

CASE STUDY

Recasting a High-end Foundry into a Data-driven Manufacturer



EXECUTIVE SUMMARY

Palmer Foundry, a manufacturer of high-end aluminum castings, needed an enterprise manufacturing intelligence system to meet current and prospective customer guidelines for quality assurance.

CHALLENGES

- Data residing in "tombs", no easy access
- Few or no SPC skills on the manufacturing floor; learning curve a concern
- Small, already over-burdened IT department

SOLUTION

NWA Focus EMI®

- Connects directly to original data sources
- Global analytics layer delivers real-time, actionable information
- Installed in 4 hours, implemented in less than 3 weeks

RESULTS

- New EMI capabilities showcased to win **\$1.4M** new business
- Exceeds customer approval and vendor requirements
- Improves process and supply chain issues in real time, including **\$70K** cost avoidance savings on a single issue
- Uses new manufacturing intelligence to make strategic business decisions

Palmer Foundry in Massachusetts designs and manufactures high-end, precision aluminum castings for numerous industries, including semiconductor, automotive, energy, aerospace, robotics and many more. Each project requires demanding specifications and diligent control of raw materials and processes.

The foundry's success and customer satisfaction were unquestioned; however, Palmer's existing customers, driven by their own corporate requirements, began pushing Palmer to meet their qualification levels in order to continue as a vendor. And prospective customers, even when impressed by the foundry's capabilities, balked at bringing new business to them because of a lack of demonstrated and referenced process control.

"Our customers told us that in order to become an approved vendor, we couldn't live by black magic anymore. We needed to prove our processes."

Jim Lagrant, General Manager, Palmer Foundry

Palmer realized that delivering good product wasn't enough anymore. They needed the ability to prove quality control processes to meet multiple industry guidelines and customer requirements. Palmer also saw an opportunity to adopt a system of manufacturing intelligence that would improve their approach to decision making and business strategy.

Challenges: Data buried in tombs, limited SPC skills and few IT resources

Although hampered by a lack of systems to access historical and current data, specifications and processes were nevertheless consistently logged in multiple spreadsheets. However data attached to each project was not easily accessible. Most of the data used to inform customers, review and analyze projects, and monitor raw material supplies and scrap rates were scattered across laptops, residing in "data tombs" –stored, but rarely seen or used again.

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Go Live by the Numbers

Installation: 4 hours (on the phone)

Implementation: <3 weeks

IT Resources: minimal

Compounding the issue was that few in the company had statistical process control (SPC) training. And because the IT department was small and already overburdened, introducing new software into the manufacturing workflow caused substantial concern. Becoming a data-driven foundry would likely require many in the company – from operators to management – to take work time to learn a new program, yet the company could not afford for key personnel to be offline for a lengthy training period.

Palmer understood the need to improve internal processes and prevent supply chain issues before they could affect product quality in order to meet their customers' requirements. Palmer understood as well the need for the full functionality provided by a manufacturing intelligence software solution. But it had to be installed, configured, implemented, learned and adopted in a short amount of time with limited resources, and by leveraging their existing technology investments.

Solution: Real-time analytics, visual displays and data at their finger tips

NWA Focus EMI® from Northwest Analytics delivered Palmer a full-featured manufacturing intelligence solution. Installation was conducted over the phone, and in less than three weeks (with limited IT involvement), Palmer was operating with direct data-source connectivity, global analytics, real-time role-based visualization, and alarm notification services.

With NWA Focus EMI, it is easy to establish and maintain operating links to existing data sources without creating additional or redundant databases. Data is accessed directly at the original sources, passed through a global analytics layer, and delivered as actionable information through the intelligence viewer.

For Palmer, this meant accessible, in-the-moment information at their fingertips (not hidden on someone's laptop in a spreadsheet), a visual onscreen display of relevant information, and a color-coded warning system of deviations from project or raw materials parameters.

