



Clean Air Technology
for Healthcare and
Life Sciences



Always listening | Always asking | Always proud | Always a team



MEDICAL AIR TECHNOLOGY

Medical Air Technology (MAT) designs, manufactures and installs bespoke critical ventilation systems and turnkey project solutions. We are passionately committed to improving patient protection and end-user safety in demanding clinical, research and drug production arenas.

We have our own centrally located UK manufacturing facility and a dedicated and experienced team of highly skilled design engineers, project managers and support staff, working together to support every healthcare or life sciences facility that needs safe, clean, productive environments.

We can bring our expertise to new build or refurbishment projects. We have extensive experience of working in live environments and understand the challenges around delivering a project within an operational scenario. Careful planning and considerate working ensure there is as little disruption as possible to staff and patients.



Stakeholders

We manage cost, risk, programme and compliance, providing all the benefits that come from working with a specialist contractor. Although we can advise on suppliers, we are completely vendor-neutral and independent, and happy to accommodate a client's preferred supply chain, if required.

At MAT, we believe the small details make all the difference. We provide an interface between all stakeholders so that each department's input is taken into account. This minimises the chance of stoppages and delays and ensures that everyone is in agreement around the choice of specialist equipment, room design, and fixtures and fittings.

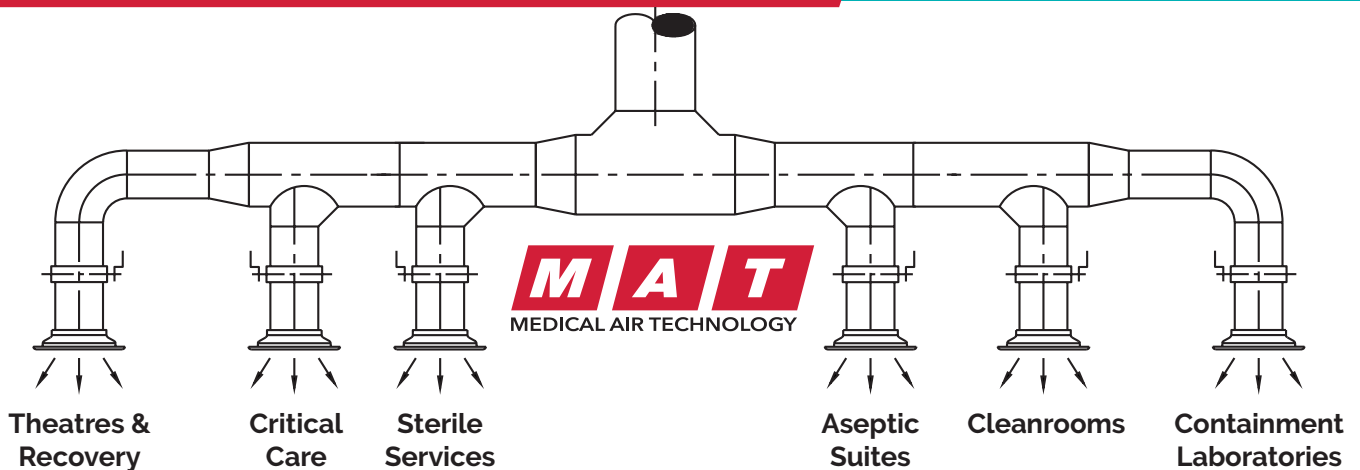
- Health & Safety
- Client Directorate
- Capital Projects
- End Users
- Estates & Facilities
- Project Managers
- Compliance Managers
- Energy Managers
- Infection Control
- Procurement



“ MAT is large enough to cope with any issues but small enough to care, and this was evident throughout. It was a pleasure to work with MAT and the team that was assembled for the project, and we hope to have the opportunity to work together again. ”

John Starmer: Estates Director, London School of Hygiene and Tropical Medicine





Theatres & Recovery

Operating theatres rely on clean air systems to reduce airborne contaminants and maintain environmental conditions for staff. The operating theatre suite also contains other key areas for perioperative practice, such as an anaesthetic room, preparation room, scrub, dirty utility and first stage post-anaesthesia recovery.

Critical Care

Critical care areas need dedicated ventilation to ensure the safest conditions for vulnerable patients with severe or life-threatening illnesses and injuries. Examples include isolation rooms (positive and negative), high dependency units (HDU), newborn and paediatric intensive care units (NICU, SCBU and PICU), critical care units (CCU), intensive therapy units (ITU) and intensive care units (ICU).

