

CONTROL 
TECHNIQUES

THE
1000
BOOK

DRIVE OBSESSED



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AEROSPACE SYSTEMS,

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



SERVO CONTROL IN A VACUUM



Company name

Applied Motion Systems (AMS)

Country

Canada

Customer profile

Applied Motion Systems, a systems integrator and machine builder in Vancouver, WA, has deployed a number of servo positioning systems that operate in vacuum environments, including aerospace ion beam welding systems and casting mold positioning systems.

Solution

Despite the challenges of deploying a casting mold servo positioning system in a vacuum environment, Applied Motion Systems was able to do just that with a high degree of confidence thanks to the flexibility and reliability of Control Techniques Unidrive M700 drives. Not only did these drives satisfy the most arduous requirement of the project, they came with a slew of other benefits like compatibility with a semi-customized servo motor with resolver feedback, high-quality position control, flexibility across motor types, and easily integrated “PLC Controlled Motion”. When it comes to unique and demanding applications such as these, Applied Motion Systems knows to look no further than Control Techniques.

Key benefits

- Superior protection of servo motors
- Universal motor feedback
- Precision position control
- Easy integration with your PLC

Customer view

“Implementing position control of Unidrive M700 drives with a third party PLC turned out to be a streamlined, user friendly process that required minimal effort thanks to Control Techniques’ PLC Controlled Motion.”

Products used

Unidrive M700





AEROSPACE SYSTEMS,



**AUTOMOTIVE, COMMERCIAL &
MANUFACTURING, CRANES & HOISTS,
ENERGY, ELEVATORS, ENTERTAINMENT
& LEISURE, FANS & PUMPS, FOOD &
DRINK, GLASS, MACHINE TOOL,
MATERIAL HANDLING, MEDICAL,
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PAPER, PRINTING, PROCESS,
STAGE & THEATRE, STEEL,
TEST RIGS, TEXTILES, 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**



**AEROSPACE SYSTEMS, 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 & THEATRE, STEEL,
TEST RIGS, TEXTILES, WIND,
WIRE, WOOD WORKING.**



COMMERCIAL & MANUFACTURING

DRIVES POWER SLITTER MACHINES

Company name

Deacro Industries Ltd

Country

Spain

Customer profile

Deacro, based in Ontario, Canada, is the industry leader in the manufacture of slitter rewinders, slitting machines, salvage rewinders and roll handling equipment for the converting industry. Its machines are widely used across several industries ranging from food to medical packaging.

Solution

Having previously used Unidrive and Digitax, Deacro, more recently switched to the latest Commander C and Unidrive series. Changing to newer drives means that Deacro machines no longer require a PLC.

Key benefits

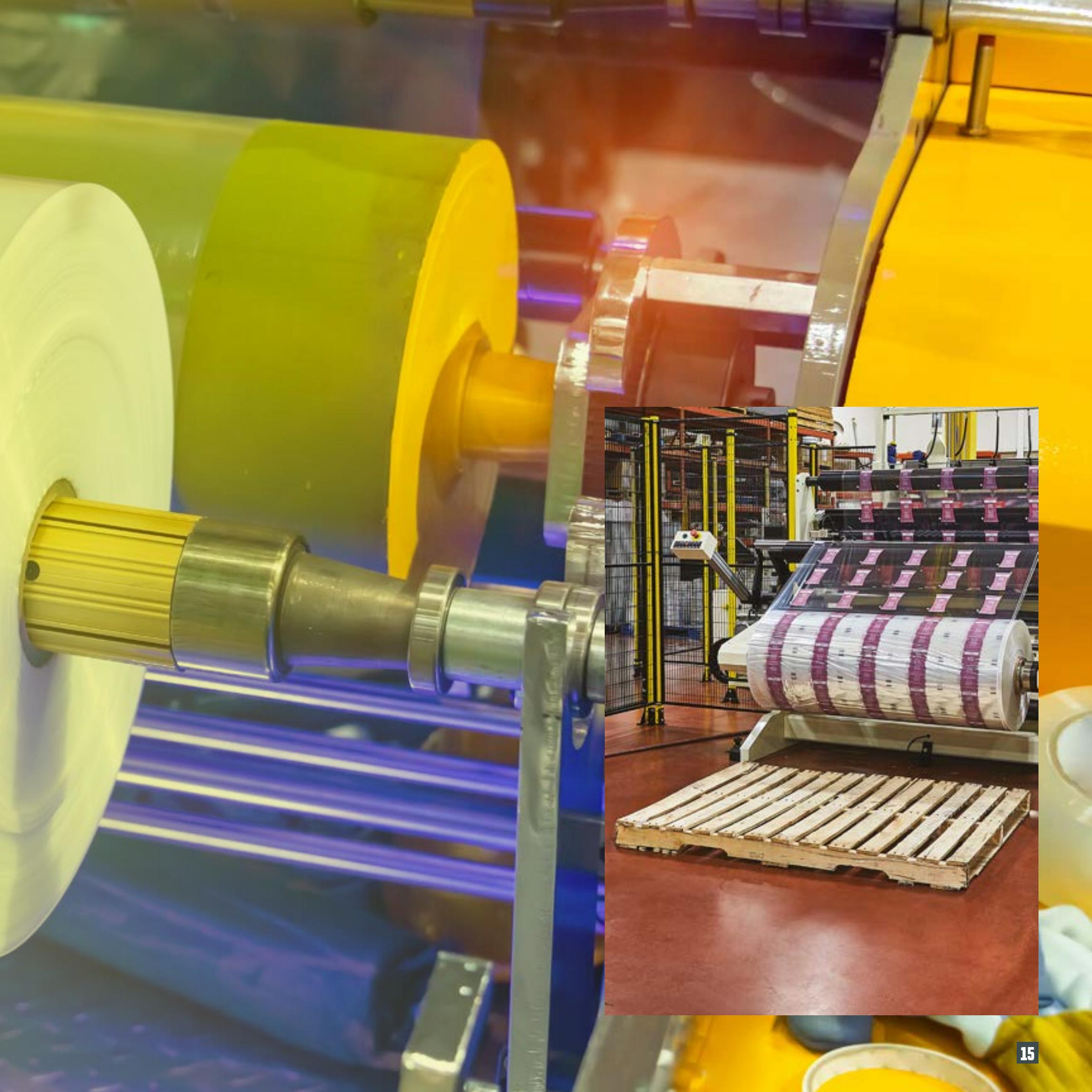
- Programming flexibility
- Ongoing support
- No requirement for PLC

Products used

Unidrive M700
Commander C300

Customer view

The Control Techniques drives are the heart of Deacro's control system. They offer us exceptional flexibility, particularly with the winder block design and optional modules to add our specific features. We build the highest quality slitter rewriter in the industry. And, with the increasing needs of our customers for the latest technology and faster web speeds - up to 3000 fpm - we require the most innovative control technology that is only offered by Control Techniques. They help create the most technically advanced equipment for our customers.





COMMERCIAL & MANUFACTURING

RAPID TURN AROUND SAVES THE DAY

Company name

Zentia Armstrong Ceiling Solutions

Country

United Kingdom

Customer profile

Zentia, formerly known as Armstrong, delivers complete ceiling solutions with unsurpassed levels of value, quality, and reliability. The leading manufacturer of suspended ceiling tiles and grids boasts two production facilities in the North East of England and three distribution centres located in the UK, Germany, and Spain.

With a rich heritage that spans over 150 years, the company is proud to be one of the building materials industry's greatest successes. Its products are specified in every environment, from schools and workplaces to hotels and hospitals.

Solution

When Zentia was stuck for parts, they turned to Control Techniques for a solution. Having previously used Control Techniques' local engineer before, they were the first to come to mind. Unidrive M700 was installed that provided a speedy solution. Controlling the speed of the agitator, maximising throughput with superior motor control. The motion functions are carried out 'on the drive' to boost system performance.

