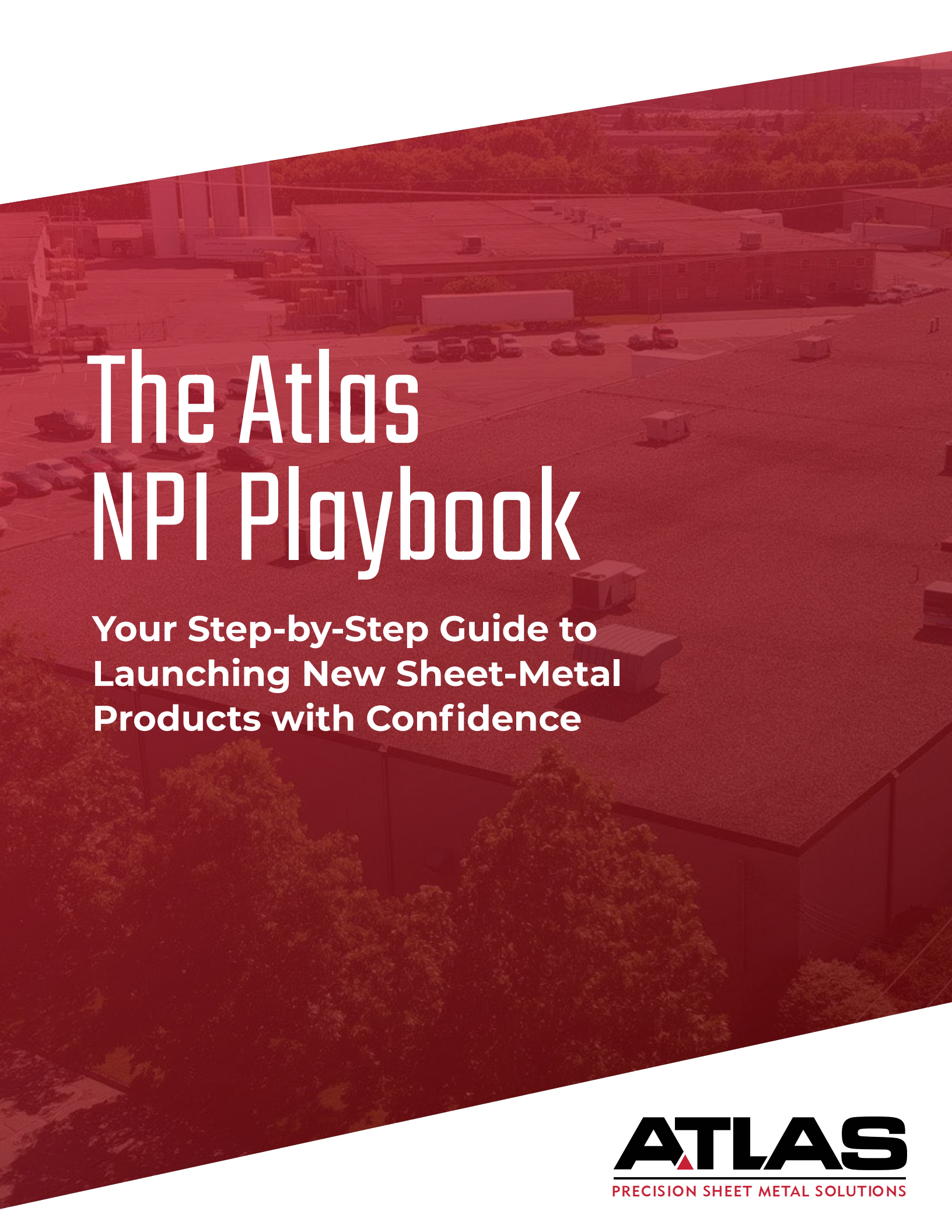


The Atlas NPI Playbook

Your Step-by-Step Guide to Launching New Sheet-Metal Products with Confidence

ATLAS
PRECISION SHEET METAL SOLUTIONS

At Atlas Manufacturing, we understand that launching a new product is more than just a transaction—it's a partnership.