Sterile Services

Surgical instruments are washed, sterilised and packed in the sterile services area before being taken to the theatre. Critical ventilation is key in ensuring that they are kept as clean as possible as they pass through the process. This area is known variously as the central sterile services department (CSSD), theatre sterile services unit (TSSU) or hospital sterilisation and decontamination unit (HSDU).

Aseptic Suites

Aseptic suites maintain positive pressure via specialist HVAC and room design. Radiopharmacies, stem cell laboratories, cytotoxic pharmacies, gene therapy, total parenteral nutrition (TPN) and in vitro fertilisation (IVF) all require aseptic conditions.

Cleanrooms

Cleanrooms maintain positive pressure to protect the product. This is achieved by specialist airflow created by the HVAC system and room design. They are used in many sectors, such as electronics, research and pharmaceutical manufacturing.

Containment Laboratories

Containment laboratories require air pressure negative to atmosphere to stop the escape of hazardous pathogens, which is achieved by the specialist airflow created by the HVAC system and room design. They are used in many fields, for example microbiology, forensic science, tropical disease research, immunology and vaccinology, biotechnology and veterinary medicine.

Your Critical Ventilation Partner

At MAT, we deliver total turnkey design-and-build 'box-in-a-box' solutions that encompass key areas within the general plan of your building and are suitable for both new build and refurbishment projects. Detailed case studies on our many projects can be viewed on our website or provided on request.

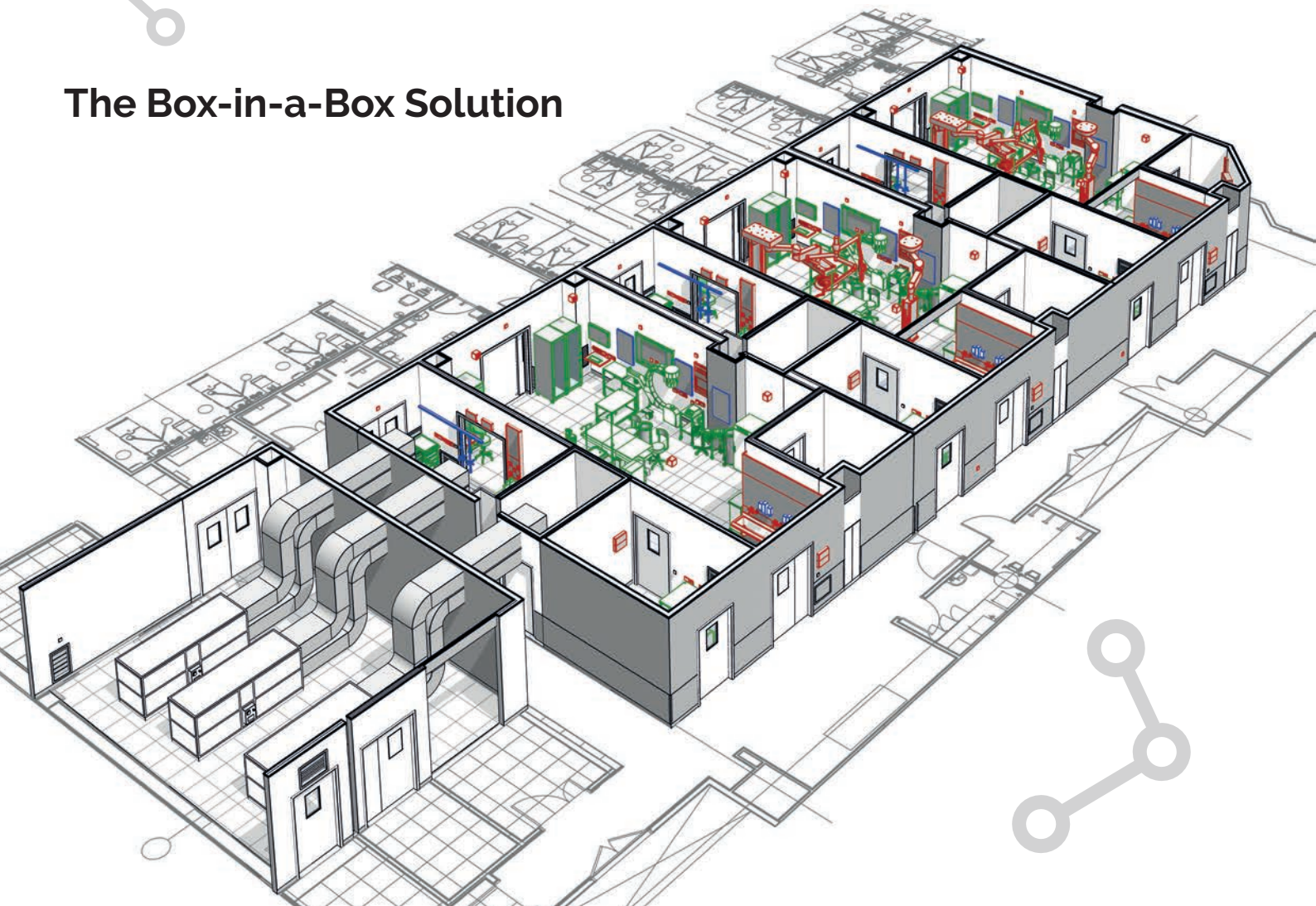
We have over 40 years' experience of supplying critical ventilation systems for the NHS, private healthcare providers, universities, and research and pharmaceutical manufacturing facilities. We work flexibly and offer several options, all designed and project managed by our dedicated team. We also offer service, maintenance and validation through our sister company, MAT FM.

