



partners in
control and automation

Industrial strength control and automation

How do you manage the business challenges of today, and implement change to anticipate the requirements of tomorrow?

When you enter periods of change, looking to update and improve critical systems and infrastructure, CEMA is here to help you reap the benefits of advanced control and automation technology. The pressure on the water and waste water industries to perform is immense, but CEMA combines an unparalleled understanding of the requirements of the sector with an unrivalled expertise in systems design and implementation to help you rise to the challenges.

Our capabilities span the design, manufacture, installation, test, commissioning and lifecycle support of electrical systems. We tightly integrate all the key disciplines of mechanical, electrical, instrumentation and systems integration to ensure that we have all the skills we need under one roof to develop control and automation systems that offer:

- **Right first time design**
- **Reduced capital and operational costs**
- **Consistently high quality**
- **Guaranteed safety compliance**
- **Improved reliability**
- **Reduced maintenance costs**
- **Guaranteed on-time delivery**

We have a huge depth of capabilities and in-house resources. With our specialisation in the water and waste water industries and our proven track record in delivering innovative systems that meet and exceed your expectations and requirements, CEMA is your ideal business partner for managing change.

Extending our capabilities with the full resources of the CEMA Group

CEMA was founded in 1987 in Nottingham, and has quickly grown to become one of the leading electrical engineering companies in the United Kingdom, specialising in understanding and meeting the requirements of the UK market, but extending our reach throughout the world, supplying and installing the highest quality and most advanced process and plant control systems.

No project is too small or too large for CEMA to undertake: we have the scope and capability to bring all the benefits of our innovative approach to anything from a single control panel to a full turnkey solution.

As customer requirements have evolved, so CEMA has moved to meet those needs by expanding our existing resources and skillsets, and by acquiring and developing complementary businesses. Today the CEMA Group of companies includes:

- **Viking Pumps**
- **Lloyd Morris Electrical**
- **Derby Stove**
- **Nottingham Crane**
- **Labtec**
- **Chartwell Consulting**
- **CEMA Business Solutions**
- **East Midlands Computing**

These complementary businesses give us the added facilities of pump system integration, transportation, vending, stove enamelling, sheet metal fabrication, systems integration, site cabling installation, site services and consultancy services. And we will continue to grow the CEMA Group with new business units and further acquisitions in line with the needs of our customers.



As you strive to resolve the mass of potentially conflicting demands that impact on your business, CEMA is there to help

The water and waste water utility is undoubtedly the most tightly regulated industry in the UK. Its challenge is not simply to meet the evolving requirements of its customers and stakeholders, but to do so in a manner that minimises environmental impact and maximises sustainability. These issues all come to bear on the technologies that are employed in control and automation systems, and the suppliers who are the most successful are the ones who fully embrace the importance of resolving the water industry's many conflicting demands.

It says much of CEMA, then, that we lead the way with procurement frameworks, with the biggest names in the industry turning to us to meet their control equipment requirements. CEMA offers its framework partners the benefits of:

- Standardisation
- Design share agreements
- Competitive pricing
- Low cost of ownership
- Extended warranties
- Reduced risk
- Improved supply chain communications
- IEC 60439-1 compliance
- IEC 61131 software compliance

CEMA embraces the regulation within which the water industry has to work, seeing it as creating the conditions in which true supplier partnerships can thrive and where innovation can come to the fore to meet the challenge of a sustainable future.



Adding value for framework partners

Demonstrating its credentials as a true partner for water and waste water industries, CEMA offers its framework partners a host of added value programmes and activities including:

- MCC workshop programmes
- Framework apprentice schemes
- MCC clinics
- Factory tours

Our **MCC workshops** provide focused and dedicated interactive discussions with water companies, consultants and contractors to explore the latest developments within the MCC Framework. These workshops not only highlight the benefits of emerging technologies and approaches; they also improve the teamworking culture and communication across different stakeholder groups.

Our award winning **framework apprentice scheme** provides the facility for a client apprentice to gain experience at an MCC Framework supplier's company. The apprentice will work in all areas of the business to achieve a detailed and varied knowledge of the electrical engineering and automation manufacturing industry, taking back not only the invaluable experience but also a host of new ideas and alternative approaches to tackling control problems.