Key benefits

- Rapid delivery and excellent support
- Excellent control for motor speed
- Cost effective solution
- Improve machine performance

Products used

Unidrive M700



Customer view

Zentia turned to their local Control Techniques' sales engineer for a solution. Kevin explains, "Our Control Techniques' sales engineer had visited previously to discuss past projects. So, when we were stuck for parts, he was the first to come to mind." In less than four days from order, backed up by onsite support, the **Control Techniques Unidrive M700** was installed, providing a super speedy solution. The M700 drive controls the speed of the agitator, maximising throughput with superior motor control. The motion functions are carried out 'on the drive' to boost system performance.





COMMERCIAL & MANUFACTURING

COMMANDER CUTS IMBALANCE AND NOISE IN WASHING MACHINES

Company name

Fagor Industrial

Country

Canada

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

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!'"

POSITIONING



COMMERCIAL & MANUFACTURING



Company name

Schulthess Maschinen AG

Country

Switzerland

Customer profile

Schulthess is the leading Swiss supplier of washing equipment. Ever since its inception in 1845, durability and performance have been at the core of the solutions designed and built by the company. The Schulthess laundry equipment is easy to operate, economical to use and boasts excellent process reliability. Each machine has been tested for 30,000 cycles – equivalent to a lifetime of 20 years.

The company is constantly investing in research and development, which has helped to secure only the highest-grade materials and processes for durable and environmentally-friendly products.

Solution

Unidrive M400 powers the motors on the conveyors, crushers, and chutes at C, Steinweg Bridges' new 60,000 m² facility. The drive provides maximum stability and control of induction motors at all outputs, improving throughput with advanced open-loop motor control algorithms. Nidec Control Technique's Machine Control Studio automates the system, creating a flexible and intuitive environment for programming, meaning that it was compliant, familiar and, therefore, fast, and easy to use for the facility's control engineers. Roger Hogg, Managing Director of C. Steinweg Bridge, explains, "the use of Nidec Control Techniques equipment has been instrumental in the efficiency of this new facility."

SIMPLIFIED SYSTEM DESIGN

Key benefits

- Improved wash and extraction
- Easy integration
- Simplified system design
- Reduced energy and water consumption
- Improved customer experience
- Excellent service and support

Customer view

"Since switching to Commander C, we have been able to simplify the system design. For example, we no longer need an imbalance sensor. Imbalance detection and broken belt detection are all built-in the PLC. Commander C's motor control performance is outstanding, and it has greatly improved our testability and troubleshooting compared to the previous drive.

Throughout this project, we have had excellent support from the Control Technique teams in the UK and Switzerland and it's been a great working partnership. We will most certainly use Control Techniques' inverters for our future projects."

Products used

Unidrive M400
Unidrive M701



COMMERCIAL & MANUFACTURING

9 MILLION TYRES GET NEW LEASE OF LIFE





COMMERCIAL & MANUFACTURING

Company name

Bandag SA

Country

South Africa

Customer profile

Based in Alrode, Johannesburg, Bandag SA is part of the global Bandag Group. This leading retread company specialises in giving new life to truck tyres, enabling them to perform like new but at a fraction of the cost.

Solution

Having previously installed Control Techniques AC drives on the plant's extruder and Calendar Mill, multispeed transmissions concluded that the mixer operation would also benefit from a similar installation. The Unidrive AC was selected. A high-performance motor control system that provides ultimate control flexibility in high specification industrial applications.

Key benefits

- 10% energy savings per month
- 5% increase in uptime
- 6% increase in productivity
- Future-ready solution

Products used

Commander

Customer view

Jonathan David, Bandag SA Manufacturing Director, said, "Jim came to us with this idea, and we couldn't fault it. We had seen great success with the previous installations on the extruder and Calendar Mill, and it was a simple decision to roll this out to the mixer." Bruce Grobler comments, "We were delighted that Jim decided once again to fit Control Techniques' drives in this plant. Our innovative and reliable technology had proven itself in similar operations, positioning our high-performance drives as the go-to solution for this application."



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



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



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



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



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

MATERIAL HANDLING, HOISTING



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

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."

Products used

Unidrive
Mentor
PLC



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

Customer view

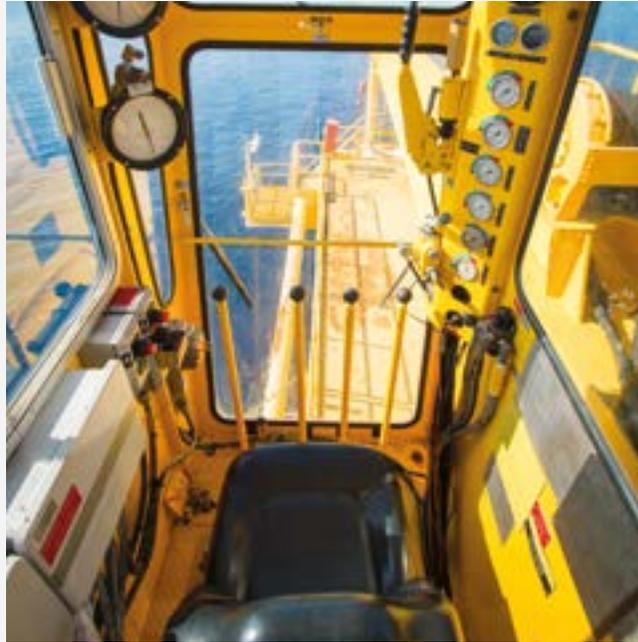
"This cost-effective solution provided TCY with better reliability – increasing uptime, a rapid supply of spares and remote monitoring and diagnostics to facilitate troubleshooting and maintenance."



CRANES
LOGISTICS



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

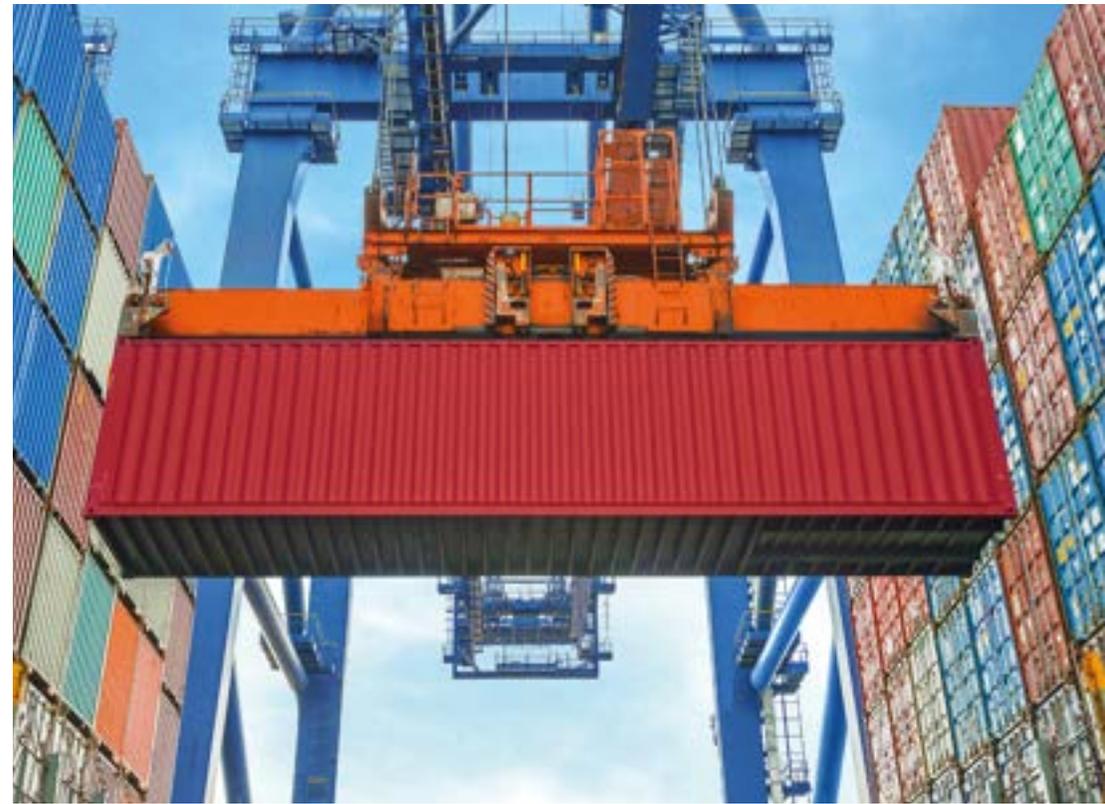
Mentor



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 Unidrives 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."



