



INDUSTRY BRIEF

Airports

Airside and terminal control systems that keep an airport safe and open.



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

Airports run on tight margins, many of them around the clock. Airfield lighting, boarding bridges, fuel and utility systems must be there for every movement, safe for people and aircraft and secure against cyber attack. Upgrades have to happen without disrupting a live operation, under the eye of the Civil Aviation Authority.

Keeping flights moving

Airports run to slot times. Lighting, boarding bridges, fuel and utilities must stay available, with faults found and fixed before they delay aircraft or passengers.

Airfield lighting you can trust

Ground lighting must show the right pattern, report failures at once and meet CAA requirements, including while circuits, regulators or control rooms are being changed.

Working on a live airport

Airside work needs passes, escorts and permits, and has to fit short night-time windows. Cut-overs on a busy airport cannot cost lighting, power or passenger services, even briefly.

Cyber security

Airports are high-profile targets. Larger ones have NIS duties overseen by the CAA, and the operational technology behind the airfield and terminal is part of that.

WHAT WE WORK ON

Systems we engineer

- Aeronautical ground lighting control
- Passenger boarding bridge controls
- Fuel farm and hydrant systems
- Power distribution and utilities SCADA
- Terminal building and infrastructure SCADA
- Drainage pumping and pollution control

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

An airport cannot close for an upgrade. We plan work around the flying programme, airside access and night-time windows, keep existing systems running until new ones are proven, and test logic against a simulation before it reaches site. You receive the design, code and records to operate the systems and support your regulatory evidence.

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
CAP 168 Licensing of Aerodromes	CAA requirements for licensed aerodromes, including visual aids and ground lighting. Certificated airports follow the equivalent UK aerodrome rules.	Lighting control and monitoring designed to the requirements that apply to your aerodrome.
IEC 61820 series	Design and installation of constant-current series circuits for aeronautical ground lighting.	Control and monitoring interfaces to regulators and circuits designed around its principles.
BS EN 12312-4	Safety requirements for passenger boarding bridges, part of the aircraft ground support equipment series.	Bridge controls, interlocks and safety functions designed and tested against its requirements.
NIS Regulations 2018	Cyber security duties for airports designated as operators of essential services, with the CAA overseeing aviation.	Segmented networks, controlled remote access and documentation that support your NIS evidence.
IEC 62443	Security of industrial automation and control systems across their lifecycle, for asset owners, integrators and suppliers.	Its zone-and-conduit model and security levels shape how we design control networks.
BS EN 60204-1	Electrical equipment of machines, such as boarding bridges and other airside plant.	Control panels, wiring and emergency stop circuits designed to its requirements.

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

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Talk to us about your project

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