide to around 96 countries, it's important that our customers are assured of local support from Control Techniques' network of drive centres".

# WINDING, TENSIONING, WARPING



TEXTILES

# SWISS EMBROIDERY MACHINE MANUFACTURER ACHIEVES MARKET DOMINANCE

## Company name

Saurer

## Country

Switzerland

## Customer profile

Saurer, based in Arbon, Switzerland, is the world's leading manufacturer of bespoke embroidery systems. The company's machines achieve remarkable operating speeds and precision thanks to servo drives and motors from Control Techniques.

## Solution

The key to achieving the company's dominant position was the integration of the triple-axis MultiAx servo drive system in conjunction with the advanced Unimotor servo motors. The set-up uses SLM technology to replace the many connections between the motion controller, the drive and the motor with a communication cable.

## Key benefits

- Compact servo drives
- Precision
- Flexibility in operation

## Customer view

"We are a long standing user of Control Techniques servo drives," said Saurer's Market & Product Manager Andreas Hellwig, "Because of their precision, the modularity of design and how compact they are – this keeps the overall size of the cubicle down."

## Products used

MultiAx

Servo Motors

# TENSIONING



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AND THEATRE, STEEL, TEST  
RIGS, TEXTILES,  **WATER**,  
WIND, WIRE, WOOD WORKING.**



WATER

# INTELLIGENT PUMP CONTROL PROVIDES SIGNIFICANT MAINTENANCE & ENERGY SAVINGS

## Company name

Scottish Water

## Country

UK

## Customer profile

Scottish Water's Levenhall Sewage Pumping Station, near Edinburgh, had significant issues with pump blockages making it an ideal site to trial the low cost innovative Intelligent Pump Control (IPC) software pre-installed into a Control Techniques Unidrive AC drive.

## Solution

Several new approaches to the problem of pump blockage detection and control had been tested and evaluated at Scottish Water. The Control Techniques IPC system is unique as it monitors active current to determine variations in torque, which then triggers a reversing cycle to break up rags as they begin to form on the impeller.

## Key benefits

- Pumping efficiency improved up to 15%
- Energy savings of £4,200 p.A.
- Additional opex savings >£15,000 p.A.

## Customer view

"Blockages and partial blockages were happening two or three times each week. With the new IPC system, all pump blockages stopped immediately, the rag balling issues in the wet well declining over the first week with running currents on all drives reducing. The Levenhall trial proved that Nidec's IPC system can more than adequately address pump blockage detection and control, increasing pumping efficiency significantly, and providing huge reductions in energy and opex costs."

## Products used

Unidrive

DE-RAGGING,  
PUMPING



**WATER**

**DE-RAGGING,  
PUMPING,  
MONITORING**

# INTELLIGENT PUMP CLEANING CUTS MAINTENANCE AT IRISH PUMPING STATION



## **Company name**

Kelly's Bay

## **Country**

Ireland

## **Customer profile**

The installation of an AC drive with Control Techniques' IPC Lite software has dramatically cut call-outs for blockages at Kelly's Bay, an Irish County Council pumping station.

## **Solution**

The pump now runs around the clock, with flow rates varying between 20 and 70 cu.m/hr with IPC Lite providing early warnings of 'ragging' (the fouling of the pump's impeller) and initiating cleaning routines when required. The installation has cut callouts from ragging from a weekly occurrence to just once in the first six months of installation.

## **Key benefits**

- Significantly cut maintenance costs
- Drastically reduced call-outs for blockages
- Remote monitoring

## **Products used**

Commander

## **Customer view**

Mr McGuinness said, "When it was time to replace one of the existing 15 kW Control Techniques AC drives, we had the software loaded. It has worked extremely well, before the software we switched between the two pumps weekly to spread the load from a maintenance point of view. However, since August we have just run the one pump with the software and monitored its performance by telemetry, maintenance costs have dramatically reduced."



**WATER**



# PIONEERING GROUNDWATER SPRINKLER SYSTEM DEPENDS ON ADVANCED DRIVES

## Company name

Domina Inn and Conference Centre

## Country

Netherlands

## Customer profile

Domina Inn and Conference Centre, located between Rotterdam airport and the city centre, features a pioneering sprinkler system that uses groundwater pumped up from a sand layer 60 metres underground designed and installed by Quintess.

We were asked to look into a system independent of the mains drinking water or the need for water tanks,” explained Quintess’s General Manager, Paul Caspers. “Traditionally, the pumps would be started with Star/Delta starters, but, with the high starting torque required, we proposed the use of inverter drives.”