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STAGE & THEATRE, STEEL,
TEST RIGS, TEXTILES, WIND,
WIRE, WOOD WORKING.**



ENERGY



Company name

Txakoli Bikandi Winery

Country

Spain

Customer profile

Spanish winery, Txakoli Bikandi sought out Control Techniques' Commander C200 drives to power and control water management, whilst minimising energy costs.

Solution

Control Techniques' engineers in Spain set about designing a bespoke economical solution. Commander C200 drives equipped with intelligence integrated into its PLC and MPPT (Maximum Power Point Tracking) optimisation software meant an efficient solution could be achieved for standard pumping applications. The solution enabled them to take advantage of solar energy to manage an autonomous operation, without the need for any additional elements, which would serve their needs for both water extraction and irrigation.

Key benefits

- Harnessing the sun as a source of electricity.
- Low-cost solution.
- Reduced energy and maintenance costs.
- Guaranteed water supply.
- Customisable solution to suit applications.
- Easy set-up.

Products used

Two Commander C200 drives

GUARANTEED FREE WATER SUPPLY TO WINERY





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

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.”

FANS
REGENERATION



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 **ELEVATORS,** ENTERTAINMENT &
LEISURE, FANS & PUMPS, FOOD
& DRINK, GLASS, MACHINE
TOOL, MATERIAL HANDLING,
MEDICAL, METALS, MINING,
PACKAGING, PAPER, PRINTING,
PROCESS, STAGE & THEATRE,
STEEL, TEST RIGS, TEXTILES,
WIND, 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



ADVANCED ELEVATOR SYSTEM BASED ON DRIVE TECHNOLOGY

HOISTING,
WINCHING,
POSITIONING

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

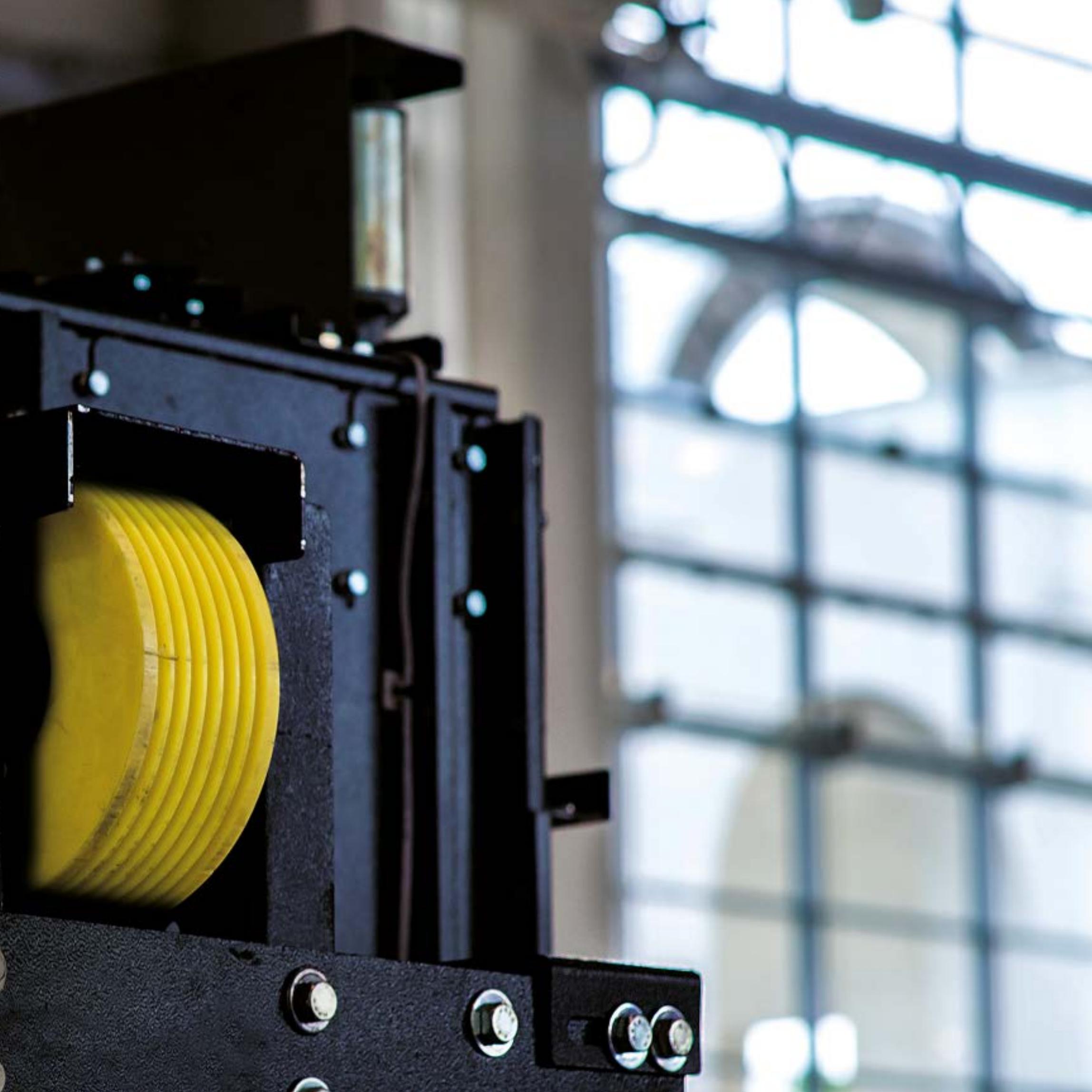
- Reduced costs
- Quicker & easier to install
- Direct-to-floor system

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."





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

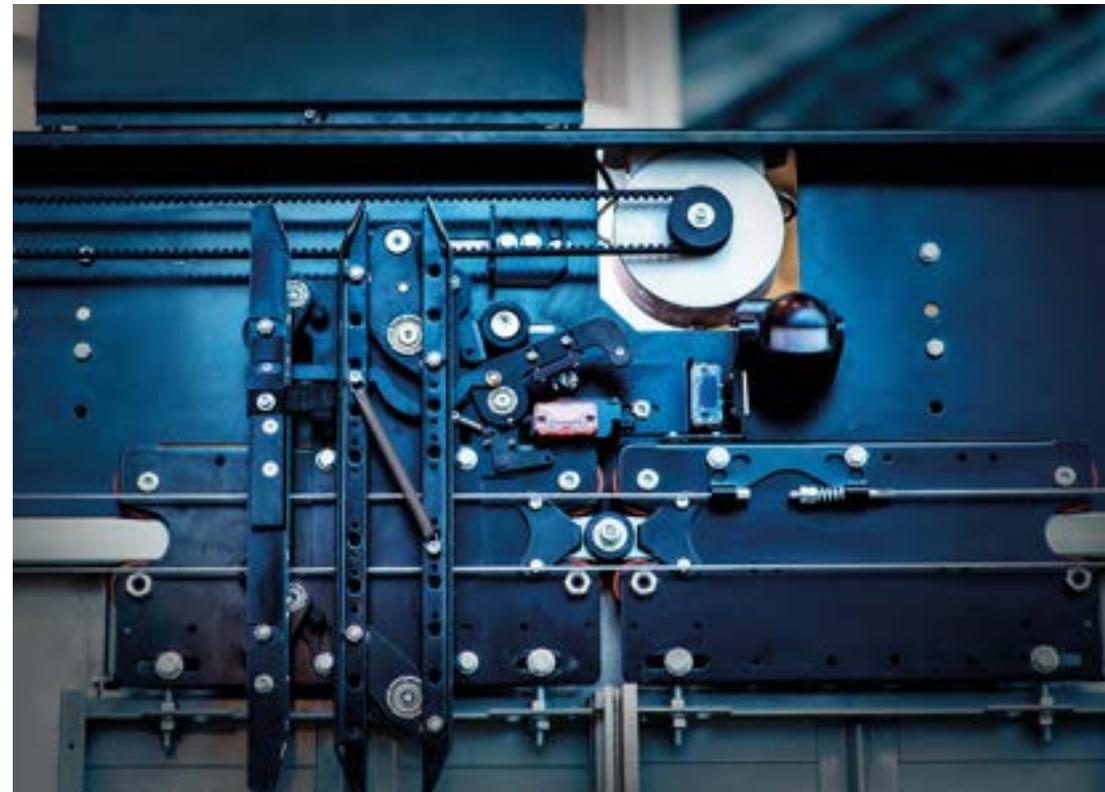
Unidrive



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, Unidrive drives 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."