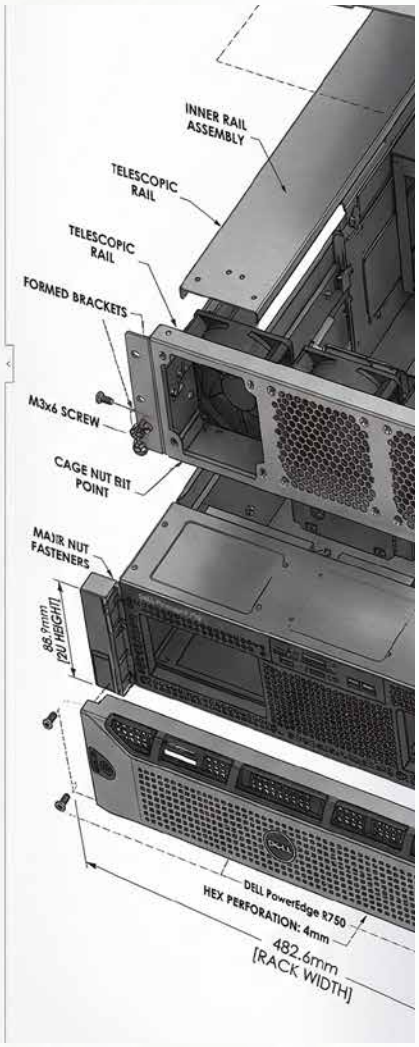
Our New Product Introduction (NPI) process is designed to simplify complexity, mitigate risk, and provide the clarity you need to move from design to full production seamlessly. This playbook outlines our proven, seven-stage framework for success.

Collaborative Design & Quoting

STAGE 1

Objective:

To establish a solid foundation for your project by ensuring the design is optimized for manufacturing (DFM) and providing a reliable, transparent quote.



THOROUGH REVIEW

We begin by carefully reviewing your 2D drawings, 3D models, and Bill of Materials (BOM) to fully understand your design intent.

PROACTIVE DFM ANALYSIS

Our engineering team collaborates with you to analyze critical features like bend radii, hardware callouts, and finish specifications, identifying opportunities to improve quality and reduce cost before production begins.

MATERIAL & COMPONENT VALIDATION

We confirm the availability of all required materials and hardware—from specific sheet gauges and paint colors to fasteners—to prevent surprises and ensure predictable lead times.

DETAILED ESTIMATION

Our team estimates cycle times across every manufacturing stage, including laser cutting, forming, welding, powder coating, and final assembly.

KEY DELIVERABLE

A comprehensive **Quotation Package** detailing cost, lead time, and any tooling or DFM recommendations.

Project Kickoff & Strategic Planning

STAGE 2

Objective:

To align all stakeholders on the project's scope, timeline, and success criteria, ensuring a smooth and predictable path forward.

CROSS-FUNCTIONAL KICKOFF

We assemble a dedicated team of experts from Sales Engineering, Operations, Quality, and Supply Chain to formally launch your project.

PROACTIVE RISK ASSESSMENT

We conduct a Failure Mode and Effects Analysis (FMEA) to identify and mitigate potential risks before they can impact your launch.

CLEAR TIMELINE DEFINITION

Together, we define a clear NPI timeline with milestones for the Prototype, Pilot, and full Production phases.

RESOURCE PLANNING

Any requirements for custom tooling, fixtures, or automation are identified and integrated into the project plan.

KEY DELIVERABLE

A detailed **NPI Kickoff Deck & Project Timeline.**

Prototype & First Article Inspection

STAGE 3

Objective:

To produce a physical part that validates the design's form, fit, and function, ensuring every detail meets your specifications.

INITIAL PROTOTYPE BUILD

We manufacture the first prototypes, using soft tooling where possible to accelerate the process and reduce initial investment.

RIGOROUS FIRST ARTICLE INSPECTION (FAI)

Our Quality team performs a comprehensive FAI using CMMs, fixtures, and other precision tools to verify that every dimension conforms to your drawing.

REAL-WORLD VALIDATION

We encourage fit and function checks at your facility to confirm the design works as intended in its real-world application.

SEAMLESS REVISION CONTROL

Any necessary Engineering Change Orders (ECOs) are carefully documented and managed to ensure a smooth transition to the next build.

KEY DELIVERABLE

A **Prototype Build Report** and complete **FAI Documentation.**

Building a Repeatable Process

STAGE 4

Objective:

To develop a stable, documented, and repeatable manufacturing process that guarantees consistent quality as you scale from a single part to full production.

DETAILED PRODUCTION ROUTING

We create comprehensive routings and job travelers that define the exact manufacturing path for your product.

