

HVAC

Our Engineers and Designers are highly skilled in a wide range of industry-leading engineering applications, enabling the efficient, accurate, and fully coordinated execution of HVAC engineering and design activities.

Their expertise covers 3D modelling, airflow simulation, equipment layout, and duct routing, along with integration into multi-discipline platforms. This enables smooth collaboration from concept to construction, delivering solutions that are compliant, efficient, and performance-driven.

Engineering Expertise from Concept to Completion

At EMC, we bring together technical precision and forward-thinking innovation to deliver comprehensive digital engineering solutions, from early conceptual studies through to detailed design and execution.

Our team of seasoned professionals offers decades of experience in delivering cost-effective, schedule-driven results across a wide range of industrial sectors. We specialise in overcoming complex challenges with practical, high-quality solutions that stand up to scrutiny and deliver long-term value.

Whether supporting a greenfield development, a brownfield upgrade, or an asset life extension, we tailor our approach to meet your project's unique requirements—balancing creativity, compliance, and constructability at every stage.

With a technology-agnostic mindset, we apply the most suitable tools, standards, and methodologies to each engagement—ensuring safety, performance, and quality are never compromised.

Engineering Services

HVAC Engineering Capabilities

At EMC, our HVAC engineering team brings extensive experience in delivering reliable, high-performance solutions across both brownfield upgrades and greenfield developments, supporting a wide range of onshore and offshore facilities.

Smarter HVAC Delivery Through Advanced Engineering Tools

Enabling Efficiency, Precision, and Integration

We use advanced engineering tools to streamline the full HVAC design lifecycle, from concept and layout to detailed routing and coordination. Our solutions integrate seamlessly with all disciplines, delivering efficient, compliant, and performance-driven systems.

Whether optimising airflow, placing equipment, or managing retrofits, EMC designs every HVAC system with precision, safety, and sustainability in mind.

Key Tools We Use:

- AVEVA Everything3D (E3D) – 3D modelling for HVAC equipment layout, ducting systems, and spatial coordination.
- Hevacomp / Trace 700 / HAP – HVAC load calculations, thermal simulations, and system sizing to ensure comfort and compliance.
- Navisworks – Design review and clash detection for HVAC systems within the overall plant or building model.

Why It Matters:

- ✓ Early identification of spatial constraints and airflow inefficiencies
- ✓ Smooth integration with architectural, electrical, and mechanical systems
- ✓ Accurate sizing and energy-efficient HVAC design
- ✓ Streamlined layout and coordination across all project stages

With EMC, you gain an HVAC engineering partner who combines technical expertise with advanced tools to deliver safe, sustainable, and performance-driven climate control solutions for any facility or industrial project.



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.



Capabilities Snapshot

- Offshore and onshore oil & gas
- Brownfield upgrades, retrofits, and re-routing
- FPSO modules and accommodation areas
- Intelligent 3D modelling using AVEVA E3D
- HVAC load analysis and ventilation system optimisation
- Integration of point cloud data for clash-free duct and equipment layout
- Conceptual design, feasibility assessments, and detailed engineering
- Design deliverables, including duct layouts, airflow diagrams, and equipment schedules
- Support during construction and installation phases
- HVAC system surveys for both onshore and offshore facilities
- On-site support for fabrication and installation coordination

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

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 or gary.patterson@emcserv.com or call us on 020 363 363 03 (Option 2), and let's get started.