



CASE STUDIES

Case Study: A Global OEM's Onshoring Landing in New Hampshire

A global startup OEM of asset-tracking equipment for explosive-environment markets, with R&D in Canada and the United States, is standing up a compliant US manufacturing line in New Hampshire: a QMS from zero to ISO 9001 audit-ready in three months, and an ITAR data border between international R&D and the US enclave.

This case study documents an in-progress engagement standing up compliant US manufacturing operations in New Hampshire for a global startup OEM of asset-tracking equipment serving highly regulated, high-consequence explosive-environment markets, with R&D in Canada and the United States. It covers a quality management system built from zero to ISO 9001:2015 audit-ready in a compressed three-month timeline, a production line onshored to FAR and DFARS Made-in-USA, IPC J-STD-001 Class 3, and SAE AS5553 standards, an ITAR and CMMC data border isolating international R&D from the secure US enclave, and revision-controlled digital registers producing an immutable audit trail. It is written for foreign-parented manufacturers weighing a US landing, and for the executives who have to make one work.

The landing zone thesis, with a live engagement inside it

The US Market-Entry Playbook makes an argument: an allied manufacturer wins US defense business by standing up a real, compliant US operation, and New England is where that operation lands. This case study is that argument running in the field. The client is a global startup OEM of asset-tracking equipment for highly regulated, high-consequence explosive-environment markets, including the Defense Industrial Base, with R&D and manufacturing locations in Canada and the United States. The engagement is the American landing: retrofitting a new manufacturing facility in New Hampshire to capture tier-1 prime and federal agency acquisitions.

The starting condition is the one most foreign-parented startups arrive with. The product was proven and the demand was real, and the operation behind it was not ready for the buyer it wanted. Legacy processes were causing severe production bottlenecks. There was no formal quality management system and no cybersecurity control framework, and both gaps restricted the client's ability to execute high-volume defense contracts: the primes' flow-down requirements were a wall the company could see its orders stacking up behind.

The engagement is a complete operational overhaul run in parallel with the facility retrofit, across four initiatives: the QMS, the onshored supply chain, the configuration management and cybersecurity infrastructure, and the digital workflows that hold it all together.

Engagement in progress. Figures shown are targeted and anticipated outcomes of initiatives currently being implemented, with close-out expected within the next two quarters.

A QMS from the ground up, audit-ready in one quarter

The first initiative built the quality management system the defense work requires, from nothing. I designed and implemented a fully compliant, process-based QMS tailored specifically for build-to-print defense manufacturing, the mode where the customer owns the design and the manufacturer's entire value is conformance to it. That meant drafting and instituting every foundational Standard Operating Procedure the company runs on: Business Development,

Procurement, Operations, Configuration Management, and Quality Assurance.

The timeline is the point. The organization was prepared to pass its ISO 9001:2015 Phase 1 and Phase 2 audits within a compressed three-month window. ISO 9001:2015 is the international standard for quality management systems, and for a defense supplier it is the entry ticket: prime contractors flow quality system requirements down to their sub-tiers, and a supplier with no certified QMS is a supplier the prime's own auditors cannot accept.

That is exactly where the return showed up first. Satisfying the primes' flow-down requirements unfroze high-volume production orders that had been stalled on compliance gaps. The orders existed before the QMS did. The QMS is what made them executable.

Three months from zero to audit-ready works when the SOPs are written as the way the floor actually runs, not as a binder for the auditor. The system that passes the audit and the system that ships the product are the same system.

Onshoring the line: from international R&D to a New Hampshire floor

The second initiative moved production. I led the strategic transition from the client's international R&D facilities to a dedicated, high-reliability contract manufacturing line in New Hampshire, and built the supplier governance around it: a formalized Approved Supplier List and a Supplier Quality and Compliance Survey that actively vets and monitors every external provider feeding the line.

The standards stack is what makes this an onshoring rather than a relocation. The line is built to satisfy FAR and DFARS Made-in-USA mandates, the domestic-source rules that decide whether a product can be sold into federal acquisitions at all, and to hold the extreme end of aerospace workmanship: IPC J-STD-001 Class 3 soldering, the class reserved for products where continued performance is critical and failure is not tolerated, and SAE AS5553 counterfeit-part mitigation, the aerospace standard for keeping fraudulent electronic parts out of the supply chain. For hardware that lives in explosive ordnance environments, every one of those is load-bearing.

The capacity result is the anticipated payoff. The transition resolves the major delivery and capacity constraints that were throttling the company, and the line scales toward a stated target: 99 percent first-pass yield and zero shipment defects for mission-critical explosive-environment hardware.

- FAR and DFARS Made-in-USA compliance on a dedicated US contract manufacturing line in New Hampshire.
- IPC J-STD-001 Class 3 soldering, the highest workmanship class in electronics assembly.
- SAE AS5553 counterfeit electronic part detection and avoidance across the supply chain.
- A formalized Approved Supplier List and compliance survey governing every external provider.
- Targeting 99 percent first-pass yield and zero shipment defects for explosive ordnance environments.

One firewall between two speeds: configuration management and the data border

The third initiative solved the problem every foreign-parented defense supplier eventually meets: the R&D organization abroad needs to move fast, and the US operation needs to hold a data boundary that ITAR and CMMC will respect. Most companies pick one. This build keeps both.

The mechanism is a software-defined firewall that isolates the high-velocity international R&D networks from the secure US manufacturing enclave. Engineering in Canada and the United States keeps its speed. The New Hampshire line keeps its sovereignty: the enclave holds ITAR-controlled technical data inside a boundary built to the NIST SP 800-171 security requirements, the standard CMMC Level 2 assesses against.