Our **framework MCC clinics** provide a facility where water companies can meet with us for proactive discussions – sharing information and working together to address issues and concerns.

With our **factory tours** we aim to provide a clear insight into the day-to-day operations of our business. The goal is to promote a familiarisation with the latest control strategies, and an appreciation of the information required to design and manufacture the best possible control panels.

Engineering

CEMA is committed to raising standards through continuous improvements, innovation, and being prepared to challenge accepted wisdom

Our engineering division provides unrivalled expertise in the design and manufacture of high quality, technologically advanced control and automation systems. Over 140 highly qualified engineering staff working across 2700m² of purpose built facilities offer unparalleled expertise in developing projects for major UK water companies, from single control cabinets to large infrastructure changes.

We continually challenge accepted thinking, traditional designs and conventional methods of working to ensure that continuous improvement becomes normal procedure. And we constantly review new technologies as they are introduced onto the market, assessing how they can be used to improve control and the ability to gather, store and manage critical data streams. This information can be used to directly influence a business and its ability to optimise and manage assets under its control.

In everything we do, we recognise that our customers face pressures not only to implement the best systems, but to do so within optimal timescales. We facilitate these seemingly conflicting requirements by:

- **Standardising design to speed project changes**
- **Using advanced software that reduces engineering time**
- **Implementing flexible manufacturing cells that reduce assembly time**
- **Ensuring short delivery times for standard designs, and guaranteed delivery dates for even the most complex projects**

CEMA offers quality assured manufacturing, certified according to ISO 9001:2000. We are also committed to minimising our environmental impact, holding ISO BS EN 14001:2004 certification.



MCC and control panel design and manufacture

CEMA is adept at manufacturing control panels, MCCs and intelligent MCCs of all sizes and configurations that don't simply meet customer requirements, but also add value to help companies run their businesses more efficiently and cost-effectively.

We manufacture both standard and custom-designed control panels to the highest quality, built in accordance with the latest industry standards. We lead the field in the design of MCCs and, in particular, intelligent MCCs, taking advantage of the power and facilities of emerging control technologies.

Our intelligent MCCs offer shorter installation times, increased flexibility, greater levels of control and far greater levels of diagnostic information for preventive maintenance. These intelligent systems can provide answers to questions such as:

- **What tripped when?**
- **Why did it trip?**
- **How many failures have there been this year?**
- **Were they preventable?**
- **What has been the availability of this system over the past year, or five years, or ten years?**
- **How efficient is the system under actual service conditions?**

Being able to answer such questions can quickly highlight problems within assets and infrastructure that might otherwise stay hidden, so helping you to boost efficiencies and reduce ongoing operational costs.



Systems Integration

No control panel or discrete controller can stand alone in a modern water processing environment. Effective integration provides the means to leverage the power of individual systems to deliver optimum efficiency and productivity

Meeting the needs of our customers does not start and end with the design and manufacture of control panels. It begins with a thorough understanding of how our customers work and the challenges they face, and it extends to encompass not just panel installation but full systems integration.

Only a company adept at the multiple disciplines of electrical, mechanical and software engineering can offer the full benefits of true integration between discrete control products and I/O, panels, SCADA and DCS systems, and the wider business enterprise. CEMA offers all of those capabilities to help customers meet the challenge of providing effective water and waste water services in the 21st century.

CEMA recognises that effective systems integration is about much more than simply bringing component subsystems into a whole and ensuring that they function together. Rather, CEMA's integration services deliver systems which harness all the data available and translate that data into a seamless flow of meaningful information to provide a clear window into the process.

We address those requirements at the design stage, at the installation stage, and then on through the lifecycle of the system and its individual components.

Our services extend to include:

- **Control systems integration**
- **Telemetry**
- **Instrumentation**
- **Networking**
- **SCADA**
- **Redundancy requirements**
- **Secure site monitoring**

We are able to integrate the full portfolio of control products and systems, to make a wide range of information available to higher level systems, and to make it easy to act on that information to keep the process running smoothly.

