L&T Technology Services

APQP at MRI Scale, Compressed

300+ parts. 13+ suppliers.
One programme heartbeat.



CASE STUDY

engineering intelligence

EXECUTIVE SUMMARY

A global leader in advanced medical imaging was ramping MRI production at its Latham facility, where more than 300 parts across 13 suppliers stood between the line and volume output. LTTS ran APQP end to end and drove 60+ PSW approvals into the client's PLM system, closing 40 percent of in scope parts within eight weeks.

CLIENT CHALLENGE

A ramp does not fail loudly. It fails one unresolved part at a time, and each one still open holds the line below volume. Headcount does not compress this. The constraint is the order in which technical calls have to be settled, IQ, OQ and PQ definition, drawing gaps, supplier readiness, before anything can move forward. With suppliers at uneven levels of maturity, the least prepared one sets the pace for everyone. The client needed those decisions running in parallel, traceability held inside PLM, and a supplier base left ready for the product after this one.

ENGINEERING COMPLEXITY - WHY IT WAS HARD

APQP looks like a documentation exercise until you try to accelerate it.

01

A drawing gap stops everything downstream: Ballooned drawings with missing parameters cannot be measured against, so the supplier cannot produce a valid layout, so the PSW cannot be raised. One unresolved dimension can hold a part for weeks and nobody notices until the ramp does.

02

Qualification requirements have to be locked before qualification starts: IQ, OQ and PQ definitions must be finalised against real feasibility constraints, not ideal ones. Define them too tightly and suppliers cannot meet them, too loosely and the evidence does not survive audit.

03

Supplier maturity is uneven and the standard is not: Thirteen suppliers means thirteen different levels of PFMEA and control plan literacy, all being held to one regulatory bar. The work is technical assistance as much as it is review.

04

PLM is the gate, not the filing cabinet: A part is only progressed when its PSW is approved in the system. That makes document validation a critical path activity rather than an administrative trailer.

OUR SOLUTION



End to end APQP planning and execution:
APQP defined and executed for 300+ parts with Level 4 completion focus on critical components, so rigour was concentrated where failure would actually hurt rather than spread evenly and thinly.



Supplier feasibility and technical alignment:
13+ suppliers engaged to drive feasibility studies and align on technical requirements ahead of qualification, which is what stops rework at the submission stage.



SRPQP development and early design gap resolution:
detailed layout plans built from drawings and specifications, with missing parameters in ballooned drawings identified and closed early rather than discovered at inspection.



Qualification and compliance management:
IQ, OQ and PQ requirements defined and finalized against feasibility constraints and regulatory expectations, so the qualification plan was executable on day one.



Document validation and PLM integration:
supplier submissions including PFMEA, MSA, FAI and PSW reviewed for compliance and moved into approval within PLM on a single program rhythm.



Cross functional program governance:
continuous coordination across client teams, supplier engineers and quality stakeholders to hold program velocity without losing compliance.

BUSINESS OUTCOMES

40 percent of in scope parts completed within eight weeks:
credible because feasibility alignment and drawing gap closure were front loaded, removing the two stalls that normally sit between a part and its PSW.

300+ parts aligned to APQP requirements:
the full scope was brought under one planning model rather than managed as supplier by supplier exceptions.

60+ PSW approvals completed and uploaded in PLM:
approvals inside the system, which is the only status that releases a part for ramp.

Improved supplier responsiveness:
continuous engagement replaced periodic escalation, which is what shortened the cycle between submission and correction.

Faster closure of documentation and compliance gaps:
gaps surfaced during feasibility instead of during inspection, moving the cost of finding them earlier and lower.

THE EI EDGE

What the client ended up with is not a completed APQP file, it is a repeatable execution framework. The playbooks, qualification templates and governance model built for the Latham ramp carry to the next imaging program without being reassembled. That is the difference between a task force and a capability, and it is why the second ramp should be faster than this one.



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