Inside the enclave, configuration control runs through a Technical Data Package vault governed by a one-in-one-out deprecation rule: a new revision enters the vault only as its predecessor is withdrawn, so exactly one authorized version of every drawing and specification exists at any moment. That rule eliminates the risk of quality escapes caused by obsolete documentation, the classic failure where a technician builds to last month's revision, and gives domestic production a single, verifiable source of truth.

R&D keeps its velocity abroad. The US line keeps its data sovereignty in New Hampshire. The software-defined firewall is what lets both be true at the same time, and it is the difference between a compliance posture and a compliance bottleneck.

Registers, not email: the immutable audit trail

The fourth initiative replaced the way the company talks to itself. Ad-hoc, email-based communication is where regulated manufacturers go to fail audits: decisions with no record, changes with no approval chain, and a configuration status nobody can state with confidence. The replacement is a set of automated digital workflows built on custom, revision-controlled registers and intake forms.

Four registers carry the load: Engineering Change Orders, the controlled path for every design change; Corrective and Preventive Actions, the closed-loop system for every quality issue; Software Trouble Reports, the tracked life of every firmware and software defect; and Sales Order tracking, the demand signal tied to everything else. Each register is revision-controlled, each intake is structured, and the anticipated result is a sharp reduction in administrative overhead alongside the elimination of manual tracking errors.

The deeper deliverable is the audit trail itself: automated and immutable, built for the two audiences who will read it. ISO auditors get real-time configuration status accounting instead of a reconstructed paper trail. And the Defense Contract Management Agency, DCMA, the agency that administers defense contracts on the government's behalf, finds a supplier in a state of continuous audit readiness rather than one that assembles evidence when the visit is announced.

What the landing proves

Strip the specifics and this engagement is the US market-entry sequence exactly as the playbook lays it out. The entity and the building were the easy parts, and they were done before the operating work began. What captures the tier-1 prime and federal business is everything after: the QMS the flow-downs demand, the domestically governed supply chain, the data border between the foreign engineering organization and the US enclave, and the digital thread that proves all of it to an auditor. A foreign-parented manufacturer landing in the United States is an operations build wearing a compliance costume, and this is what the build looks like from inside.

The geography is proving itself too. The line stood up in New Hampshire, inside the New England defense corridor: within reach of the primes it sells to, the sub-tier supplier base that feeds it, and the compliance-literate labor pool that staffs a Class 3 line. The case for that corridor is made in full in The New England Landing Zone; this client is living it.

The engagement is live, run through the same models every engagement runs through: embedded fractional operations leadership, with the structural builds standing and the outcome figures targeted and anticipated ahead of a close-out expected within the next two quarters. This study will be restated with final results when it closes. The client is named by what they build and where they landed, and every engagement is held under NDA.

FREQUENTLY ASKED

How fast can a manufacturer become ISO 9001 audit-ready?

This engagement prepared a manufacturer with no formal QMS to pass its ISO 9001:2015 Phase 1 and Phase 2 audits within a compressed three-month timeline. Three conditions made that speed real: the scope was build-to-print defense manufacturing, which keeps the process map tight; the SOPs were written as the way the floor actually runs rather than as audit theater; and the work was driven by embedded operating leadership with the authority to institute procedures, not a consultant handing over templates. A more complex product mix or a design-responsible organization should expect a longer runway.

Can a foreign-parented company keep its R&D abroad and still meet ITAR and CMMC?

Yes, when the boundary is technical rather than aspirational. This engagement engineered a software-defined firewall that isolates the international R&D networks in Canada from the secure US manufacturing enclave, so ITAR-controlled technical data stays inside a boundary built to the NIST SP 800-171 requirements that CMMC Level 2 assesses against. The R&D organization keeps its engineering velocity, the US line keeps its data sovereignty, and the Technical Data Package vault controls exactly what crosses, in which direction, under which authorization. A written policy alone does none of that.

What does Made-in-USA compliance actually require on the line?

More than an address. It requires production genuinely performed on a US line under FAR and DFARS domestic-source rules, a governed supply chain behind it, and workmanship standards the acquisition can accept. In this engagement that meant a dedicated contract manufacturing line in New Hampshire, a formalized Approved Supplier List with a quality and compliance survey over every external provider, IPC J-STD-001 Class 3 soldering for hardware where failure is not

tolerated, and SAE AS5553 counterfeit-part mitigation so every component on the board is what its paperwork says it is.

Why did this company land in New Hampshire?

Because the buyer, the suppliers, and the workforce are already here. The New England defense corridor holds the tier-1 primes this client sells to, the sub-tier supplier base its Approved Supplier List draws from, and a labor pool that already builds to aerospace workmanship standards. For a company with R&D in Canada and the United States, a New Hampshire line also sits within a day's drive of the engineering organization it works with. The full argument for the corridor is the subject of The New England Landing Zone.

Is this engagement complete?

It is in progress, and the study says so plainly. The structural builds are standing: the QMS and its SOPs are instituted, the New Hampshire line is operating under the Approved Supplier List, the software-defined firewall and the TDP vault are running, and the digital registers are live. The outcome figures, including the 99 percent first-pass-yield target and the reductions in administrative overhead and tracking errors, are targeted and anticipated outcomes of initiatives currently being implemented, with close-out expected within the next two quarters. The study will be restated with final results when the engagement closes.

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