## Solution

The Affinity AC drives are heavy-duty rated at 37 kW (BA 4402) and fitted with RFI filters and PWM correction to provide a near perfect waveform, required by the unusual operating characteristics of the pump motors. The system is capable of accelerating from start up to maximum flow in three seconds.

## Key benefits

- Fire mode
- 100% redundancy cover
- Network connectivity

## Customer view

“The system, installed and running in just one day, is the Netherlands’ first approved groundwater sprinkler installation with variable frequency inverter control.”

## Products used

Affinity



WATER

# DRIVES SUPPORT HUGE DUTCH PLANT PRODUCER

## PUMPING

### Company name

Emsflower

### Country

Germany

### Customer profile

Dutch company Emsflower, based at Emsbüren in Germany, grows around 500 million plants each year. It approached Riwo Engineering B.V for a cost effective automation solution. Riwo partner Wim Spit explained, “The new system had to encompass the transport of plants, watering, spraying and pest control, autonomous function of individual sections as well as a central control, precise positioning over runs of 250 metres, the means to transport both power and water along 150m, ease of maintenance – and all of this at a very limited cost.”

### Solution

The solution comprised trollies running on overhead rails along each eight metre wide greenhouse bay. Two plastic wheels on each trolley are powered using asynchronous motors with encoders controlled by 1.5 kW Unidrive AC drives from Control Techniques.

### Key benefits

- Cost effective
- Low maintenance
- Excellent accuracy
- Extremely reliable

### Customer view

“We like the Unidrive and the drives have proved ideal for this application, and even the ability to have the cooling heatsink at the rear of the IP54 control cabinets have proved ideal in this environment.”

### Products used

Unidrive



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WIND

# GREEN DRIVES CRUCIAL TO GREEN PROJECT

## Company name

Beacon Energy

## Country

UK

## Customer profile

Beacon Energy is a non-profit-making organisation that promotes public awareness of global warming and encourages the reduction of CO<sub>2</sub> emissions.

By successfully controlling and linking several interlinked renewable energy sources at West Beacon Farm, Beacon Energy is able to be virtually independent from the national grid. When the company was developing the integrated system, it searched the market for high-performing drives.

## Solution

Control Techniques supplied 14 drives fitted with a programmable application module to give on-board programming and CT-Net high-speed networking for data collection and diagnostics.

A reverse osmosis rig filters rainwater for the house and electrolyser, and is supplied by a pump driven by a 1.5 kW Unidrive. A 5 kW Unidrive controls the compressor pump that increases the hydrogen pressure from 25 to 137 Bar for storage. Two 12 kW Unidrives supply both the single-phase supply to the farm house and the three-phase supply to the farm machinery. Unidrives also control pumps for the water supplies, the hanger and the fire prevention system, and further drives provide power for the winch and the heat pump.

## Key benefits

- On-board programming
- High speed communications
- Four-quadrant control
- Exceptional support

## Products used

Unidrive



# PUMPING, COMPRESSORS, WINCHING

## Customer view

Matthew Little, Loughborough University PHD research student who was involved in the project, said, "We needed drives with a particular mix of features – on-board programming, high speed communications, four-quadrant control – and a supplier who would provide us with exceptional support."



WIND

# WIND TURBINE COMPANY CHOOSES UNIDRIVE

## Company name

HS Harbon & Sons

## Country

UK

## Customer profile

Electrical engineering company, HS Harbon & Sons, went into partnership with local businessman Richard Crowe to set up Harbon Wind Turbines. The company's aim was to design an advanced cost-effective concept turbine that would outperform the products of established suppliers. For the turbine to be efficient, it needed the ability to change the rotor speed.

## Solution

Each turbine was fitted with four Control Techniques AC drives. Two 0.5 kW Unidrive AC drives were fitted at the top of the tower, one controlling yaw, the other controlling the hydraulics for the braking system, and also acting as an interface to transmit inputs on wind speed, temperature, rotor shaft rpm and vibration to the main drive. Two 75 kW Unidrives were fitted at the base of the tower, working in regenerative mode, to feed AC power back to the grid.

The HWT60 is nominally rated at 60 kW but it can exceed this for short periods. It is 'Class 1 rated', meaning it is approved for use in locations anywhere in the UK and is designed to withstand gales in excess of 150 mph.

## Key benefits

- Efficiency
- High programming capability
- Precise control
- Excellent communications

## Customer view

"Control Techniques has been very supportive throughout the development," added Dave Harbon, "Writing operational software and adding safety features such as automatic braking. The intelligence of the drives has eliminated the need for additional PLCs, making design very straightforward as well as keeping costs down. We think the HWT60 is one of the most cost-effective turbines in the world."