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TOOL, MATERIAL HANDLING,
MEDICAL, METALS, MINING,
PACKAGING, PAPER, PRINTING,
PROCESS, STAGE & THEATRE,
STEEL, TEST RIGS, TEXTILES,
WIND, WIRE, WOOD WORKING.**



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."



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



FANS & PUMPS

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



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."



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 Netherland’s first approved groundwater sprinkler installation with variable frequency inverter control.”

Products used

Affinity







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



FANS & PUMPS



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



SMART CONTROL SAVES ENERGY

Company name

Navitech Pte Ltd

Country

Singapore

Customer profile

Established for over 20 years, Singapore based company Navitech delivers innovative mechanical & electrical designs and installations that are cost-effective. Navitech prides itself on offering best-of-class solutions by utilising up to date technology for enterprise customers. Its clients include high-profile national organisations such as the Nanyang Technology University (NTU), Public Utilities Board (PUB), Housing & Development Board (HDB) and the Centre of Building Research, testament to the exacting standards of its work.

Solution

Navitech purchased eight Control Techniques' Unidrives, exploiting the drives communication flexibility, Navitech integrated the drives into the fountain control system. M200's onboard PLC boosts the intelligent control. Engineers can now program the fountain display from a remote app, saving both time and resources. Furthermore, the Unidrive has an easy-to-use fixed LED keypad, a useful parameter guide, which aids installers in their set-ups.

Key benefits

- 20-30% energy savings
- Smart Control
- Compact size relieves installation pain points
- Excellent technical support

Products used

Unidrive M200

Customer view

"Our end customer is thrilled with the outcome of this project. They are saving 20-30% of energy compared to DOL running mode/soft starter. The compact size of M200 – it is among the smallest in class - made installation straightforward and generally easier to manage, reducing the space and cost required.

Our end customer received an excellent quality product that offers more functionality than they had previously. Our experience with Control Techniques has been superior; the team provided strong technical support and is always quick to respond to queries."



FANS & PUMPS

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 Middlesbrough 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



FANS & PUMPS

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

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.



FANS & PUMPS

GIVING BACK TO NATURE

Company name

Success Electric PTE Ltd

Country

Singapore

Customer profile

Established in 2012, Success Electric Pte Ltd specialises in manufacturing low-voltage switchgear and control gear assemblies for diverse market sectors in Singapore and numerous global projects. The company's electrical power distribution solutions range from Main Switch Boards (MSB) to Distribution Boards (DB). It also provides motor control and automation panels for Air Conditioning & Mechanical Ventilation (ACMV) systems, Plumbing & Sanitary, Fire Pump, Refuse Chute, and Machinery control systems. The company's solutions are trusted by the Government and leading organisations, such as the Land Transport Authority (LTA), PUB (Singapore's National Water Agency), Singapore Power (SP Group), CapitaLand Limited, Global Switch and Setsco Services Pte Ltd.

Solution

Control Techniques' Commander C drives are integrated into Success Electric's Irrigation Booster Pump system controller. The drive controls and regulates the pumps to distribute the water supply to the entire field of native plants and forests at programmed times of the day and night, ensuring the plants are watered, whilst saving energy and natural resources.

Key benefits

- Compact size
- Easy installation
- 30% energy savings

Customer view

"The solution has reinforced the energy saving benefits that variable speed drives deliver. In this case, Singapore Botanical Gardens is making energy savings of 30%. With the compact and programmable Commander C200 drives, we were able to reduce the panel footprint, leaving more space for nature that visitors can enjoy."

Anthony Yeo, Success Electric Business Manager

Products used

Commander C200

FANS,
PUMPING



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



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 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

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

Customer view

“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.”

VENTILATION EXTRACTION FANS





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



HONEY HARVESTING

Company name

Jaroslav Týča

Country

Czech Republic

Customer profile

Jaroslav Týča, in the Czech Republic, is a family business that supplies products to beekeepers in the Czech Republic and beyond. Its main product is the 6RZ reversible honey extractor, which separates honey from honeycomb for six frames.

Solution

Control Techniques' Commander C drives are integrated into Success Electric's Irrigation Booster Pump system controller. The drive controls and regulates the pumps to distribute the water supply to the entire field of native plants and forests at programmed times of the day and night, ensuring the plants are watered, whilst saving energy and natural resources.

Key benefits

- Simple and easy to use
- Cost-effective
- Built-in logic controller
- Excellent technical support

Products used

Commander C200

Customer view

"We are more than satisfied with our drives and appreciate the technical support and assistance we received when programming the inverters. The Control Techniques team wrote the program that best suited our needs! I had no idea before that a simple inverter could perform tasks without an expensive master control system."





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 ± 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



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**



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



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 throughout
- 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