Bringing MAT into a project as a specialist contractor gives direct access to the company's expertise and wide range of skills, providing one point of contact throughout. If needed, we can work in tandem with your appointed design consultant or architect and, as we are vendor-neutral and independent, we can accommodate your supply chain or advise on options.

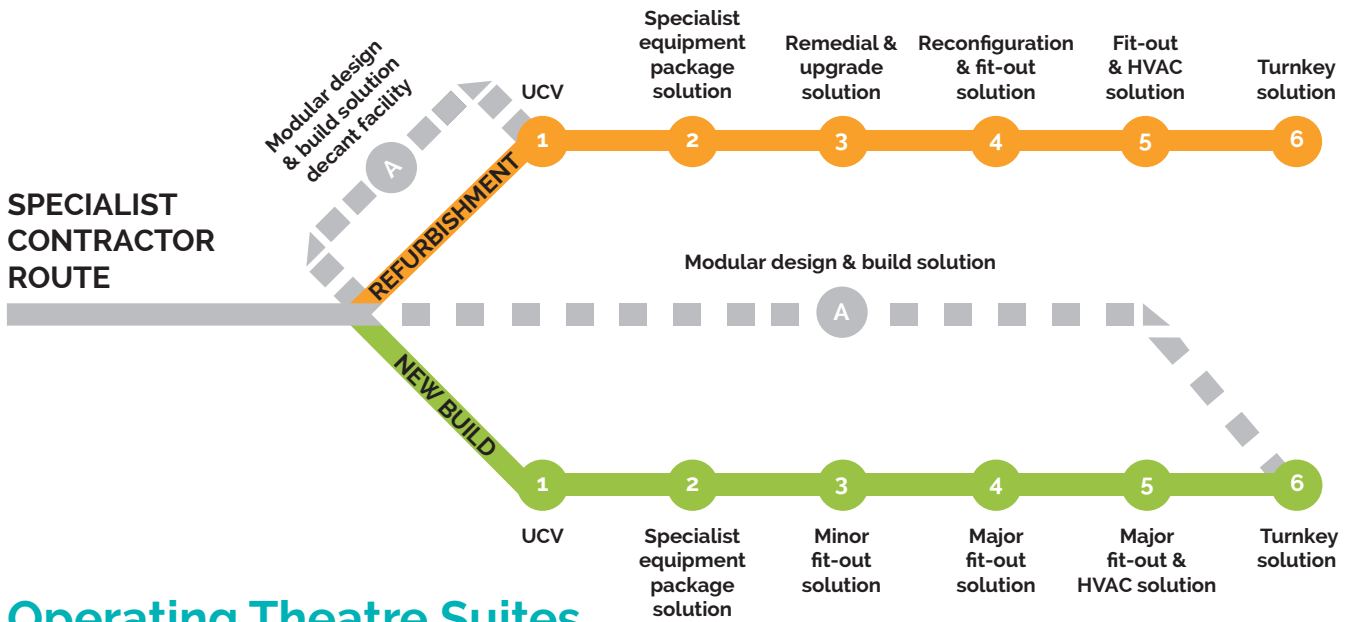
We manage all key elements of your project – cost, risk, programme and compliance - to ensure that it runs smoothly, efficiently and to budget.