## Products used

Unidrive

# FANS, REGENERATIVE



**WIND**

**GENERATORS,  
TEST RIG**



# TESTS COMPLETED ON ADVANCED GENERATOR FOR WIND TURBINES

## Company name

Wind Technologies

## Country

UK (Offshore)

## Customer profile

Wind turbine manufacturers, Wind Technologies, has successfully tested a radically different type of generator with the potential to make significant cuts to the cost of wind turbine operation and maintenance.

Operating and maintenance costs have become a growing issue, particularly for off-shore wind farms. To overcome this, Control Techniques designed a brushless doubly-fed induction generator to make the wind turbine more reliable and also reduce the size requirement for the associated converter to one third of the generator rating.

## Solution

Wind Technologies designed a test rig with double power feed (mains power and connection via the controlling inverter drive) with a Control Techniques Unidrive providing grid connection.

## Key benefits

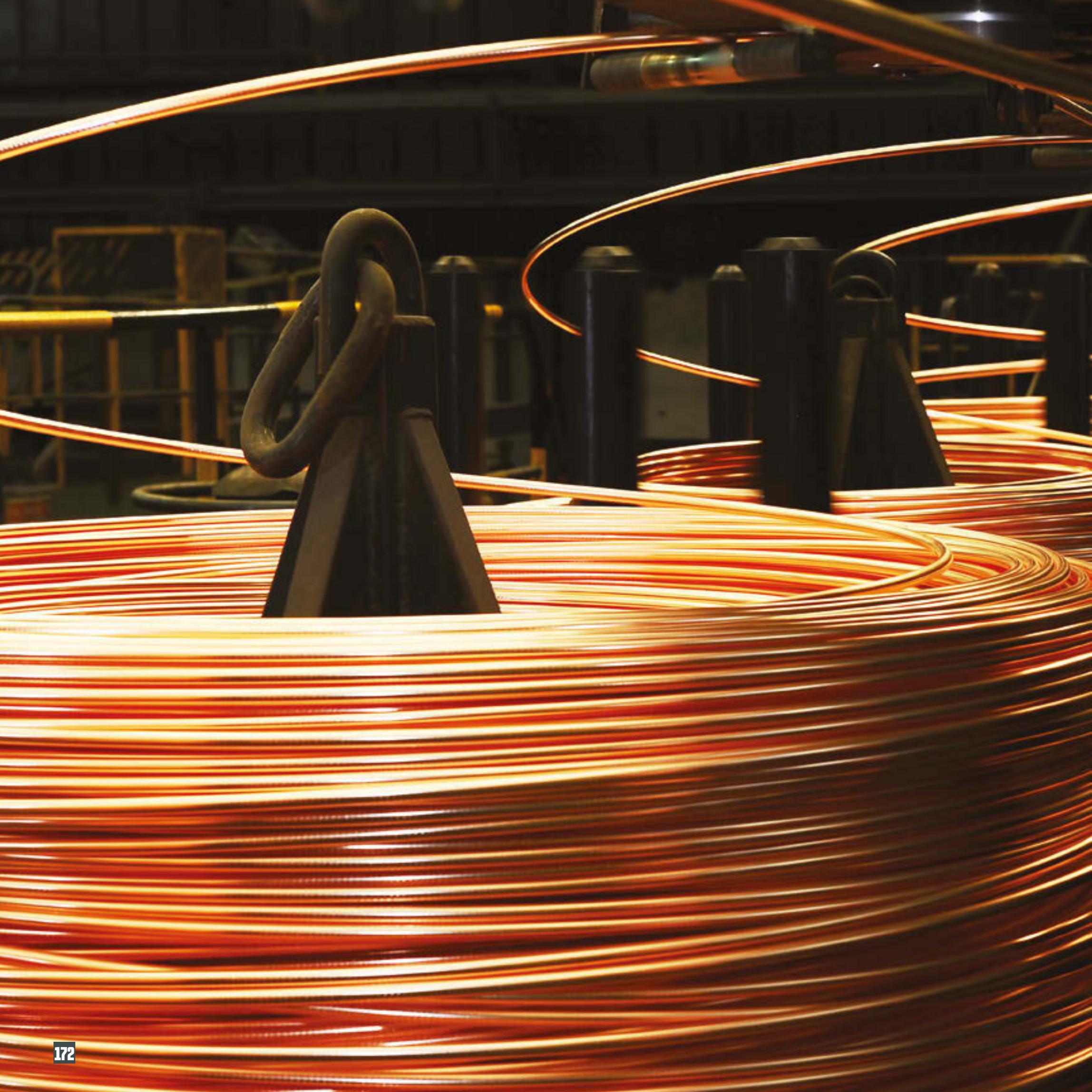
- Massive operation & maintenance cost savings
- Extremely reliable
- Excellent customer support

## Customer view

“We chose Control Techniques partly because it is a British product, but mainly because of the excellent support,” explained Dr Paul Malliband, Vice President of Engineering at Wind Technologies. “It’s always possible to get hold of an engineer to help with a technical query, even during weekends. We have developed a very good relationship over the period of this project,” he added.