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

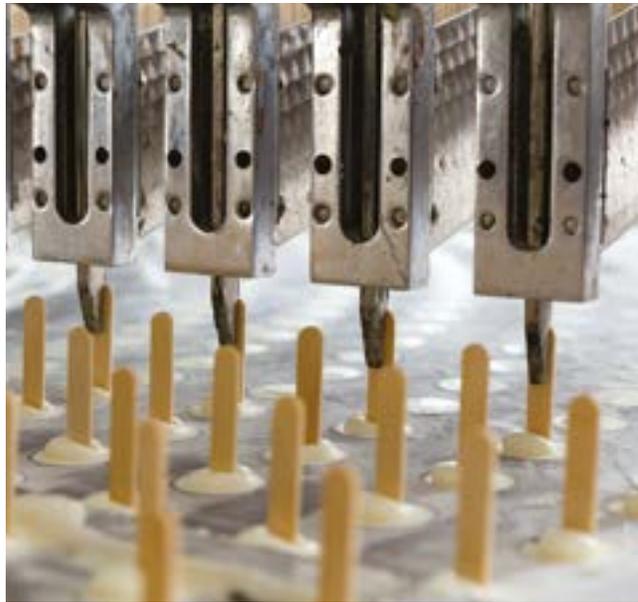
Products used

Digitax

FILLING,
CAPPING



**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



FOOD & DRINK

PUMPS, CONVEYORS, SJOYAVINO

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



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



GLASS

LANCASHIRE COMPANY PROVIDES SOLUTION TO GLASS CULLET SHORTAGE

Company name

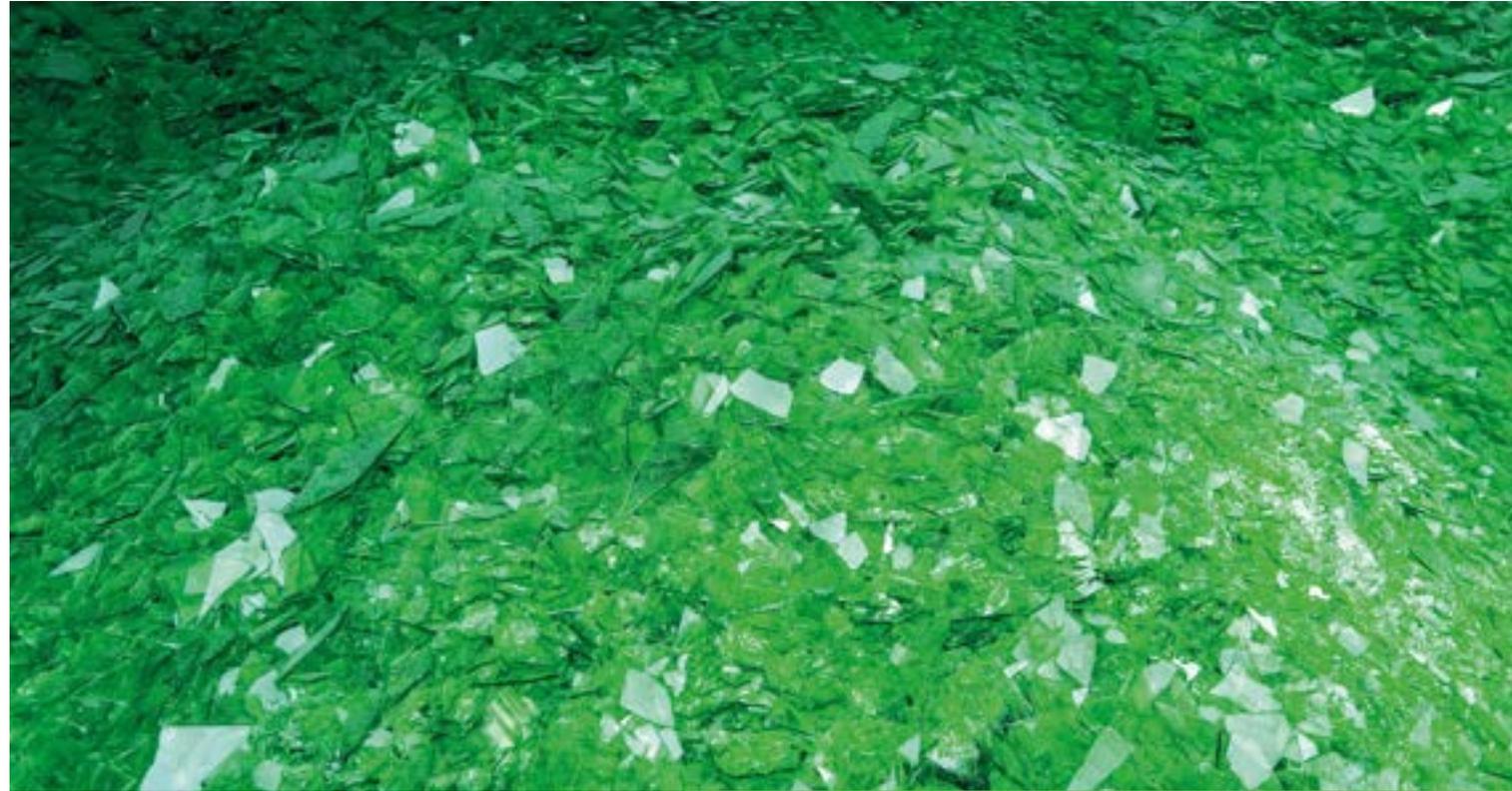
Tek-Dry

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

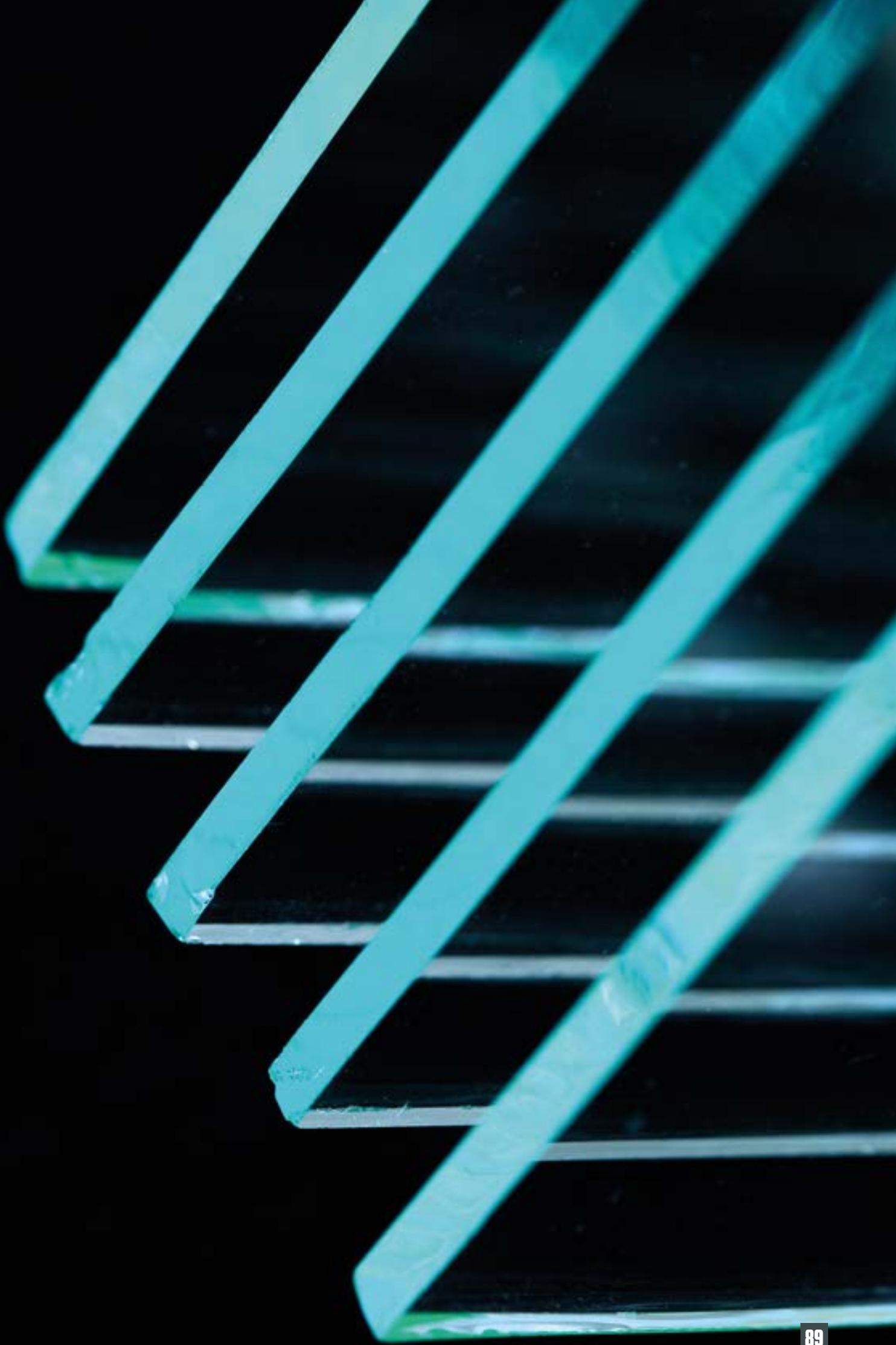
- Precise speed control
- Comprehensive diagnostics capability
- M701 drive contains two encoder interfaces

