



INDUSTRY BRIEF

Power Generation & Distribution

Control that keeps generation
connected and networks secure.



Control system engineering, integration and analytics since 1997
ISO 9001 certified • Cyber Essentials • CHAS • Constructionline • SafeContractor

www.matrixsystems.co.uk
enquiries@matrixsystems.co.uk
0121 240 7454

YOUR PRIORITIES

What matters most

Generators and network operators must keep the lights on as the grid changes around them. More renewable, storage and embedded generation means new connections, tighter code compliance and more remote sites. Control and telecontrol systems have to work together, meet grid requirements and resist a growing cyber threat.

Grid code compliance

New and modified generation must meet G99 or Grid Code requirements for frequency response, voltage control and fault ride-through, and prove it through compliance testing before full operation.

Availability and reliability

Every hour offline costs revenue or puts supply at risk. Redundant controllers, clear alarms and fast diagnostics help your team keep plant running and restore it quickly after a trip.

Visibility of remote assets

Substations, wind and solar parks and storage sites are often unmanned. Control rooms depend on reliable telecontrol, standard protocols and accurate time-stamped data to operate them safely.

Cyber security

Energy is essential infrastructure and a target. Operators of essential services must show NIS compliance, and control systems, telecontrol links and remote access are central to that evidence.

WHAT WE WORK ON

Systems we engineer

- Substation automation and control
- Generation and balance-of-plant control
- Solar, wind and battery storage sites
- Telecontrol, RTUs and control room SCADA
- Power plant controllers for grid compliance
- Energy metering and performance reporting

PLATFORMS WE WORK WITH

Siemens TIA Portal, S7 and PCS 7 • Rockwell • ABB
• Schneider • Mitsubishi • Beckhoff • Emerson
DeltaV • Honeywell • GE • WinCC, Ignition, AVEVA
(Wonderware), FactoryTalk, iFIX and Citect SCADA

What this means on your project

Outage windows on generation and network assets are short and planned well ahead. We fit our work to them, prove new logic and telecontrol against a simulation before site, and test every interface with you and your network operator. You get the design, code and documentation to run and maintain the system yourselves.

STANDARDS

The standards that shape your project

Customers ask us first about standards. These are the ones we meet most often in this sector, and what they mean in practice.

Standard	What it covers	How we work with it
IEC 61850	Communication networks and systems for power utility automation, including substations.	IEC 61850 devices integrated into station control and SCADA, with configuration files documented.
IEC 60870-5-101/104 and DNP3	Telecontrol protocols between substations, generation sites and control centres. DNP3 is IEEE 1815.	Point lists agreed with your network operator and tested end to end before go-live.
ENA Engineering Recommendation G99	Requirements for connecting generation, including storage, to distribution networks in Great Britain.	Plant control designed to your connection agreement, with support for DNO compliance tests.
GB Grid Code and Distribution Code	Technical rules for connecting to and using Great Britain's transmission and distribution networks.	Frequency, voltage and reactive power control designed to the requirements for your plant.
IEC 62351	Security for power system communications, including IEC 61850, IEC 60870-5 and DNP3.	Authentication and encryption applied where your devices and network operator support them.
NIS Regulations 2018 and NCSC CAF	Cyber security duties for operators of essential services in energy, assessed against the CAF.	Segmented networks, controlled remote access and documentation that support your CAF evidence.

The standards listed are those most often relevant to control-system work in this sector. Which apply to your project, and how, is agreed with you at specification stage.

The evidence you receive at handover

✓ Functional design specification	✓ I/O list and cause-and-effect	✓ Alarm list and HMI interface
✓ FAT and SAT records	✓ As-built drawings and source code	✓ Method statements for common faults

ABOUT MATRIX

Standards-led, fully documented control systems that you own and can support.

Matrix International (UK) Ltd has designed, built and supported industrial control systems since 1997. We take projects from specification and electrical design, through PLC, DCS and SCADA software, to installation, commissioning and long-term support, and we build the analysis software that shows how a plant is really performing. We are ISO 9001 certified and hold Cyber Essentials, CHAS, Constructionline and SafeContractor accreditation.

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HOW WE DELIVER

From specification to long-term support

01 Specify

Requirements, applicable standards and risks agreed with you up front, itemised into a clear plan.

02 Design

Electrical and control design, PLC/DCS and SCADA software, to your standards and ours.

03 Test

Logic proven against a simulated plant, then factory acceptance testing before anything reaches site.

04 Commission

Installation, commissioning and site acceptance testing, planned around your operation.

05 Hand over

Full documentation, method statements for common faults, and training for your team.

06 Support

Maintenance, upgrades and analysis for the life of the system, with 24/7 cover under a support agreement.

WHY MATRIX

Why customers choose us

Standards first

An ISO 9001 certified quality system, designing to the standards your sector demands, plus any you specify.

You own the system

Clear structure, open interfaces and complete documentation, so you can support it yourself or with any vendor.

Tested before site

Control code is version-controlled and tested against a simulated plant before factory and site acceptance.

Multi-vendor

Siemens, Rockwell, ABB, Schneider, Mitsubishi, Beckhoff, Emerson, Honeywell and GE platforms.

In it for the long term

For us a project is not finished until the control system is decommissioned. 24/7 support is available under a support agreement.

OUR PROMISE

Standards-led, fully documented control systems that you own and can support.

Talk to us about your project

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