The Box-in-a-Box Solution



Total Turnkey Co-ordinated Design and Equipment Solutions



Operating Theatre Suites, Critical Care and Sterile Services

MAT's flagship products are designed to support hospitals in the fight against surgical site infection (SSI), one of the most frequently reported types of healthcare associated infection (HCAI).

SSI places an enormous clinical and economic burden on surgery and is associated not only with increased morbidity but also with substantial mortality. In one study, 77% of the deaths of surgical patients were related to surgical wound infection.¹

We are known throughout the UK for our ECO-flow™ ultraclean ventilation (UCV) systems, which eliminate dangerous airborne particles within the operating theatre clean zone for safer surgery, as detailed in HTM 03-01 guidelines.

The innovative systems offer reduced energy usage compared with other similar units on the market, supporting government and hospital energy efficiency targets. This is achieved without any reduction in the level of performance. Available in a variety of sizes and styles to suit the design and demands of the modern operating theatre, the ECO-flow™ UCV canopy is quiet, easy to use and highly cost efficient.

We supply the ECO-flow™ UCV canopy on its own, or as part of an equipment package, or in a total turnkey operating theatre solution, all backed up by our design and installation expertise. We offer vendor neutrality, with the option of fitting free issue equipment. If required, we can also provide all the ancillary products necessary to complete your turnkey installation.



MAT is the UK distributor of the Toul Meditech range of mobile laminar flow solutions

Contaminated surgical instruments can spread infection. Our mobile laminar flow solutions create a sterile field for surgical instrument preparation.

References:

1 Mangram AJ, Horan TC, Pearson ML, et al. Guideline for prevention of surgical site infection, 1999. Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol. 1999 Apr. 20(4):250-78; quiz 279-280. [Medline].

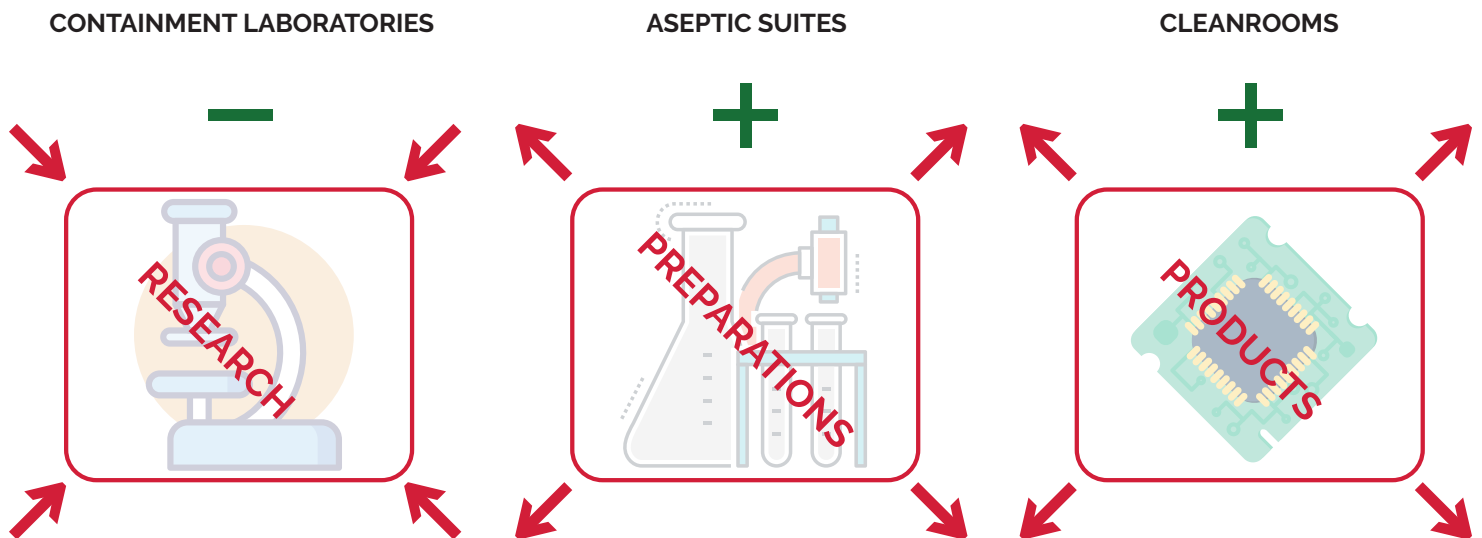
Aseptic Suites, Cleanrooms and Containment Laboratories

MAT has an advanced understanding of the importance of room structure and the way airflow operates. This is vital when conceptualising and designing safe and compliant facilities including:

