



## Defense Manufacturing Facility Increases Productivity while Decreasing Overtime & Backlog

An international defense, aerospace, and security company delivering a wide range of products and services brought DB&A in to target key areas and proven methodologies to improve operations and output of productivity with quality and accuracy. The plant is a core propellant-manufacturing facility for the U.S. Department of Defense.

DB&A was also tasked to initiate and implement change in the culture in all areas of operations. Concerns arose regarding current practices, facility maintenance, key equipment maintenance, and production uptime. DB&A understood the concerns and set out to successfully meet the tasks and accomplish what was set out ahead.



By identifying and targeting specific solution strategies, working in partnership with management, a full analysis was conducted, and resolutions put in place for successful outcomes. The implementation of management tools and enhancing the process of staff training in the maintenance department provided a positive impact. These tools provide the director of the area data to identify where achievements and deficiencies are occurring.

DB&A worked with the client closely during the COVID-19 global shutdown. DB&A extended the project timeline to accommodate COVID-19 protocols, DB&A provided remote support and coaching to the managers and supervisors which maintained the momentum the project had achieved from its start-up. This support continued for three months until on-site visits were considered safe and permitted in compliance with local, state, and federal guidelines, while following current COVID-19 safety protocols.

With focus, commitment, and patience through pandemic conditions, DB&A successfully improved operations and raised company culture placing the client in direct alignment and position to be awarded a 5-year extension on their current contract with the U.S. Army.

### The DB&A Difference

#### Analysis Financial Proposal

- Proposed Project Cost: \$3,497,320
- Guaranteed Savings Rate: \$8,049,000
- Guaranteed ROI: 2.3:1

#### Actual Financial Results

- Actual Project Cost: \$3,756,880
- Annualized Savings Rate: \$9,781,362
- ROI: 2.6:1

#### Project Results

- 12% increase in productivity
- 67% decrease in overtime
- 22% decrease in maintenance work order backlog

## DB&A Analysis

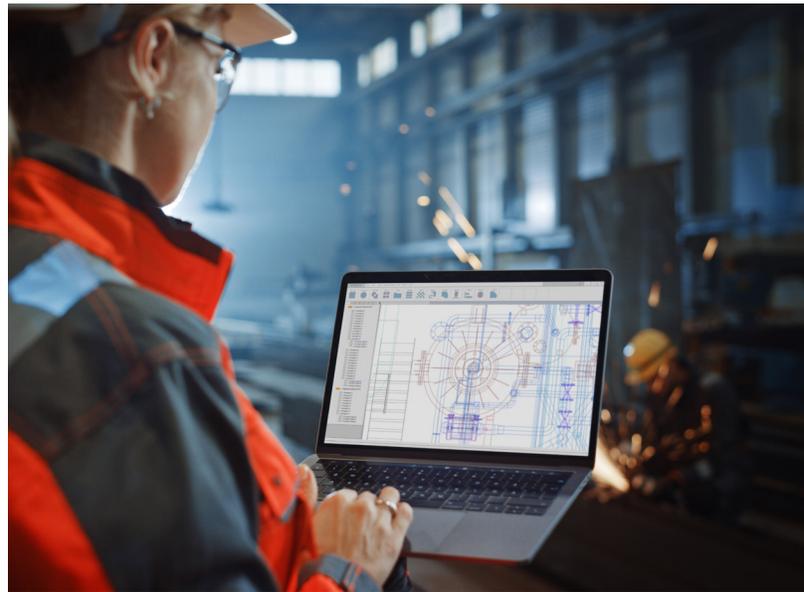
During the 2-week analysis, DB&A Consultants observed that front-line management spent more than 50% of their time in administrative activities and less than 10% of their time in supervisory functions. Most of the supervisory time was reacting to problems after they occurred versus proactively engaging with people on the floor to prevent the problems that impacted output. This imbalance between front-line and office administrative functions, left employees to manage the process, ensure quality of the product, formulate the volume of work to complete, and problem solve as the need arose. This was not only risky from a productivity standpoint but from a safety and quality standpoint as well.

An imbalance between the responsibilities of front-line and management creates operational issues. These issues create a reactive management culture contributing to a number of issues including but not limited to;

- Ensuring adherence to processes and procedures
- Impacting the quality and consistency in training of workers
- Ensuring employees have assignments and back-up tasks
- Establishing proper expectations of work task durations
- Creating an environment where workers can be successful

DB&A observed that supervisors may not be using the resources and tools made available to manage their areas and supervise their departments. The director of production was looking for the tools and metrics so his managers could supervise by the numbers and make better decisions throughout the week. Many of the managers in the production areas lead by gut instincts and were not using the data to properly drive their work areas and solve problems to improve the performance of the area. Although data on production output is captured and available, this data is not used in identifying barriers to individual and department productivity goals.

