



INDUSTRY BRIEF

Chemicals

Safe, repeatable control for batch
and continuous chemical plant.



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

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YOUR PRIORITIES

What matters most

Chemical plants handle hazardous substances in batch and continuous processes, often on sites that have grown over decades. Their control and safety systems must hold reactions within safe limits, keep product quality consistent, act correctly when things go wrong, and give you and the regulator clear evidence that major-accident risks are under control.

Major-accident prevention

On a COMAH site, control and safety systems are vital layers of protection. They must be designed, tested and maintained so that you and the Competent Authority can rely on them when it counts.

Safety instrumented systems

Trips and interlocks on reactors, storage and utilities must meet the SIL your hazard study sets, with proof testing and bypass control your team can manage.

Consistent, traceable batches

Recipes and equipment must run the same way every time, with batch records that show what was made, how and when, so off-spec product is caught early.

Change without disruption

Products, recipes and equipment change often. Each change must go through your management-of-change process, be tested before it reaches the plant and leave your documentation up to date.

WHAT WE WORK ON

Systems we engineer

- Reactor and batch process control
- Raw material handling and dosing
- Distillation, separation and drying
- Tank farms, storage and transfer
- Safety instrumented and interlock systems
- Batch reporting and control room HMIs

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

On a live chemical site, safety and product quality come first. We work within your permit-to-work and management-of-change procedures, prove new logic and recipes against a simulation of the process before they reach site, and plan cut-overs around your campaigns and shutdowns. You get the design, code and safety 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 61511	Safety instrumented systems for the process industry, across the whole safety lifecycle.	SIS logic designed and tested against your safety requirements specification and target SILs.
COMAH Regulations 2015	Duties on operators of sites holding dangerous substances to prevent and limit major accidents.	Control and safety systems documented to support your major-accident prevention policy and safety report.
DSEAR 2002 and IEC 60079 series	Explosive atmosphere risk assessment and zoning, and the protection concepts for equipment in hazardous areas.	Instruments, panels and wiring specified to suit your hazardous area classification.
ISA-88 (IEC 61512)	Batch control: common models and terms for recipes, procedures and plant equipment.	Batch software built from equipment phases and recipes, so new products do not mean rewriting code.
EEMUA 191 and IEC 62682	Good practice and requirements for designing and managing industrial alarm systems.	Alarm philosophy, rationalisation and prioritisation, so operators see what needs action.
IEC 62443	Cyber security for industrial automation and control systems, for owners, integrators and suppliers.	Its zones, conduits and security levels shape how we design networks and remote access.

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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