

TEST AS A SERVICE

Ensuring Compliance, Reliability & Performance Excellence

ABOUT GTS

GTS is introducing the Test-as-a-Service (TaaS) model combined with cutting-edge instrumentation and experienced engineers to deliver precise, on-demand testing. We ensure that every environment, from offices, schools, laboratories, and data centers to critical facilities like pharmaceuticals, biotechnology, healthcare, aerospace, and advanced manufacturing, remains uncontaminated, fully compliant, and operates at its absolute best.

Controlled environments demand rigorous validation: even a single speck of dust or minor deviation can cause a critical failure and jeopardize safety, reliability, and comfort. That's why we align every project with global benchmarks (ISO 14644 series, EU GMP Annex 1, ASHRAE, NEBB) standards often cited by regulators like the FDA and WHO. With precise measurements and analysis, GTS ensures your critical environment operates safely and reliably.

Our mission goes beyond compliance. GTS's proactive methodology hunts down risks before they become problems, helping you cut downtime, reduce operational costs, and optimize performance. Through data-driven reporting and actionable insights, we empower clients to safeguard, adhere to compliance, enhance efficiency, and maintain total confidence in their facilities.

We don't just perform tests; we actively shape critical environments that ensure compliance, reliability, and peak operational performance. www.gtsco-uae.com



WHY TESTING MATTERS

- **Adherence to Regulations & Safety:** Rigorous testing controls contamination and ensures your facility and process complies to regulatory standards.
- **Optimize Efficiency & Compliance:** Performance testing uncovers inefficiencies (leaks, imbalances, poor airflow) that drive up energy use or risk non-compliance. By measuring conditions against design criteria we help you tune systems for optimal operation and enhance efficiency.
- **Ensure Safety & Comfort:** We verify parameters that directly affect people and equipment. Sound level testing confirms workplace acoustics meet OSHA/ISO limits protecting hearing and well-being, while illuminance measurements ensure lighting complies with safety standards and eliminates eye strain. Electromagnetic field surveys verify RF exposure stays within safety guidelines.
- In short, our testing protects both people and products, reducing downtime and liability.

AIRFLOW TEST

AIR VELOCITY TESTING (UDF/LAMINAR FLOW)

We measure airflow speed and uniformity across HEPA/ULPA filters and throughout critical zones. Using high precision anemometers, we confirm that unidirectional (laminar) flow is maintained at the correct velocity to sweep particles away from critical areas. These tests verify that airflow adheres to ISO 14644-3 and EU GMP



AIRFLOW RATE & ACH TEST (NON-UDF/MIXED FLOW)



We assess total supply and exhaust airflow to calculate Air Changes per Hour (ACH) in each room. As Per ISO 14644-3, multiple measurement points are used to determine supply flow rates confirming design air change rates ensures adequate dilution of airborne particles and proper ventilation for contaminant removal. Our reports show measured CFM against targets, so you know every area meets its airflow specifications.

ROOM DIFFERENTIAL PRESSURE TESTING

We validate pressure gradients between adjoining spaces to ensure directional airflow (clean → less clean) as required for contamination control. Our calibrated manometers verify recommended differentials are maintained at rest and in operation. Critical pressure cascades are continuously monitored for deviations and reported accordingly. This protects sterile areas and confines particulates to lower-grade rooms, in full compliance with ISO 14644 and EU GMP Annex 1 requirements



TEMPERATURE & RELATIVE HUMIDITY PROFILING



We map thermal and humidity conditions across your facility using high grade sensors. Precise control of temperature and RH is essential: it not only ensures comfort and equipment performance but also inhibits microbial growth. Our monitoring verifies that your HVAC maintains stable conditions within tolerance, preventing condensation and stopping mould growth before it starts.

THERMAL IMAGING (INFRARED THERMOGRAPHY)

Our trained thermographers use advanced IR cameras to perform non-invasive surveys of electrical panels, mechanical systems, insulation, and building envelopes. Thermal imaging highlights “hot spots” and heat leaks invisible to the eye and contacts show up as localized hot zones on thermograms, allowing issues to be fixed early. High-resolution IR can detect temperature differences as small as 0.1°C, enabling predictive maintenance that avoids unexpected equipment failures and optimizes energy use.



NOISE LEVEL TESTING



Using precision sound level meters, we measure ambient and peak noise in your workspaces. These readings are compared against international noise exposure standards (ISO 9612 for workplace noise). Our acoustic reports document decibel levels throughout your facility, identifying any areas that exceed guidelines. Controlling noise not only maintains compliance with occupational health requirements but also improves employee comfort and productivity.



ILLUMINANCE (LUX) TESTING

Adequate and uniform lighting is critical for safety and task performance. We measure illuminance (lux) at workstations and critical zones to ensure you meet the recommended levels. Our analysis checks for glare and shadowing, helping you optimize light fixture placement and brightness. Proper lighting improves visibility and reduces eyestrain, which is especially important in manufacturing and inspection areas.



VIBRATION ANALYSIS



We conduct vibration measurements on rotating systems, facilities and equipment to detect imbalances, misalignments, or faults. By analysing vibration spectra and overall levels against ISO 10816 severity ranges, we identify issues long before they cause breakdowns. Early diagnosis of excessive vibration extends equipment life and minimizes downtime by triggering maintenance or alignment corrections when needed.



ELECTROMAGNETIC FIELD (EMF) TESTING

We measure electric and magnetic fields in office spaces, labs, data centers, and production areas to verify safety. Our calibrated meters quantify EMF levels across relevant frequency bands and compare them to exposure limits. This testing confirms that personnel and sensitive equipment are not subjected to harmful EMF levels, ensuring compliance with health and safety guidelines in regulated environments.



