

02 · DESIGN

Data centre testing and commissioning, design-accountable

Testing and commissioning validates that design intent was met, not merely that construction was completed. Technavious positions T&C within Design to keep that accountability in one place.

WHAT THIS SERVICE COVERS

Design intent can only be validated by the team that set it.

The Testing and Commissioning programme is structured in three progressive stages. Component-level testing validates that individual equipment items have been installed correctly and are operating within specified parameters. System-level testing validates that integrated infrastructure systems, power, cooling, ELV, and fire protection, are performing as a co-ordinated whole. Operational readiness testing validates the facility under real-world scenarios including normal operations, partial load, full load, and planned and unplanned failure scenarios. Each stage produces a structured test report forming part of the HOTO package, the primary documentation required for TIA 942C Facility Certification and operational insurance submissions.

Same team as design, full accountability

Component through operational readiness

TIA 942C Facility Cert prerequisite

WHAT WE DELIVER

Deliverables from this engagement

01

T&C Master Plan & Test Scripts

Comprehensive commissioning plan covering all disciplines and systems, with individual test scripts produced before commissioning begins.

02

Component-Level Test Reports

Reports for each infrastructure component across power, cooling, ELV, fire protection, and network, confirming correct installation and operation.

03

System Integration Test Reports

Reports confirming multi-discipline systems perform as a co-ordinated whole under specified operating conditions.

04

Failover & Recovery Test Reports

Reports for all planned failure scenarios, generator changeover, UPS transfer, cooling failure, fire suppression, confirming failover within specified timeframes.

05

Punch List Management

Structured tracking of all defects and non-conformances identified during commissioning, closed before operational readiness sign-off.

06

HOTO Documentation Package

As-built drawings, test certificates, warranties, O&M manuals, and operational readiness certificate, used for TIA 942C Facility Certification.

WHY TECHNAVIOUS

Why T&C belongs in the Design product line

1 Same team, full accountability

When the team that designed the facility conducts T&C, every test is evaluated against the original design intent rather than a generic standard, and deviations are resolved by the people best placed to resolve them.

2 Cleaner TIA Facility Certification audit trail

When design and T&C are conducted by the same team, the audit trail from design specification to as-built test certificate is unbroken, reducing the gap analysis cycle in the formal certification audit.

3 Structured HOTO package for operational hand-off

The HOTO package produced at T&C completion is structured to meet TIA Facility Certification, insurance submission, and operational documentation standards from day one.

HOW WE WORK

Five phases from component testing to hand-off

01	02	03	04	05
T&C planning	Component testing	System integration	Failover testing	HOTO sign-off
Master plan and test scripts developed. Pre-commissioning readiness confirmed with build team.	Individual component testing across all disciplines. Punch list items logged and tracked.	Multi-discipline integration testing. Performance confirmed under specified scenarios.	All failure scenarios tested and documented. Recovery times confirmed against design specifications.	Punch list closed. Operational readiness certificate issued. HOTO package delivered.

THREE PROGRESSIVE STAGES

What each stage of the programme validates

Component-level: individual equipment operating to specification

System-level: integrated systems performing as a co-ordinated whole

Operational readiness: normal, partial, full load and failure scenarios

CASE STUDIES

Testing and commissioning work we have delivered

SERVICE PROVIDER, TWO SITES

Independent testing and commissioning across two new facilities. 100% of infrastructure independently validated, with every component tested and signed off before any production workload was deployed.

MANAGED OFFICE & CO-WORKING PROVIDER

Five-stage commissioning for a new colocation data centre, from MEP design through handover. All infrastructure passed FAT through ISAT, with triple ISO certification achieved.

DATA CENTRE OPERATOR

Low-side MEP electrical implementation across two facilities in Lucknow and Hyderabad. All 95 racks fully powered with zero single points of failure and 100% earth continuity verified.

FREQUENTLY ASKED QUESTIONS

Questions we are regularly asked about T&C

Why does Technavious put T&C in Design rather than Build?

T&C validates that design intent was met, not merely that construction was completed. Contractors commissioning their own work cannot independently validate design compliance, so positioning T&C within Design eliminates that accountability gap.

What is the connection between T&C and TIA 942C Facility Certification?

TIA 942C Facility Certification requires documented evidence the facility was built and operates as designed. The HOTO package produced at T&C completion forms the primary evidence base, and a well-structured T&C programme reduces the gap analysis cycle in the audit.

Can T&C be conducted in phases for a facility built in stages?

Yes. Phased T&C programmes are standard for facilities built or expanded in stages, or brownfield retrofits where part of the facility must stay operational during commissioning. The master plan is structured to accommodate phased delivery from the outset.

What happens if a defect is found during T&C?

Defects are logged in the punch list and tracked until resolved. Minor defects not affecting operational readiness are scheduled for resolution during the initial operating period. Significant defects are resolved before the readiness certificate is issued.

Ready to scope your T&C programme?

Tell us your facility size, stage of construction, and whether you need a phased or whole-facility programme.

[Talk to us today](#)