



INDUSTRY BRIEF

Metals & Metallurgy

Precise, safe control for hot, heavy,
energy-hungry processes.

 MATRIX



What matters most

Process control and quality

Temperature, current and composition have to stay within tight limits, batch after batch. Stable control, recipe management and good data help cut scrap and rework and protect your customer approvals.

Safety around heavy plant

Molten metal, furnaces, cranes and high-power electrical plant carry serious hazards. Interlocks, safe stops and burner protection must be designed and proven to the level the risk demands.

Energy use and cost

Furnaces, electrolysis and large drives use vast amounts of energy. Metering, monitoring and reporting show where it goes, so you can control it and support your energy management system.

Traceable material

Customers want to know how every cast, coil or part was made. Linking process data to batches and products gives you the evidence behind inspection documents and quality investigations.

The standards that shape your project

Standard	What it covers
BS EN 746-1, BS EN ISO 13577-2 and -4	Safety of industrial furnaces: general requirements, combustion and fuel handling, and protective systems.
BS EN 60204-1	Safety of machinery: electrical equipment of machines, including stopping and emergency stop.
BS EN ISO 13849-1	Design of the safety-related parts of machine control systems, rated by performance level (PL).
ISO 50001	Requirements for an energy management system that measures and improves energy performance.
BS EN 10204	Types of inspection document for metallic products, such as 3.1 and 3.2 certificates.
IEC 62443	Cyber security for industrial automation and control systems, for owners, integrators and suppliers.

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.

From specification to long-term support



Many metals processes run continuously, and an unplanned stop on a furnace or pot line can be very costly. We plan changes around your production and shutdowns, and prove new logic against a simulation of the process before it reaches site. You get the design, code and documentation to run and maintain the system yourselves.

Systems we engineer

- Melting and holding furnaces
- Electrolysis, electrowinning and refining
- High-power substations and transformers
- Casting, rolling and finishing lines
- Recipe handling and MES part tracking
- Energy monitoring and production reporting

PROJECT EXPERIENCE

Aluminium smelter

Matrix delivered the software, electrical and SCADA system for an aluminium smelter: the electrolytic cells and their anodes and cathodes, a high-power substation and transformers, control of cell current and anode and cathode replacement, with SCADA recipe handling, maintenance reporting, MES part tracking and reporting.

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

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.

GET IN TOUCH

Talk to us about your project

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