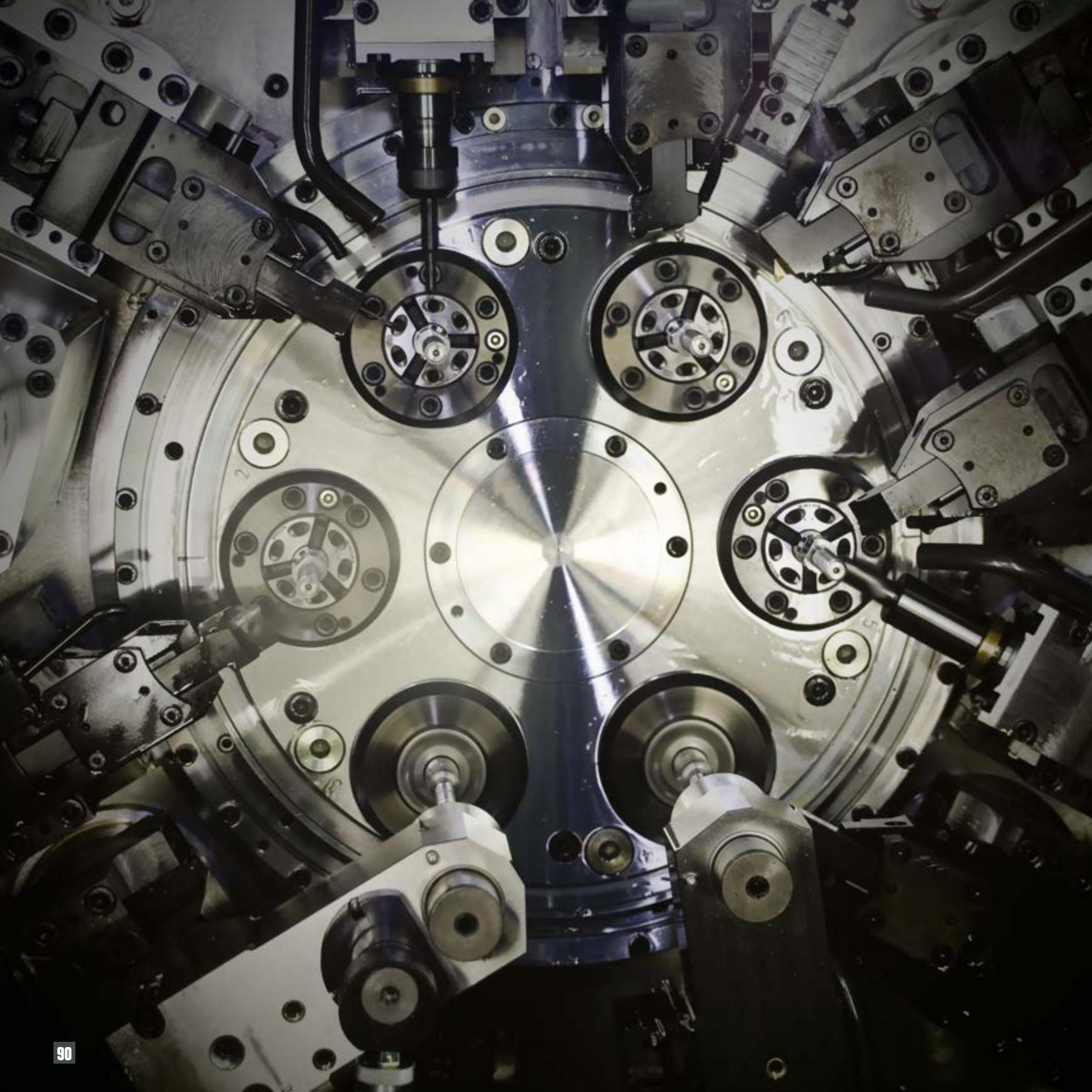
Products used

Unidrive

Unimotor hd

ROLLERS, OVENS





**AEROSPACE SYSTEMS, AUTOMOTIVE,
COMMERCIAL & MANUFACTURING,
CRANES & HOISTS, ENERGY,
ELEVATORS, ENTERTAINMENT &
LEISURE, FANS & PUMPS, FOOD &
DRINK, GLASS,  MACHINE TOOL,
MATERIAL HANDLING, MEDICAL,
METALS, MINING, PAPER, PACKAGING,
PRINTING, PROCESS, STAGE &
THEATRE, STEEL, TEST RIGS,
TEXTILES, 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

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



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."

**CUTTING,
PRECISION,
POSITIONING**





MATERIAL HANDLING,



AUTOMATION TAKES THE STRAIN TO LOWER COSTS OF PAVING

PUMP,
COMPRESSOR,
POSITIONING

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.

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



INNOVATIVE COMPANIES NEED INNOVATIVE SUPPLIERS



Company name

Accutech Weighing Services

Country

Africa

Customer profile

Nidec Control Techniques has been a supplier for AccuTech Weighing Services for over a decade. Established in 1991, AccuTech Weighing Services is now the largest technological automatic weighing equipment supplier to the grain milling industry in Africa. Its systems have since been installed throughout Africa, Europe and South America.

Solution

The drives are primarily used for weighing powder products such as maize meal, flour, and fine salt to control screw feeders which are used in thousands of material handling applications and are designed to meter bulk materials at a controlled feed rate. They control speed – full feed, and accuracy. Without Control Techniques' drive technology, it would be impossible to achieve this result. Control Techniques drives provide AccuTech with peace of mind, knowing that its product is being packed efficiently.

Key benefits

- 0.025% weight accuracy achieved
- Small, compact and reliable with onboard PLC
- Excellent drive availability
- Excellent customer service

Products used

Unidrive M400
Commander C200
Commander C300

Customer view

AccuTech CEO Brett Hillidge states this "Having easy access to drives that are not only flexible with onboard PLC but also easy to use, compact, and reliable is the reason why we keep choosing Nidec Control Techniques products again and again."

BULK HANDLING AIDS PRODUCT QUALITY

Company name

C. Steinweg Bridge

Country

Netherlands

Customer profile

Durban-based C. Steinweg Bridge operates custom bonded warehouses, empty and full container yards. It offers handling of bulk agricultural products, breakbulk, general cargo, and the containerisation of minerals and metals. The company's dedicated bulk fertiliser facility provides warehousing and distribution to farmers across the country.

Solution

Unidrive M400 powers the motors on the conveyors, crushes, and chutes at C. Steinweg Bridges' new 60,000 m² facility. The drive provides maximum stability and control of induction motors at all outputs, improving throughput with advanced open-loop motor control algorithms. Nidec Control Technique's Machine Control Studio automates the system, creating a flexible and intuitive environment for programming, meaning that it was compliant, familiar and, therefore, fast, and easy to use for the facility's control engineers. Roger Hogg, Managing Director of C. Steinweg Bridge, explains, "The use of Nidec Control Techniques equipment has been instrumental in the efficiency of this new facility."

Key benefits

- Reduced handling
- Improved control
- Reduced degradation of the product
- Increased tons per square metre
- Fast and easy to use

Customer view

"The technology from Nidec Control Techniques enables us to keep a close eye on our delivery, giving us data on tons per second. We are achieving more tons per square metre than any other facility known to us, with larger trucks moving more product, faster."