- **MHRA licenced aseptic suites (radiopharmacies, stem cell laboratories, cytotoxic pharmacies, gene therapy, TPN, IVF, etc)**
- **ACDP compliant containment laboratories built to CTSA and LPS1175 security standards (microbiology, forensic science, tropical disease research, immunology and vaccinology, biotechnology, veterinary medicine, etc)**
- **BS EN ISO 14644-1 compliant cleanrooms (pharmaceutical manufacturing, electronics, aerospace, optical and research)**

As a specialist contractor, experienced in creating critical air systems for complex environments, we are ideally placed to deliver these important facilities. We can also provide specialist equipment packages including, for example, specialist process gases, fume cupboards, isolators and safety cabinets.

Protecting People, Preparations and Products



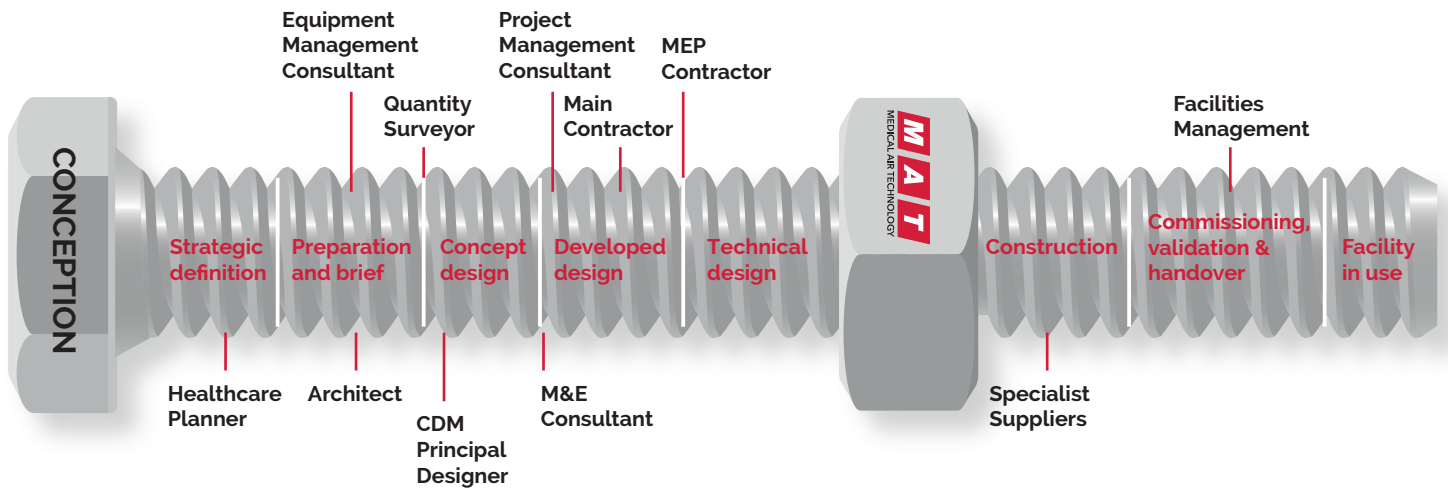
“ As the practice manager and undertaking such a large project while still serving the patients, I thought it would be a major headache onsite on a daily basis. How wrong I was. MAT and all contractors employed by them were nothing but professional, mindful of our business, polite and an absolute pleasure to work with. At each stage of the journey we were kept informed and changes implemented when issues arose. I cannot recommend MAT highly enough. ”

Natalie Pepper: Practice Manager, iSIGHT Clinic

The Benefits of Early Engagement

We can work with the incumbent architect and design consultant, from initial feasibility right through to the final design stages of a project. However, engaging us at the earliest opportunity brings several key benefits:

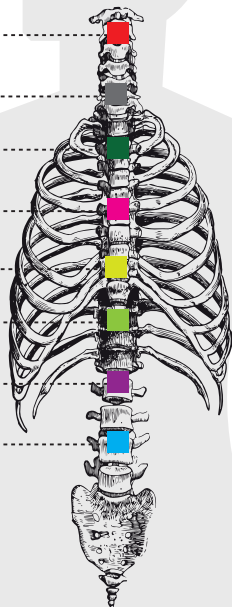
- **Budgetary control** – opportunities to value engineer and innovate
- **Risk management** – improved by the early creation of a delivery team
- **Innovation** – more people sharing ideas from the outset
- **Health and safety** - can be improved by designing out risks
- **Integrated supply chain** – more sustainable and better managed
- **Improved quality** - all parties have a say in the design and selection of suppliers
- **Cooperation** - a clear allocation of responsibilities and shared understanding of the end target



