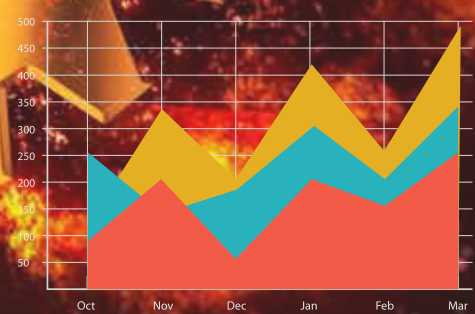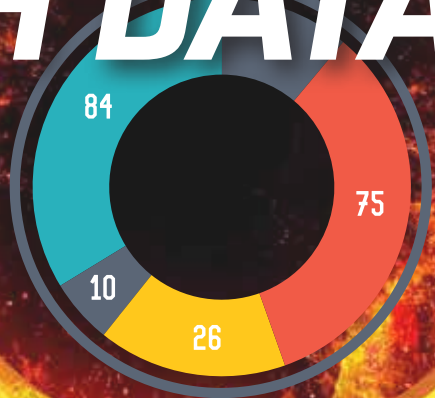# *HOW TO UNLOCK TIME AND PROFIT SAVINGS WITH DATA*

Accurate data tracking in one central hub can save significant time and lead to a bigger bottom line.

By CHANTEL SOUMIS

I n the highly specialized world of commercial heat treating, precision, efficiency, and data-driven decision-making are critical for success. Capturing and using accurate data can significantly improve operations, profitability, and customer satisfaction. In this article, we will cover:

» The essential types of data that commercial heat treaters need to capture.

» The transformative power of that data.

» The value of implementing an all-in-one job shop software designed specifically for commercial heat treating.

ESSENTIAL DATA FOR COMMERCIAL HEAT TREATERS

Commercial heat treaters must focus on two primary types of data: production data and business data.

Production Data

» **Throughput:** Measures the volume of work processed in a given period.

» **Re-work:** Tracks the frequency and reasons for reworking parts.

» **Direct labor cost:** Calculates the cost of labor directly involved in production.

» **Inventory:** Manages the materials and finished goods in stock.

Business Data

» **Quote win rate:** The percentage of quotes that converts to orders.

» **Revenue per line:** Tracks revenue generated per product line.

» **Profit per customer:** Measures profitability on a per-customer basis.

» **Labor efficiency:** Evaluates how effectively labor is used.

» **Profit margins:** Assesses overall profitability.

» **Lead times:** Tracks the time taken from order receipt to delivery.

THE POWER OF HEAT-TREAT MANAGEMENT DATA

Boosting Profit: Data-driven decisions can lead to significant profit increases. According to a McKinsey report, companies that leverage data and analytics in their operations see a 6- to 8-percent increase in profits. By analyzing data on throughput and labor costs, heat treaters can identify inefficiencies and optimize processes to reduce costs and improve margins.

Improving performance: Real-time data can enhance operational performance. A study by Deloitte found companies using real-time data analytics saw a 10 percent improvement in production efficiency. Heat treaters can quickly address issues and maintain optimal production flows by monitoring re-work rates and inventory levels.

Increasing customer satisfaction: Meeting customer demands with

precise data ensures high-quality standards. According to a survey by PwC, 73 percent of customers cite quality as a top factor in their purchasing decisions. Accurate data helps maintain consistency and reliability, leading to higher customer satisfaction and loyalty.

Saving time: Automated data collection streamlines operations, reducing manual entry and errors. Research by Forrester shows automation can save up to 30 percent of time spent on data management tasks, allowing employees to focus on more strategic activities.

Cutting costs: Identifying waste and inefficiencies through data analysis can lead to significant cost reductions. The American Productivity & Quality Center (APQC) reports organizations using data-driven cost management see a 20 percent reduction in operating costs.