Products used

Commander



MATERIAL HANDLING





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



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

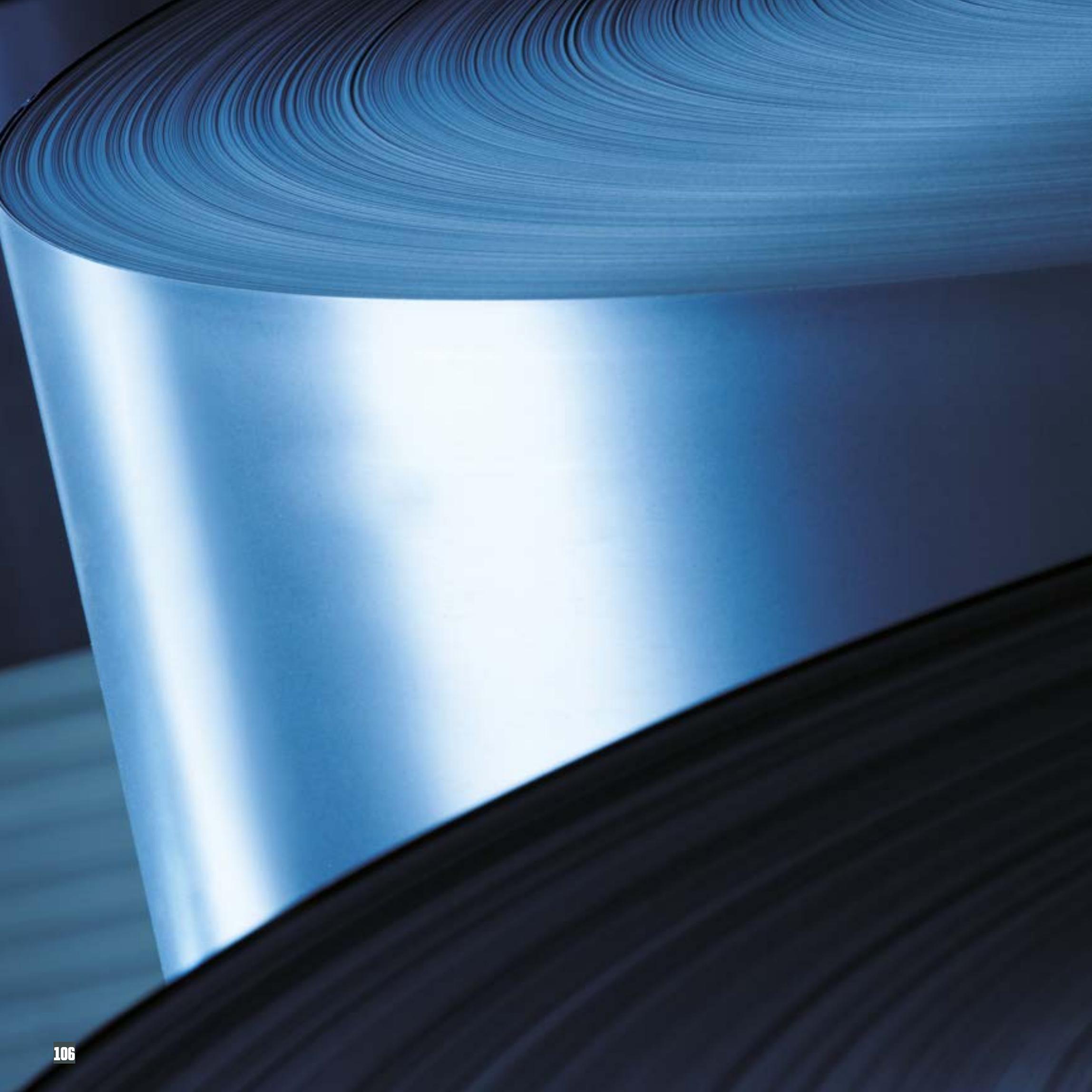
Customer view

"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





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ELEVATORS, ENTERTAINMENT &
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& DRINK, GLASS, MACHINE
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STEEL, TEST RIGS, TEXTILES,
WIND, WIRE, WOOD WORKING.**



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



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."



METALS

ENERGY SAVING,
FANS & PUMPS,
EXTRACTION

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

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

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



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.”



EXPLOSION, NOISE PUMPS



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



**AEROSPACE SYSTEMS, 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 & THEATRE, STEEL,
TEST RIGS, TEXTILES, WIND,
WIRE, WOOD WORKING.**



PERFECTLY PACKED

Company name

Baumer

Country

Italy

Customer profile

Founded in 1974, in the centre of the packaging valley, Modena, Italy, Baumer Srl specialises in manufacturing packaging machines for shrink film and wrap-around cartons. The company exports across five continents and has over 1500 machines installed worldwide. The Baumer brand is synonymous with integrity and reliability in the production of packaging machines, working with Shrink-Wrap and Wrap-Around carton. In fact, its Wrap-around machines are among the fastest and most flexible in the market.

Solution

Today Baumer relies on a combination of Unidrive, Digitax, and Commander to control the airflow and temperature in its packaging machines. Marco Stanzani, Marketing Manager Baumer, said, "The transition from Unidrive SP to Unidrive M700 ensured the cloning of the parameters, but above all, the motion and PLC project. The mechanical compatibility guarantees an easy replacement directly in the field without mechanical interventions."

Key benefits

- Reduced energy consumption and improved ROI
- Remote assistance via Ethernet
- Easy to use
- Improved airflow management
- Drive modularity

Products used

Unidrive M700
Commander C300
Digitax HD

Customer view

"The Control Techniques brand for us at Baumer is synonymous with reliability and safety. Thanks to the drives, we succeeded in reducing energy consumption. We improved the ease of format changes for our customers – automatic changeover times are completed in a few minutes, and the machines automatically reconfigure themselves making it simple for the customer.

We have a minimal and clean panel design thanks to the common DC-bus, and to date, support has proved to be equal to a real partner. Remote assistance via the onboard ethernet port is beneficial, and the after-service team always works hard to find a solution to various problems quickly"





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."



PACKAGING

NITA
SENTIENT LABELING SYSTEMS





FUTURE-READY LABELING TECHNOLOGY

Company name

Nita Labeling Systems

Country

Canada

Customer profile

NITA Labeling Systems is North America's leading manufacturer for the most advanced pressure-sensitive labeling equipment in the industry, with engineering, fabrication, assembly, and R&D testing all under one roof at its facility in Montreal, Canada. The company has been building state-of-the-art, servo-driven, labeling equipment since 2007.

Through its distribution network and agents throughout the United States, Canada, and Mexico, it serves the industrial packaging market in the Automotive, Oil & Lubricant, Building & Construction, Food & Beverage, Chemicals, Cosmetics, Dairy, Pharmaceutical, Wine, Beer & Spirits sectors across North and Central America, the Caribbean and Western Europe.

Solution

After Control Techniques recommendation of the DIGITAX drive, NITA's modules on their labelling systems, including conveyer speeds, metering belts, orientation belts, and labelling heads, are all controlled by Control Techniques drives. The onboard MCI processor executes comprehensive programs that seamlessly control multiple drives and motors simultaneously across real-time networks. The Control Techniques Digitax drive brings a whole host of machine design opportunities for the NITA engineering team.

Key benefits

- Maximised throughput with superior and precise motor control
- Seamless motor-drive pairing
- Unparalleled machine control scalability
- Flexible machine design with option modules
- Reduced commissioning time
- Increased machine safety
- Improved machine diagnostics
- High reliability in demanding 24x7 manufacturing environments

Products used

Digitax M754



PACKAGING

SWITCH OUT SEES 30% ENERGY SAVINGS

Company name

BPI solutions

Country

UK

Customer profile

Established in 1946, Rewinds & J. Windsor is one of the largest independently owned electric motor and rotating equipment repairers in the UK. Operating across three sites, the company offers a range of electrical, mechanical, and electronic engineering services. It repairs and maintains motors used in the manufacturing, power generation, renewables, and facilities management sectors.

Solution

BPI Packaging Solutions and Rewinds & J. Windsor chose M700 for the job. Two extruders were all converted to Unidrive, Dyneco and Tec solutions.

Key benefits

- Increased reliability
- Reduced maintenance costs
- 30% energy savings

Product used

Unidrive M700

Customer view

"The Control Techniques' drives are brilliant. We have all the benefits associated with switching from DC to AC, and, as a result, we are now converting to Control Techniques drives across the site to keep all parts uniform. Replacement drives will be readily available and easy to source, solving the challenges we faced with the old drives.

The service we have received from Control Techniques has been great; certainly not your typical pushy sales teams."





PACKAGING

DRIVING SUCCESS

Company name

Günter / Technimac

Country

South Africa

Customer profile

For twenty-five years, Technimac has been dedicated to producing world-class machinery for the packaging industry. From its base in Johannesburg, South Africa, Technimac exports bag-makers to customers worldwide under the Günter/Technimac brand. Its competitive edge in the bag making machinery market can be attributed to its partnership with equipment suppliers like Nidec Control Techniques.

Solution

Technimac has been using Control Techniques servo motors, gearboxes, and drives in their machines since 2004, and the relationship has thrived. Gerhart explains, "It was when they started developing software with us, specifically aligned to our needs and applications, that we knew we had the right partners. I don't believe anything can be 100% perfect, but with Control Techniques, our joint efforts have enabled optimal efficiency of our products."

Key benefits

- Fast availability of products and spares
- Low acoustic noise
- High bandwidth speed loop
- 24/7 support
- Energy saving

Products used

Unidrive M700

Customer View

"When businesses choose to work with us, they know they are getting more than just a product. We pride ourselves in our after-sales support and fast availability of spares in the region, which means our clients don't have to wait for a part to be shipped. Within 24 hours, we can deliver what you need – with the bonus of a field application engineer ready to ensure our product is fit for purpose and installed as required."



MOTORS & 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

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."