VISUAL WORK INSTRUCTIONS

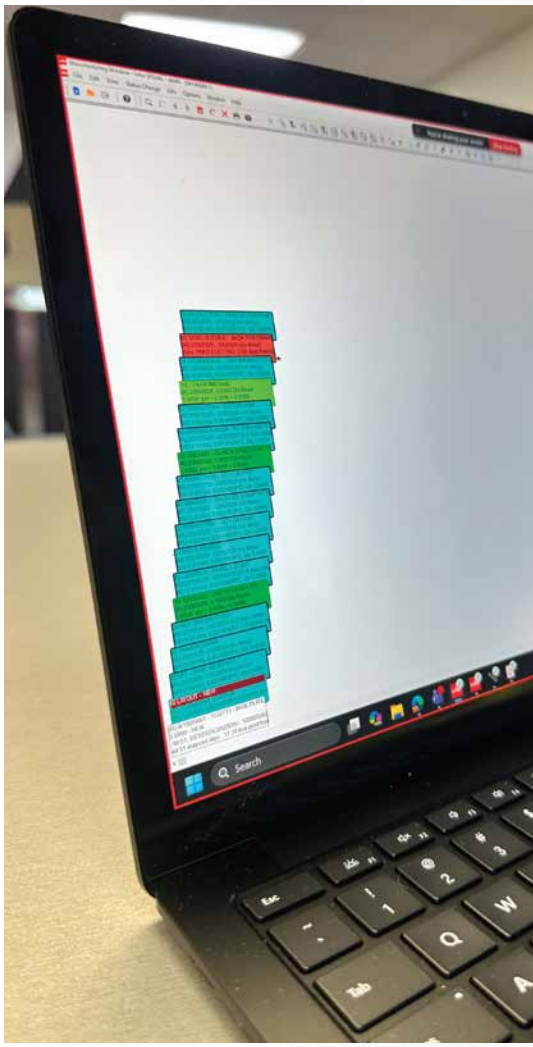
Our team develops clear, easy-to-follow work instructions with visuals to ensure consistency across all shifts and operators.

ROBUST QUALITY PLAN

We establish a formal control plan, create detailed inspection sheets, and perform Gauge R&R studies to ensure our measurement systems are reliable.

SUPPLY CHAIN ALIGNMENT

We lock in commitments with our supply chain partners for powder-coat colors, hardware contracts, and custom packaging.



KEY DELIVERABLE

An **Approved Production Routing** and a formal **Quality Control Plan**.

The Production-Ready Pilot Build

STAGE 5

Objective:

To validate the entire manufacturing process at production-intent levels, giving you final confidence before ramping to full volume.

LIMITED PRODUCTION RUN

We build a small lot (typically 5–25 units) using the finalized tooling, fixtures, and work instructions.

PERFORMANCE MEASUREMENT

This run allows us to measure critical process data, including throughput, scrap rates, rework, and actual cycle times.

FINAL PROCESS REFINEMENT

Any remaining issues related to welding, hardware insertion, or coating are identified and resolved, we align our packaging plan that integrates into their production facility.

CUSTOMER APPROVAL

If required, we complete and submit the Production Part Approval Process (PPAP) documentation for your final sign-off.

KEY DELIVERABLE

A **Prototype Build Report**, Packaging Plan and complete **FAI Documentation.**

Launch to Full Production

STAGE 6

Objective:

To seamlessly transition into full-scale production, ramping up volume under controlled conditions to ensure a successful product launch.

OPERATOR TRAINING

All production operators are formally trained on the approved work instructions and the use of any custom fixtures.

KPI MONITORING

As we ramp up, we closely monitor Key Performance Indicators (KPIs) like first-pass yield, takt time, and scrap rates to ensure the process remains stable.

TRANSPARENT REPORTING

We provide you with regular performance updates, ensuring full visibility and confidence in the launch.

KEY DELIVERABLE

An **Approved Production Routing** and a formal **Quality Control Plan**.

Sustaining & Continuous Improvement

STAGE 7

Objective:

To ensure your product's long-term success and competitiveness through an ongoing partnership focused on improvement and optimization.

CONTINUOUS IMPROVEMENT INITIATIVES

We actively seek opportunities to enhance the process through automation, robotic welding, and lean manufacturing principles.

COST REDUCTION ANALYSIS

Our team regularly reviews your product for cost-down opportunities, such as improving material yield or consolidating hardware.

LESSONS-LEARNED REVIEWS

We conduct regular reviews of the NPI process to identify what went well and where we can be even better on the next project.

KEY DELIVERABLE

A **Quarterly NPI Lessons Learned Report** to drive future improvements.

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