We are expert at implementing telemetry, instrumentation systems and SCADA to monitor and control critical processes, all within a networked control environment. Our networking services can provide as many levels of redundancy as are required to give absolute security of operation, and we are adept at designing and implementing effective redundant ring systems whilst minimising overall plant wiring.

For secure site monitoring, we look to integrate effective plant monitoring software with alarm systems and access controls, one-touch activator systems, CCTV systems, and Voice over IP equipment – all running over secure LANs with multiple, secure access routes, ensuring all the required data is available, but only to the people with the authority to view and act upon it.

Most importantly, we recognise that much of our systems integration has to tie in with existing plant and legacy equipment. It is not uncommon to find that effective systems integration can leverage capabilities within legacy equipment that had never before been exploited – using today's technology to get more from yesterday's infrastructure, meeting tomorrow's business requirements.



Site Services

To complete our portfolio of services to the water and waste water industries, we offer full project management and system installation capabilities

Meeting industry requirements for smoother and less complex project implementation, CEMA is able to offer the full range of installation, cabling and project management capabilities, from minor works right through to multi-million pound installations. We have successfully managed a whole range of projects, and can take a job from concept through design, installation and testing to completion.

By taking a multi-disciplined approach to systems design, we are best placed to facilitate every aspect of an installation. All of our installation work is designed and installed to BS7671:2008 and we can work to any particular specifications which may be in place. All of our extensive workforce are fully qualified and hold CSCS cards. They also hold Water Hygiene cards and EUSR cards, for which CEMA offers in-house training.

We have extensive experience in working with not only the water utility on any given project, but also with multiple control equipment vendors, contractors and consultants. And we can bring our project management services to you on an interim, short-term or long-term basis, with our focus on delivering on your requirements in every department of the project to help ensure repeat business. Our services encompass:

- **Project management**
- **Delivery services**
- **Electrical installation and cabling**
- **Instrumentation**
- **Commissioning and testing**

Our specialist project management personnel will work with you to see a project through.



For installation, CEMA is a NICEIC approved contractor, with extensive experience in both new systems installation and refurbishment of existing equipment. Our project experience in delivering site services to the water industry encompasses everything from MCC installation and cabling, to the installation of site level controls, to the rewiring of control systems for existing plant, to re-cabling and updating a whole water or sewage treatment works.

We also have a broad experience in and excellent working knowledge of CDM regulations. We have operated as principal contractor, coordinator and designer in various projects under both the original CDM and CDM 2007 regimes. Our resources include over 60 commissioning and testing engineers based across the UK. We are:

- **Expert in providing a complete design package**
- **NICEIC approved**
- **Expert in ATEX extensions**
- **Specialists in refurbishment**
- **Expert in fibre optic cabling**
- **Experienced in CDM regulations**
- **Able to provide full compliance to BS 7671 and periodic testing**
- **Able to provide full documentation and manuals**

An important differentiator for CEMA is our high level of post-project support and system maintenance. We are able to provide a range of tailored services, from a 'man in a van' to total care packages, all at highly competitive rates. We can provide remote diagnostics capabilities to back-up critical plant and control systems, with full access to technical support and the availability of 24/7 telephone support.



Certification

We know that your purchasing requirements are made a lot more complicated by the need to source certified systems, from quality approved suppliers. At CEMA, we are certified to the highest quality and service approvals

Legal requirements are becoming ever more stringent for the supply and installation of low and medium voltage electrical equipment.

For ultimate peace of mind, all the systems and assemblies we supply are fully compliant with BS EN 60439-1, and supplied complete with comprehensive documentation of Type Testing. Our systems are also CE marked, with a certificate of conformity and full documentation to back up that certification.

Our installation and cabling services are also fully approved to the highest industry standards, and in our manufacturing we operate the highest quality management standards.



We also take our social and environmental responsibilities seriously, working within our own business and throughout our supply chain to exercise corporate social responsibility and sustainable procurement.

- **Quality management system to ISO 9001**
- **Environmental management system to ISO 14001**
- **All CEMA control panels and MCCs are designed and manufactured to BS EN 60439-1**
- **Cabling installation BS 7671 NICEIC approved**
- **System integration to ISO 9001 TickIT quality management system**

Specialist products and services for the water industry



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