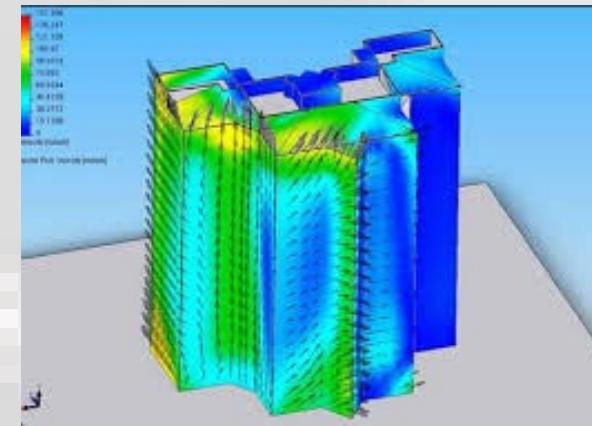
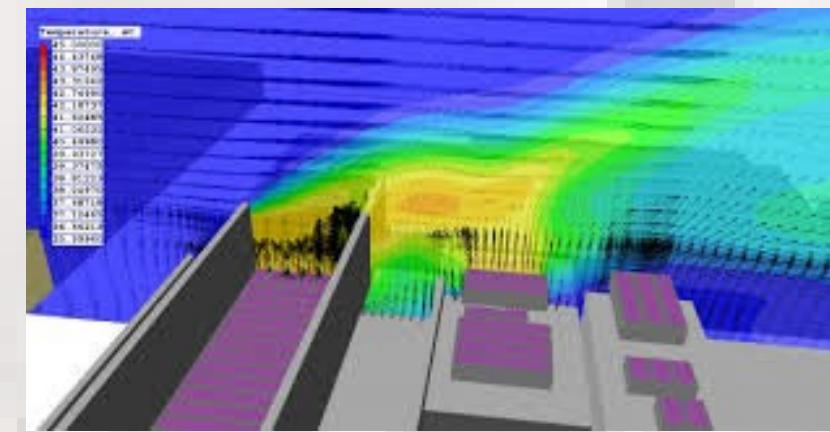
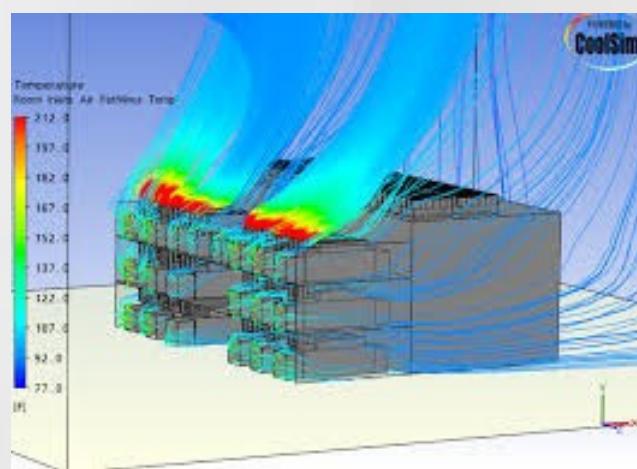
WALL MOISTURE & MOLD DETECTION



Hidden moisture behind walls or under floors can lead to mould growth and structural damage. We use infrared thermography alongside moisture probes to pinpoint damp areas before they become visible problems. Moisture prone spots appear as temperature anomalies on IR scans, allowing us to detect leaks, condensation paths, or insulation failures. Early intervention prevents microbial hotspots and costly remediation, protecting both your building and indoor air quality.

COMPUTATIONAL FLUID DYNAMICS (CFD) SIMULATION

Our CFD service provides a virtual, scientific visualization of airflow, temperature, and pressure throughout your controlled environment. By simulating room airflow patterns, we verify that air moves smoothly in unidirectional fashion and identify any dead zones or recirculation areas. CFD modelling also helps optimize diffuser and return vent placement. These insights support validation and design improvements without physical disruption.



WHY CHOOSE GTS

- **Global Compliance:** We are committed to international best practices. Our procedures adhere to all relevant standards (ISO 14644-1/2/3, EU GMP Annex 1, ASHRAE guidelines, NEBB and IEST protocols, etc.). These recognized benchmarks are often referenced by regulators worldwide, so our testing helps you confidently meet audit and certification requirements.
- **Expert Engineers & Equipment:** GTS' s team consists of seasoned engineers and cleanroom specialists with deep sector expertise. We deploy best-in-class instrumentation (Testo, Fluke, Extech, Lighthouse, PCE Instruments, etc.), all calibrated for traceability. This ensures every measurement is precise and reliable-no guessing, only data you can trust.
- **Data-Driven Insights:** Beyond raw measurements, we deliver detailed analysis with clear, graphical reports. Each test yields actionable recommendations, whether it's optimizing airflow, adjusting setpoints, or scheduling maintenance. Clients rely on our transparent reporting to make informed decisions and continuously improve environmental performance.
- **Seamless Service:** We integrate testing into your operations with flexibility and minimal disruption. Our turnkey approach means you get maximum value without interrupting your workflow.
- **Client-Focused Excellence:** GTS takes pride in responsive service and integrity. We tailor our Test-as-a-Service to your schedule and objectives, offering flexible on-site testing or long-term monitoring. Throughout every project, we maintain open communication from planning through final debrief so you always know the status of your validation.





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