THE VALUE OF A COMPREHENSIVE HEAT-TREAT MANAGEMENT SOLUTION

Managing all aspects of a commercial heat-treating operation from
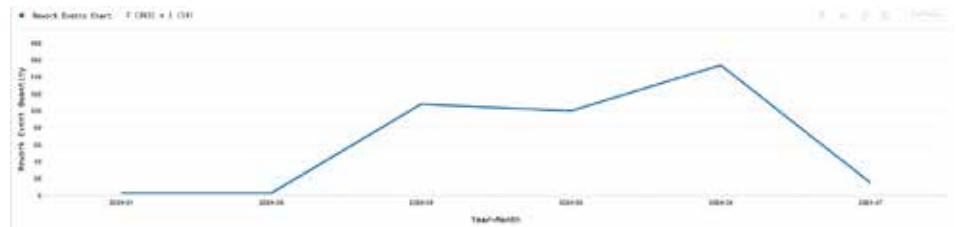

Figure 1: By tracking on-time deliveries and lead times, you can view and control expectations for customers to improve customer service. You can also easily analyze shortcomings when missing deadlines.
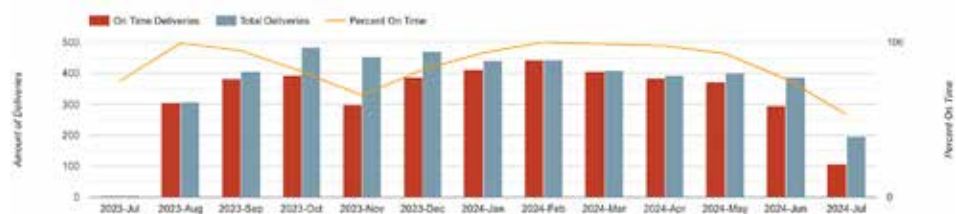

Figure 2: By monitoring rework requirements, you can see at a glance why costs are up and profits are down while determining reasoning for the order resolution such as a change in specification, retraining opportunities, and more.

one central location offers numerous benefits. By integrating production and business systems, heat treaters can avoid the pitfalls of disparate data and multiple systems, ensuring seamless operations and improved efficiency. Common obstacles incurred by leverage disparate systems include:

» **Inconsistent information:** When data are scattered across multiple systems, inconsistencies and discrepancies are more likely to occur, leading to unreliable information that can hinder decision-making.

» **Data silos:** Disparate data often results in silos where information is isolated and inaccessible to those who need it. This can lead to inefficiencies, miscommunication, and a lack of collaboration across departments.

»» Increased error rates: Manual data entry and the need to reconcile information from different sources increase the likelihood of errors, which can compromise the accuracy of reports, forecasts, and compliance documentation.

To avoid these obstacles to efficiency, it is important to leverage a robust solution that captures all of the following data elements:

Production Systems

»» Workflow management: Streamlines the sequence of operations.

»» Worker instruction: Ensures consistent and accurate task execution.

»» Capacity planning: Helps anticipate and manage production demand.

»» Scheduling: Optimizes the allocation of resources and time.

»» Rework: Monitors and reduces rework incidents.

»» Inventory management: Maintains optimal inventory levels.

»» Quality management: Ensures compliance with quality standards.

»» Specifications and certifications: Manages adherence to ISO, Nadcap, and other certifications.

Business Systems

»» Quoting: Generates accurate and competitive quotes.

»» Reporting/analytics: Provides insights into business performance.

»» Customer communication: Enhances interactions with customers.

»» Shipping and receiving: Tracks the movement of goods.

»» Invoicing and accounting: Manages financial transactions.

»» Payroll and timesheets: Ensures accurate employee compensation.

CHALLENGES WITH TRADITIONAL PAPER DATA COLLECTION

You may be thinking, "Can't we manage all of this on paper?" Although it may seem like paper is the most cost-efficient and centralized way to track information, it is actually the most expensive way to run a business. For example:

Paper Processes Cause Inaccurate Data

Manual data entry is prone to errors, leading to inaccurate data. According to a study by Gartner, human error accounts for 80 percent of data inaccuracies, which can result in significant quality and safety issues.