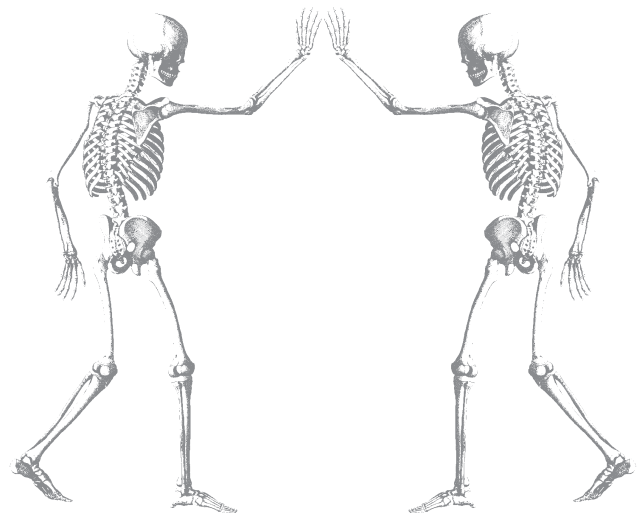
MAT Core Package - MCP

MAT can work with your M&E contractor to provide a core package incorporating critical ventilation, controls and specialist equipment – the MCP.

- Specialist Equipment Works
- Electrical Works
- Medical Gas Works
- Controls Works
- Piped Services Works
- Ventilation Works
- Builders Works
- Prelims & Attendances



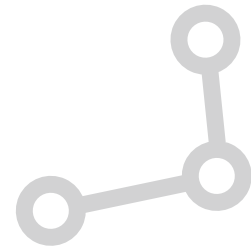
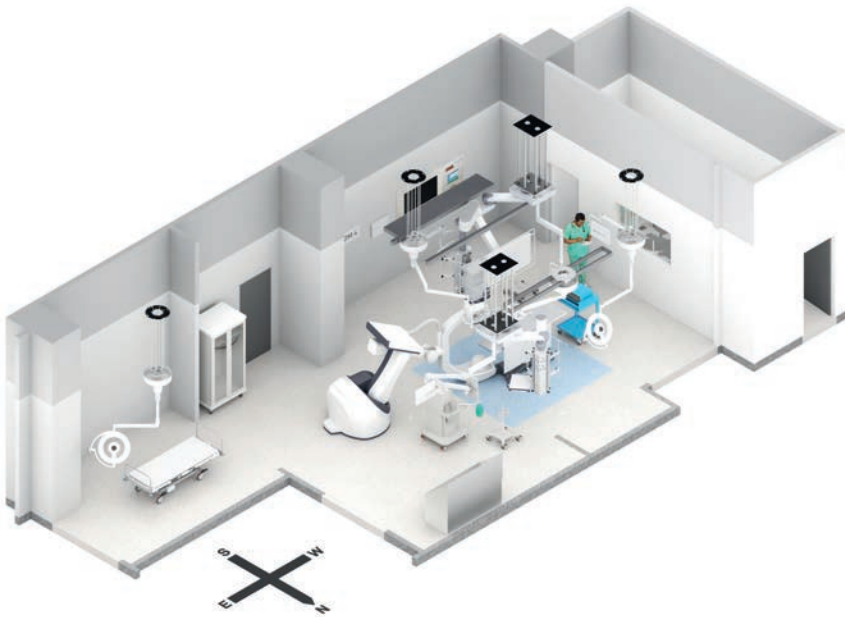
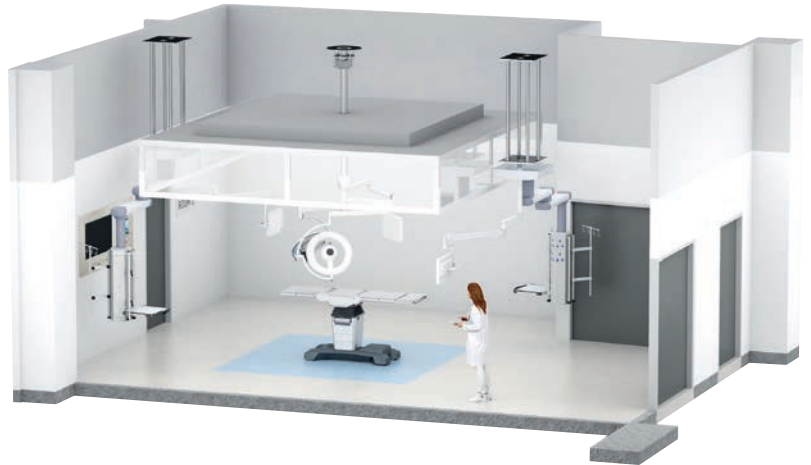
We are Passionate about Patient Protection