*"Now there's
one set of data
we all look at."*

Jim Lagrant
General Manager
Palmer Foundry



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Business Benefits by the Numbers

\$1.4M new business won in the first year showcasing capabilities with NWA Focus EMI

\$70K saved by avoiding a single product recall event

7% decrease in scrap rate

\$25K saved each quarter through greater efficiency in business process

Results: Operating in a data-driven culture

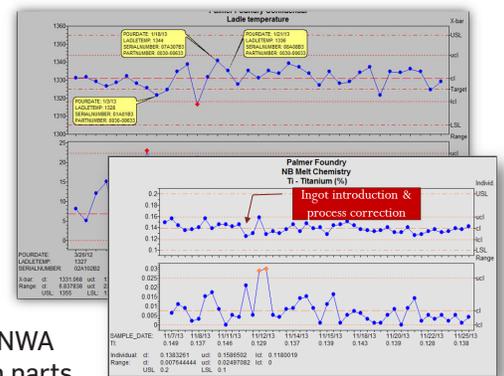
Palmer Foundry underwent a painless but substantial shift, transforming from a company of note takers and spreadsheet gatherers to one driven by consistent data, automated global analytics and real-time actionable information. This culture change brought several benefits across the organization.

Upstream Benefit: Validate supply chain and raw materials

With NWA Focus EMI, Palmer can validate the content of raw materials prior to entering the manufacturing line, eliminating materials problems before they can disrupt the process. Now, Palmer can accept or reject raw materials shipments, or adjust the manufacturing process to accommodate material variables.

In-house Benefit: Greater process visibility and control

Palmer has greater real-time control over manufacturing processes, preventing problems from occurring in the end product (a costly event). With NWA Focus EMI, in-process material can be tracked and validated at any moment, and warning systems alert technicians to potential issues that might need tending or course correction (e.g., changes in melt temperature or mold process phases). Related to scrap and rework, now with NWA Focus EMI Palmer could pinpoint which parts of the process most influenced those rates and is able to take immediate action to control.



With NWA Focus EMI, Palmer no longer had to dig for data. Instead of each manager relying on handwritten notes and multiple spreadsheets, they access information based on the same data. That ensures decision makers across the company are working from the same source data and information. This results in more informed decisions about resource allocation, scrap and rework rates, workforce flow, supply chain management, and even shipping. Additionally, Palmer uses the information to create company improvement incentives.

Downstream Benefit: Exceeds customer approved vendor requirements

Palmer can now provide documented and referenced process quality control data. As a result, Palmer has repeatedly received vendor approval status across its customer base. This has not only been crucial to maintaining their current customer base, but also instrumental in addressing a perceived product quality issue that involved a third-party vendor of the end-user customer to customize the castings manufactured by Palmer.

"We were a company of highly skilled technicians with little or no SPC experience and a small IT department already maxed out. We needed a solution that was easily learned and adopted."

Jim Lagrant
General Manager
Palmer Foundry

Using the analyzed data from NWA Focus EMI, Palmer was able to prove unequivocally to the customer that the issue was not related to their processes. Instead, Palmer helped the customer identify where downstream the problem resided, and made change recommendations for the third-party vendor.

In this single instance, the ability to demonstrate complete process control saved Palmer more than \$70,000 in potential costs related to shipping, rework, materials, labor and performance penalties. More importantly for Palmer, however, was the additional goodwill, trust and strengthening of the relationship with their customer.

New Business Benefits: Data gives Palmer a strategic edge with prospects.

Palmer's new manufacturing intelligence capabilities added a data-driven showcase for their highly skilled foundry to win new business contracts. As with their current customer base, they can provide prospects with documented process quality control data.

Palmer will continue to take advantage of the capabilities of NWA Focus EMI, expanding its use across all areas of operation. They plan to place the process intelligence views on large monitors throughout the manufacturing floor to communicate real-time data, as well as part-specific views and notification systems.

"...NWA Focus EMI sets us apart from our competitors"

Jim Lagrant
General Manager
Palmer Foundry



Call us today at 1(888) NWA-SOFT, for a complimentary demo to learn more about how NWA Focus EMI can help in your manufacturing environment.

About Northwest Analytics, Inc.

Northwest Analytics, Inc. is a leading provider of manufacturing intelligence, SPC and quality information software solutions to 35% of the Forbes 1000 manufacturers and more than 5,000 manufacturing customers worldwide.

They will use NWA Focus EMI KnowledgeBase to capture institutional data (e.g., assignable cause/corrective action) and establish long-term best practices. Additionally, they will implement the solution's Collaboration Center to speed issue identification and resolution, improve supplier performance, and continue to increase customer confidence.

Most importantly, Palmer is no longer in the black magic business; they are a data-driven, vendor-approved enterprise leading with manufacturing intelligence.

For more information, call 888.NWA.SOFT or visit us at NWASOFT.COM