The Use-of-Time Analysis conducted by DB&A revealed that front-line employees in several areas have more available time and have less-than-full workloads. Additionally, it was discovered that there were unclear completion expectations across the organization. These findings reveal opportunities for improvement and significant increases in productivity.



Our analysis additionally identified:

- Ineffective planning prior to shift starts
- Periodic interruptions to work-flow on production lines
- Lack of training and communication of best practices
- Sub-optimal adherence to established work processes and standards

## Implementation

In the beginning stages, our DB&A team worked in collaboration with the management team to identify, communicate, and ensure the understanding of the goals and strategies within each level of the organization. Once that milestone was reached, the goals and strategies were translated into specific measurable indicators for implementation within each operational area for which they were responsible for managing.

Next, our team worked in developing roles and responsibilities that provided a clear understanding of the activities and tasks required at each level of the organization to contribute to meeting the goals and strategies. These roles and responsibilities were used to develop the leader standard work for the supervisors to properly engage with people through structured follow-up on the process metrics taking actions throughout the day to prevent lost time.

With those two areas addressed, DB&A began training, coaching, and mentoring the organization's leaders on the skill sets required to fulfill each of the defined roles and responsibilities.

A professional development training program was created and tailored to address the strengths and weaknesses of the operations team with over 85% of the training delivered as one-on-one coaching. The one-on-one training took place in the area where work was executed. In developing our training programs, DB&A

uses a “Train the Trainer” approach to assist managers in their understanding of the training process and the best practices of transferring knowledge to front-line employees creating a more productive and efficient workforce.

An Action Item List was developed and implemented providing managers a tool that outlines a systematic approach for identifying and working to remove barriers that have a negative impact on production. Managers can also use this tool to facilitate and conduct routine follow-up to proactively identify new barriers and make sure previously addressed barriers are not recurring.

In an effort to quickly identify the needs for training within the group, DB&A created a Skills Flexibility Matrix based on the relative strengths and opportunities of team members. This provides a snapshot to identify the needs for training within the group. The matrix provides managers and technologist with a methodology to compare the total number of qualified people available to the number required for each category to meet production goals. Managers can also use this matrix to maintain focus on key training milestones and training gaps to prioritize and expedite the team's training of new Operators.

During the analysis process, DB&A identified, noted, and quantified barrier causes. These barriers were placed in their perspective order by the magnitude of their impact. A Pareto Graph was created to aid in the visualizing and prioritizing action.

The Lost Time graph identified causes of lost time incurred as well as the hours associated with each cause during a defined period. This is a visual indicator of the magnitude of the cause of downtime so management can work to tackle the greatest issues first.

DB&A worked with the management team in using this information to work hand-in-hand with employees to solve operating problems while improving the processes and measuring intraday key metrics to ensure improvements were happening. Managers learned how to read and interpret the data on the charts, identify issues, and respond with the necessary action to remove the barriers. Managers and Supervisors now track with accuracy and confidence the productivity and department performance. They are encouraged to follow-up with Operators and Chiefs to align production status and address issues that require intervention.

These tools, along with others, became an integral piece in managing and more effectively engaging with team members. Clear expectations anchored around frequency of follow-up, coaching, and ongoing training continues to enhance the effectiveness of this engagement.

## Project Results

Maintenance backlogs were reduced by 22% after developing and implementing a daily planning structure and ensuring crews were properly trained and staffed.

Overtime usage was reduced from 1200 hours per month to 1050 hours, a reduction of 12% in maintenance. The decreased need for overtime came after managers had a better understanding of the total weekly work needed through the resource load. Managers also began actively managing overtime to match corresponding volumes each week.

Throughout the project, overall maintenance hours per job completed were reduced by 9%. Increased process capacity was doubled without utilizing overtime. In addition, cross-training employees decreased lost time and the need for overtime.

In the production areas there was a 20% improvement in throuput through the process without adding additional headcount. Two areas of the plant averaged a 17% improvement in productivity while at the same time reduced their overtime usage by an average of 40%. Adherence to Standard Work and floor level accountability to daily plans contributed to these results.

Planning, training, and proactive management to identify and address barriers led to an overall annualized savings of \$9,781,362 for this facility.

Since 1987 DB&A has provided cross-industry management consulting delivering 15-20% in operational and financial improvements to our clients with a financial guarantee. We deliver customized solutions that maximize existing resources to increase efficiency, capacity, and productivity. Our approach is to work with all levels of management to transform management culture in order to drive accountability where it matters most: the front-lines. For more information visit [www.dbaresults.com](http://www.dbaresults.com) or email [contact@dbaresults.com](mailto:contact@dbaresults.com)