MCP
Forms the spine of the project

MAT
Critical vent, controls & specialist equipment backbone

Turnkey Specialist Equipment Solutions



ARCHITECTURAL EQUIPMENT

- UCV Canopies
- Medical gas service pendants
- Medical gas service beams
- Media display support arms

CONTROL & POWER

- Medical IT (IPS) & earthing
- UPS & EMB panel
- Theatre control panel
- PACS workstations

TURNKEY EQUIPPING SOLUTIONS

MEDICAL LIGHTING

- Operating lights & BBU
- Medical lights
- Minor op lights
- Examination lights

AUDIOVISUAL SOLUTIONS

- AV distribution, recording & streaming
- Video conferencing
- Media display monitors

The Design and Project Management Team

MAT is proud to have some of the best engineers, designers and project managers in the business, highly respected names in the industry with many years of experience. We work across a huge variety of projects, contracts and customers and use the latest design software for space planning and drawings. We can even assist with preparing for and executing bids.

Our team delivers:

- Clear understanding of client requirements
- Clear demarcation of scope of supply
- Knowledge of standards and specifications
- Project leadership and communication
- Design management
- Quality management
- Negotiation skills
- Programme control
- Cost control
- Risk management
- Supply chain management
- Procurement expertise
- Value engineering

“ MAT worked closely with myself and the theatre management team as seven days a week working with extended hours was necessary in order to ensure that noisy operations were undertaken outside critical times. This extensive planning resulted in NO requests to stop work throughout the whole of the contract period. An amazing achievement by MAT! ”

