

A large-scale industrial scene at night, featuring a massive conveyor belt system transporting material across a dark, sloping landscape. A tall, illuminated structure, possibly a headframe or part of a mine, stands in the background under a dark sky. A single street lamp illuminates the foreground.

INDUSTRY BRIEF

Mining & Quarrying

Keeping people safe and material moving, shift after shift.



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

Quarries and mines run heavy plant in harsh, dusty and remote sites. Crushers, screens and conveyors must keep material moving while people work close to powerful machinery. Control systems have to stop plant safely, protect costly equipment and show inspectors that risks are well managed.

Safe stopping and isolation

Emergency stops, pull-wire switches, guard interlocks and safe isolation have to work every time, and be designed, tested and recorded to the performance level your risk assessment demands.

Throughput and availability

An unplanned stop on a crusher or main conveyor can halt the whole site. Blockage, belt drift and overload detection, with clear alarms, help your team fix problems before they become breakdowns.

Explosive atmospheres

Where combustible dust, fuel vapour or, underground, flammable gas can form an explosive atmosphere, equipment and control design must match your hazardous area classification and DSEAR risk assessment.

Remote and dispersed sites

Pits, processing plant and stockpiles are often spread out and lightly staffed. Managers need reliable remote monitoring, clear alarms and production data they can trust, wherever they are.

WHAT WE WORK ON

Systems we engineer

- Primary, secondary and tertiary crushing
- Screening, washing and classification
- Conveyor networks and stockpile control
- Ventilation, pumping and dewatering
- Load-out, weighing and dispatch
- Production reporting and remote monitoring

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

Downtime on a quarry or mine costs production every hour. We plan changes around your shifts and shutdowns, prove new logic against a simulation of the plant before it reaches site, and test every safety function at commissioning. 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
Quarries Regulations 1999	Health and safety duties for quarry operators in Great Britain, including plant and excavations.	Controls designed around your health and safety document, with safe stops and interlocks built in.
Mines Regulations 2014	Health and safety duties for mine operators in Great Britain, including ventilation and explosion risks.	Ventilation, pumping and conveyor controls designed to support your safety management system.
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.
BS EN 620	Safety requirements for fixed belt conveyors that carry loose bulk materials.	Pull-wire emergency stops, start-up warnings and interlocks designed to its requirements.
BS EN ISO 13849-1	Design of the safety-related parts of machine control systems, rated by performance level (PL).	Safety functions designed and verified to the performance level your risk assessment requires.
PUWER 1998	Duties to keep work equipment safe and maintained, with effective start, stop and emergency stop controls.	Control and stop functions designed so that your plant can meet its PUWER duties.

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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