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



**AEROSPACE SYSTEMS, 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 & THEATRE, STEEL,
TEST RIGS, TEXTILES, 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





AEROSPACE SYSTEMS, 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 & THEATRE, STEEL,
TEST RIGS, TEXTILES, 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

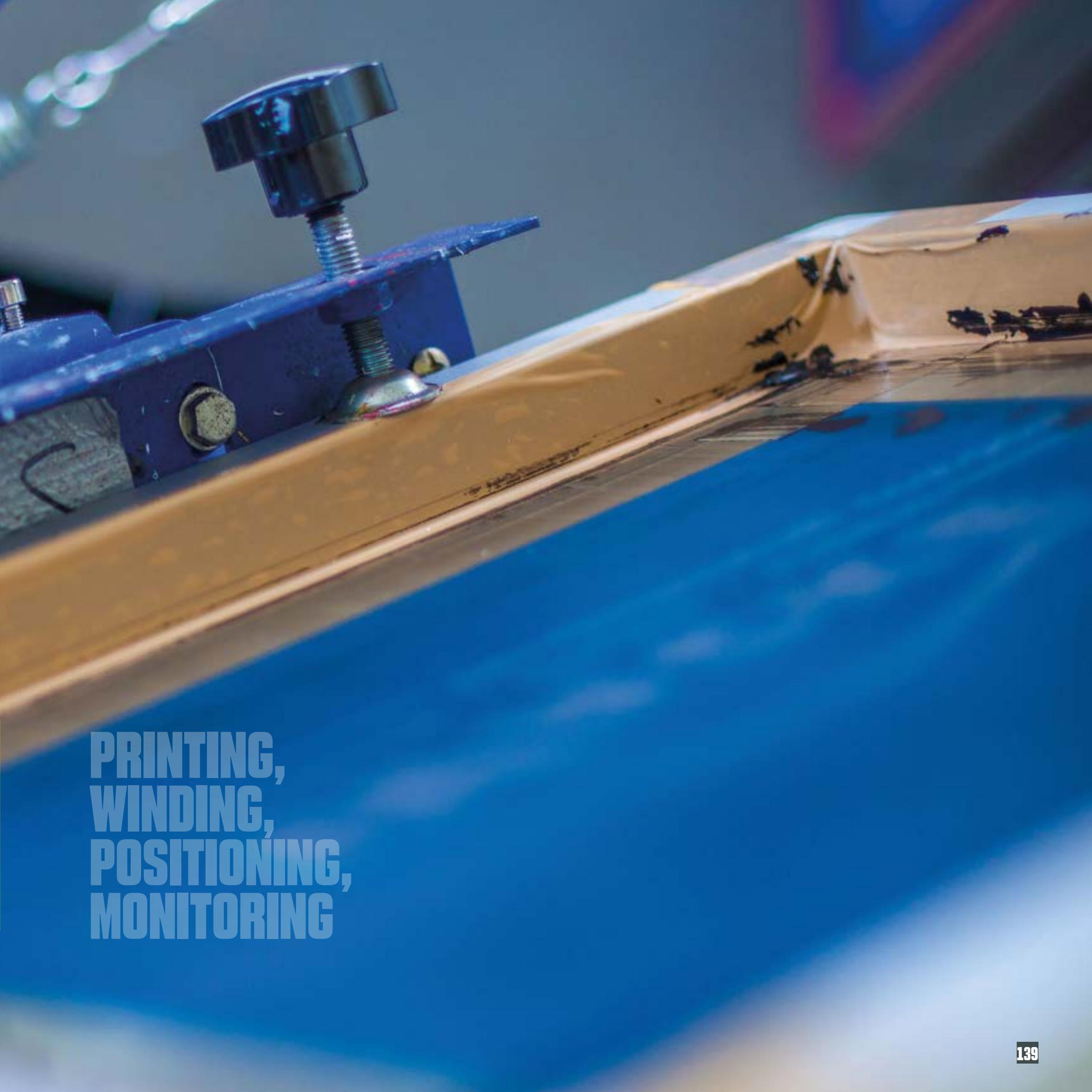
- Waste minimised
- Throughput maximised
- High positioning accuracy
- Extreme reliability

Products used

Unidrive

Customer view

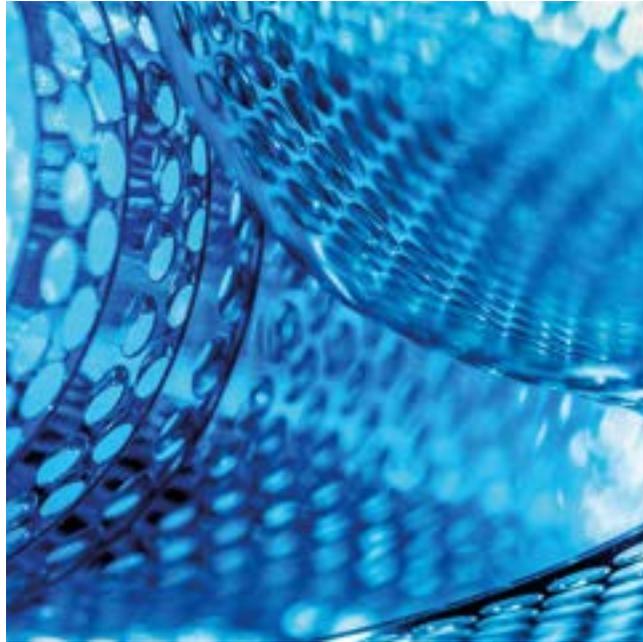
"The specification was demanding, combining ultra-reliability with standalone capability, high accuracy of positioning and Profibus communications. Flexibility and adaptability, along with worldwide service and market availability, were also essential. Unidrive drives were able to achieve this and have 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



**AEROSPACE SYSTEMS, 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 & THEATRE,
STEEL, TEST RIGS, TEXTILES,
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



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



STAGE AND THEATRE

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

Products used

Unidrive
Servo Motors

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."

WINCHING, HOISTS,
LIGHTING RIGS,
STAGE REMODELLING,
POSITIONING





**AEROSPACE SYSTEMS, AUTOMOTIVE,
COMMERCIAL & MANUFACTURING,
CRANES & HOISTS, ENERGY,
ELEVATORS, ENTERTAINMENT &
LEISURE, FANS & PUMPS, FOOD &
DRINK, GLASS, MACHINE TOOL,
MATERIAL HANDLING, MEDICAL,
METALS, MINING, PAPER,
PACKAGING, PRINTING, PROCESS,
STAGE & THEATRE,  **STEEL,**
TEST RIGS, TEXTILES, 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

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."

CONVEYORS





**AEROSPACE SYSTEMS, 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 & THEATRE, STEEL,
 **TEST RIGS, TEXTILES, 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.

Customer view

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

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





**AEROSPACE SYSTEMS, 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 & THEATRE, STEEL, TEST RIGS,
 **TEXTILES, 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



**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,  WIND,
WIRE, WOOD WORKING.**



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 CO2 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

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."

**PUMPING,
COMPRESSORS,
WINCHING**





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



**AEROSPACE SYSTEMS, 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 & THEATRE, STEEL,
TEST RIGS, TEXTILES, WIND,
 **WIRE, WOOD WORKING.****



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



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



WOODWORKING



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

“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.”

Products used

Commander



CUTTING
WOOD PROFILING
ENERGY SAVING

DRIVES CUT OPERATING COSTS AT SWISS SAWMILL

Company name

Scierie Zahand S.A.

Country

Switzerland

Customer profile

To be able to compete in a very aggressive European marketplace, Scierie Zahnd SA needed to significantly increase its timber output without experiencing a corresponding rise in energy consumption and operating costs.

Solution

Four Unidrive large module drives, rated at 160 kW each were used to drive the 1800 rpm milling cutters, two pairs of which mill the logs from a circular shape to square profile, prior to them going through the circular saws.

Key benefits

- Increased line speed & production
- Lower costs
- Excellent support

Customer view

“We investigated a number of drives before embarking on this project,” said Scierie Zahnds’ Technical Manager, Laurent Zahnd. “In all the tests, Control Techniques drives gave the best performance and we have been very pleased with the support from their Drive Centre in Zurich. We have a good relationship with them and have now standardised on Control Techniques products across the plant.”

Products used

Unidrive

CONTROL TECHNIQUES

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