

## Instrumentation

Our Instrumentation Engineering team has extensive experience supporting both brownfield upgrades and greenfield developments across diverse industrial sectors.

Our Engineers and Designers are skilled in a wide range of specialist tools, enabling the precise and efficient execution of instrumentation design, integration, and project delivery.

### Engineering Expertise from Concept to Completion

At EMC, we combine instrumentation expertise with innovative thinking to deliver digital engineering solutions, from front-end studies through to detailed I&C design.

Our experienced team, with decades of success in cost-efficient, schedule-driven delivery, tackles complex automation and control challenges with consistently high-quality results.

From greenfield installations to brownfield upgrades and asset life extension, we provide precise, scalable instrumentation solutions tailored to your project needs.

With a technology-agnostic mindset, we apply the latest tools, codes, and standards—ensuring accuracy, reliability, and compliance without compromising safety or performance.

### Engineering Services

#### Instrument Engineering Capabilities

Our Instrumentation team brings extensive experience in delivering both brownfield upgrades and greenfield developments across onshore and offshore settings.

#### Advanced Engineering Tools for Smarter Delivery

#### Driving Accuracy and Integration in Instrument Design

At EMC, we apply a robust suite of industry-standard tools to ensure the precise and streamlined execution of instrumentation engineering. Our methods support full lifecycle delivery, from early design through to layout, intelligent tagging, and commissioning, ensuring integration, compliance, and control at every stage.

#### Key Tools We Use:

- AVEVA Instrumentation – Comprehensive design and data management for all instrumentation loops, tags, and associated documentation.
- AVEVA Engineering – Centralised 1D data control for instrument datasheets, IO lists, and interface management.
- AVEVA Diagrams – Intelligent generation and management of instrument loop diagrams.
- AVEVA Everything3D (E3D) – 3D visualisation for instrument placement, cable routing, and spatial coordination.

#### Why It Matters:

- ✓ Early identification and resolution of design and signal routing issues
- ✓ Seamless integration with process, piping, and electrical disciplines
- ✓ Improved accuracy and consistency in instrument documentation
- ✓ Optimised layout and spatial coordination throughout project phases

**With EMC, you gain an instrumentation partner that blends digital tools with deep domain knowledge to deliver smarter, safer, and more reliable automation solutions.**



## Commitment to Quality and Compliance

At EMC, the technical quality of our work is underpinned by our robust Quality Management System, Health, Safety & the Environment to the latest industry codes and standards.

Our structured approach, featuring Discipline Engineers, Technical Authorities, and Discipline Management, ensures all designs go through project multi-discipline reviews and approvals by qualified and experienced professionals, maintaining the highest standards of engineering integrity.



## Aveva Systems Integration Partner

EMC Supports the full Engineering suite embracing EPC4.0 and ENG4.0 roadmaps with the release of EMC4.0™

- PRO/II Simulation
- Electrical
- Instrumentation
- Engineering for Process and Mechanical
- P&IDs
- ERM
- ISM/AIM-A
- PCM

## Capabilities Snapshot

- Offshore and Onshore oil and gas design
- Brownfield instrumentation upgrades, loop modifications, and system integration
- FPSO instrumentation design including control systems, field instrumentation, and integration with automation systems
- Instrumentation layout modelling and interface integration within AVEVA E3D
- Development and management of instrument indexes, IO lists, and loop diagrams
- Integration of AVEVA Instrumentation
- Point Cloud integration for a clash free design
- Conceptual design, feasibility studies, and detailed instrument engineering
- Preparation of instrument deliverables including datasheets, hook-up drawings, and wiring diagrams
- Construction phase instrumentation support including redlining and loop checks
- Onshore and offshore surveys
- On-site support for installation, and pre-commissioning of instrumentation systems

## Let's Engineer, Design & Build something exceptional together.

Contact us today to learn how our engineering expertise can bring your project to life.

**Contact EMC today!** Email [colin.fairweather@emcserv.com](mailto:colin.fairweather@emcserv.com) or [gary.patterson@emcserv.com](mailto:gary.patterson@emcserv.com) or call us on 020 363 363 03 (Option 2), and let's get started.