Inefficient Communication and Documentation Cause Quality Issues

Inaccurate data can lead to quality control problems, affecting product consistency and customer satisfaction. The National Institute of Standards and Technology (NIST) estimates that poor quality data
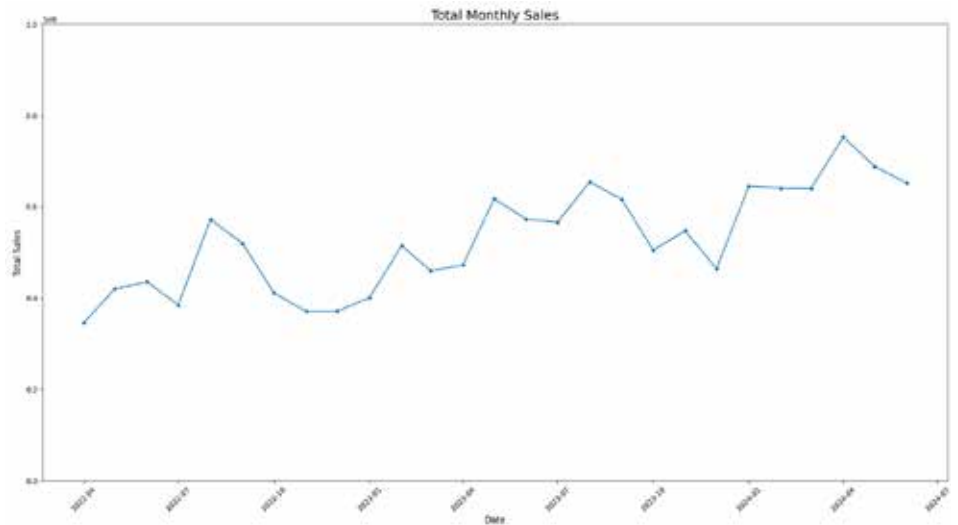

Figure 3: Have sales and growth data at your fingertips allows you to set and manage realistic goals. Charts and data on sales and income are motivational tools for executive teams.
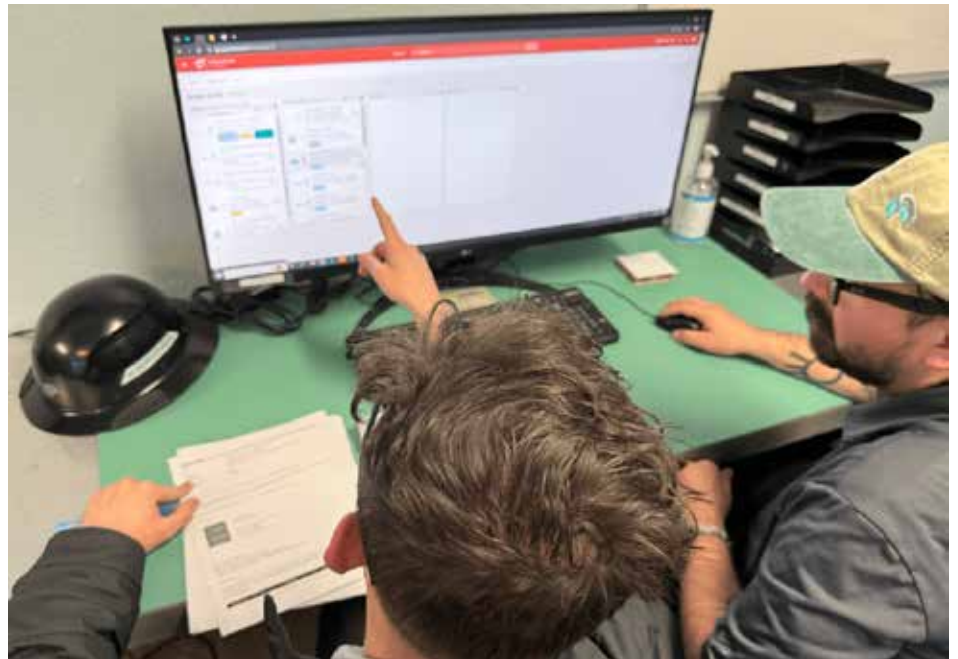

Figure 4: Users of Steelhead Technologies Job Shop Software are assigned a dedicated Deployment Engineer to ensure seamless, streamlined software implementation. After deployment, they are handed off to a dedicated Customer Success Manager to serve as a touch point for any questions or interest in additional features and functionality.

costs businesses in the U.S. more than $3.1 trillion annually.

Safety Concerns Increase

Inaccurate data can also pose safety risks, particularly in industries such as heat treating where precise temperature control and process adherence are critical. Ensuring accurate data collection helps mitigate these risks and maintain safety standards.