## Products used

Unidrive



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**WIRE**

WINDING,  
WIRE DRAWING,  
TWISTING



# CABLE MANUFACTURER UPGRADES ITS UNIDRIVES

## **Company name**

Bangkok Cable

## **Country**

Thailand

## **Customer profile**

Bangkok Cable uses machines which synchronize and twist individual wires into many different cable types. For many years these machines relied on Unidrive modular variable speed technology. However, with products advancing to the next stage of their life cycle, Bangkok Cable deemed it an opportune moment to upgrade.

## **Solution**

Bangkok Cable now uses two Unidrive modular drives (160 kW, 250 V) to control asynchronous and permanent magnet motors. The company also takes advantage of advanced Unidrive units, which offer a direct replacement and enhanced upgrade for existing Unidrive users.

## **Key benefits**

- Designed for simple retrofit
- Ease of commissioning
- Excellent service and support

## **Customer view**

“The upgrade process was quick and simple, which resulted in minimal machine downtime,” confirmed Mr. Kobmu. “However, not only is the latest Unidrive simple to commission, it also offers more features and is cost effective. In addition, we were keen to continue with Control Techniques because of its excellent service and support.”

## **Products used**

Unidrive



WIRE

# SPANISH STRANDING MACHINE MANUFACTURER STANDARDISES ON CONTROL TECHNIQUES DRIVES

WINDING,  
WIRE DRAWING

## Company name

Construcciones Mecánicas Caballé S.A.

## Country

Spain

## Customer profile

Barcelona-based Construcciones Mecánicas Caballé S.A designs and manufactures innovative rotating machinery used in the production of power, telecoms, optical fibre, data, steel cables and conductors.

## Solution

One demanding application is for a large cable winding in a planetary strander. In tubular stranders, used for making steel cables, the selected tension is set on the PLC controller and is communicated via Profibus to the Applications module fitted to the Unidrive. The tension control is calculated within the module, using line speed, the diameter of the drum and taking losses into account.

## Key benefits

- On-board programming facility
- Extremely reliable
- Fast dynamic response
- Worldwide support

## Customer view

"We like the facility to be able to implement functions within the drive," Mr Dunjó continued. "For example, for dancer control, the Unidrive works perfectly without the need for an encoder. Others have to have the additional costs of an encoder to match this performance."

In addition, the company uses Commander AC drives for more straightforward applications. "We have standardised on Control Techniques because we find the drives very user-friendly to set up and program, extremely reliable and because of the worldwide support network," added Mr Dunjó, "and we really appreciate the support that we get from the local Control Techniques team at the drive centre here in Barcelona."

## Products used

Unidrive  
Commander



**AUTOMOTIVE, COMMERCIAL &  
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PRINTING, PROCESS, STAGE  
AND THEATRE, STEEL, TEST  
RIGS, TEXTILES, WATER, WIND,  
WIRE,  **WOOD WORKING.****



# DRIVES IMPROVE SAFETY OF WOODWORKING MACHINES

## Company name

Krüsi GmbH

## Country

Switzerland

## Customer profile

Swiss company Krüsi GmbH manufactures machines used to cut timber for log cabins. The woodworking machines meet new stringent safety requirements and provide improved precision cutting thanks to a control system featuring drives from Control Techniques, designed and built by panel-builders Fichter and Zimmerli GmbH.

## Solution

Commander AC drives were fitted to each machine, providing control of the vertical movement and rotation of the drill and milling heads (7.5 kW drives) and, on some of the machines the control of the cross cutting saw too (a 5.5 kW drive).

## Key benefits

- Safety compliance
- Compact drives
- Extremely accurate

## Customer view

### Products used

Commander



# CUTTING MILLING

## Customer view

“The milling heads are between 240 and 270-mm in diameter, rotating at up to 3,000 rpm,” explained Herr Krüsi, the owner of Krüsi GmbH, “and they have a lot of inertia. However, with the Commander drives the stopping time is now just two seconds, which more than complies with safety requirements. The drives have proved to be extremely accurate – and, of course, the better the accuracy of the joints, the better the thermal performance of the finished cabin.”

# CONTROL TECHNIQUES

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