David Shepherd: Principal Project Manager, Pennine Acute Hospitals NHS Trust



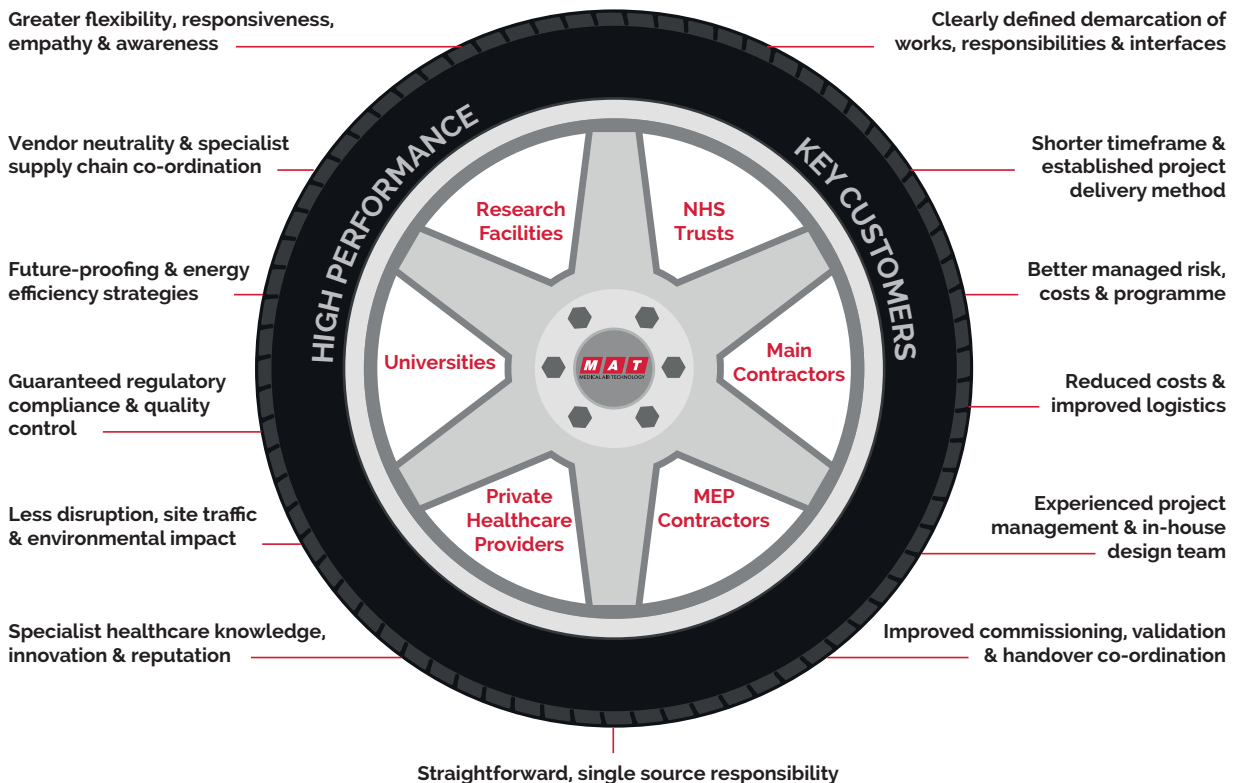
The Specialist Contractor Route

When you are investing considerable sums of money upgrading operating theatres or installing a new research facility, you want to be sure that you are partnering with a company you can trust - in complex and costly projects such as these, there really is no margin for error.

As a specialist contractor, we manage cost, risk, programme and compliance, and make value engineering an integral part of everything we do.

We are flexible, co-operative and very happy to work with your preferred products, contractors and suppliers, if required.

Working with MAT allows you to leave it to the experts, giving you the peace of mind that comes from knowing that your project is in good, and extremely capable, hands.



With You Every Step of the Way



“ We are very happy with the work carried out by MAT. Throughout the project, we appreciated the benefits of working with a company with such a thorough understanding of surgical site infection and a portfolio of products designed to address it. ”

Andrew Jones: Director of Hospital Services, Fairfield Independent Hospital

Commissioning, Servicing, Validation, Verification and Maintenance

MAT FM provides a range of competitively priced service and maintenance packages or one-off repairs for all core products and turnkey solutions offered by MAT or other suppliers, ensuring that equipment is maintained, serviced and validated correctly for optimum performance.



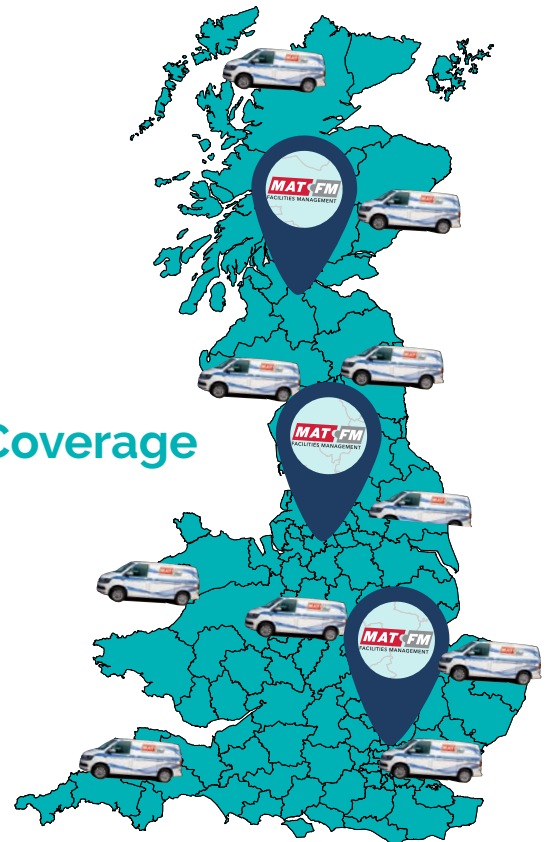
Microbiological Testing

Some microorganisms can cause severe illness or contaminate sterile environments. Microbiological testing is an essential stage in proving that an operating theatre has reached the required standards for use as it ensures the microbiological threshold has been achieved. Working with the necessary laboratory, MAT FM engineers are trained to carry out microbiological testing.

MAT FM Delivers

- **Rapid response**
- **Nationwide coverage**
- **Experienced engineers**
- **Service & maintenance of any manufacturers' equipment**
- **Calibrated instrumentation**
- **Fully equipped vans**
- **Well-stocked warehouses**

National Coverage



Touchless Decontamination of Clinical Areas

It can be very difficult to ensure that the specialist equipment and various surfaces in areas such as operating theatres, laboratories and cleanrooms are disinfected effectively.

The touchless delivery system for the patented hydrogen peroxide and silver solution used in the disinfection process we offer reaches areas where traditional cleaning methods cannot. It is extremely successful at eliminating dangerous bacteria and viruses and can be used on all material types and in a positive pressure environment.





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