THE POWER OF THE MODERN, ALL-IN-ONE JOB SHOP SOFTWARE

A robust job shop software solution designed to manage the commercial heat-treat process from receiving parts to shipping and invoicing can serve as a comprehensive solution that harnesses the power of data collection to enhance visibility and control across the entire operation. A software solution of this type is offered by Steelhead

Technologies. Benefits include:

›› **Data Collection:** The software captures detailed production and business data, enabling real-time monitoring and analysis. This data-driven approach helps heat treaters optimize processes, improve efficiency, and reduce costs.

›› **Certification Alignment:** The software ensures alignment with industry certifications such as ISO and Nadcap. By managing specifications and certifications, the software can help businesses maintain compliance and prepare for audits.

›› **Quality and Audit Preparation:** With integrated quality management features, the software supports consistent adherence to quality standards. It also simplifies audit preparation, providing easy access to necessary documentation and records.

In the competitive world of commercial heat treating, leveraging accurate data is essential for success. By capturing and using production and business data, heat treaters can:

›› Boost profits by 5 to 35 percent.
›› Improve performance and quality.
›› Increase customer satisfaction.
›› Save time communicating instructions.
›› Cut operational costs.

Steelhead Technologies provides the tools needed to harness the power of data, ensuring visibility, control, and alignment with industry standards. Features and tools include (but are not limited to):

›› Quoting.
›› Invoicing.
›› Video/photo instructions.
›› Icon-based work boards (particularly helpful for bilingual workforces).
›› Contract review.
›› Customer portal (communication, order updates, document access).
›› Purchasing and billing.
›› Outsourcing.
›› Inventory management.
›› Quality management system.
›› Scheduling.

›› Timesheets/workforce management.
›› Payroll/accounting integration.
›› BOMs and assemblies.
›› Digital certs and specs.
›› Compliance reports.
›› Maintenance management.
›› Shipping and receiving (trucking dashboard).
›› Insights, data, analytics (reporting).

By understanding and using the right data, commercial heat treaters can improve their operations and gain a competitive edge in the market.

THE POWER OF DIGITAL TOOLS FOR NADCAP CERTIFICATION

Case Study: Veterans Metal's Modernization Journey — Veterans Metal, a metal finishing plant in Clearwater, Florida, was grappling with outdated manual processes. Employees were burdened with writing down every detail and entering data into spreadsheets for tracking. Each step in processing a part required manually logging more than 20 line items of information and then transferring that data into spreadsheets.

After thoroughly evaluating workflows and requirements, Steelhead Technologies introduced the Steelhead Certification Scanner. This solution includes an affordable handheld scanner and a system of QR codes designed to streamline data collection and processing. The modern design allows users to become proficient instantly, facilitating a smooth transition from manual to digital processes.

Following a brief 15-minute walkthrough of the scanner, operators were equipped with the scanners and scanned QR codes placed at each processing station. As parts moved through the production line, the QR codes captured and transferred data from one stage to the next, ensuring seamless data flow and real-time updates.

When an operator scanned a station's QR code, the device displayed:

›› Remaining processing time.
›› All parts being processed.
›› Custom instructions.
›› Key data points like oven temperature.

The system's timer automatically started when a QR code was scanned, issued a one-minute warning before the process ended and stopped when the next station's QR code was scanned.

EFFICIENCY AND ACCURACY

The Nadcap scanner eliminated the need for handwritten data entry, reducing errors and the time required to generate certifications. The system automatically compiled the data into certifications and emailed them to clients. This innovation has since been adopted by numerous Nadcap-compliant operations across the United States.

MODERN SOLUTIONS PROVIDE A COMPETITIVE EDGE

Embracing cutting-edge tools like the Nadcap scanner not only saves time and resources but also enhances market positioning and strengthens client relationships. By integrating the prestige of Nadcap accreditation with digital advancements, heat treaters can elevate their operations to new heights of efficiency and excellence. ⚒

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ABOUT THE AUTHOR

Chantel Soumis is serving as Head of Marketing at Steelhead Technologies. With a robust background in manufacturing technology and strategic partnerships, she leverages over 15 years of experience to shape the company's marketing landscape.