How You Can Increase Production Productivity by 20% in Less than Two Months

RABIT

RAPID ANALYSIS BOTTLENECK IMPROVEMENT TEAM

Projects In Less Time

Taming project complexity

Due Dates… Can You Meet Them All?

Imagine having an avalanche of parts in the production pipeline with more orders on the way, and everyone clamoring for – no, demanding – immediate completion. There is no time (or money) to hire and train new operators, and no budget to add machinery. Priorities are changing constantly making it impossible to plan and execute even the smallest jobs. Your department is so far behind schedule that it is nearly impossible to stay even with demand, let alone catch up. And increasing production to get ahead of the curve feels like a pipe dream – or, perhaps more accurately, a "pipeline dream."

Sound familiar?

When the production process is not properly managed, everything becomes an obstacle to success – even success itself. The more work that comes in, the more difficult meeting demand becomes. Without the right process in place, operators and supervisors end up on different timetables, cherry picking their work and producing the "best" jobs, but not the most urgent jobs. They are constantly breaking setups and jumping back and forth between assignments, almost like production ping pong.

Where are the leaders during all this? They are hardly ever around: They're always in a shortage meeting talking about which parts are the most important! Of course, each meeting produces a different set of priorities. The firefighting is not fun for anyone.

It's a vortex that pulls down the momentum of an organization until it's so deep in the pit that you can't climb out. Soon, all your production lead times have grown exponentially while your production output has dropped dramatically. Jobs are on the line... including yours.

Why did this happen? There are a number of contributing factors. Maybe the delivery promises and planned lead times were too optimistic. Maybe they didn't hire enough of the right people. Maybe a machine was down for too long. In reality, of course, none of these reasons really matter. The damage is already done, customers are unhappy, and there is no way to go back in time and start correctly.

Far too often, a point like this is reached in the flow of a manufacturing process and it becomes obvious that the situation is out of control; demand and due dates will not be met. The question managers ask is, "How bad will it get?"

It can get very bad. A lot rests on the shoulders of production. Failure to achieve order due dates means that assembly will also be delayed, sometimes fatally. And the consequences of a sub-standard, outmoded, or ineffective process can be catastrophic for companies involved in manufacturing.

A consistent failure to produce on time and on budget can rob a business of its reputation, its customers, and its profitability. It can also eviscerate the "soul" of a department, leaving employees feeling over-worked and under-valued. Soon they are disengaged from the work they do and become liabilities to production, rather than assets.

Be the Change You Want to See

Facing an ever increasingly competitive market, manufacturing firms must make changes to improve operations.

> "Change starts when someone sees the next step."

William Henry Drayton, 18th Century American politician

This report is to help you see how making a key change in your production processes can help your business consistently deliver more products in less time with the same resources so you can take on more assignments and increase profits. We hope it will help you become that someone at your company who sees the next step and is the catalyst for growth and profitability.

You've Got a Problem

> "Brilliant process management is our strategy. We get brilliant results from average people managing brilliant processes. We observe that our competitors often get average (or worse) results from brilliant people managing broken processes."

Toyota Executive

Do you ever feel like the harder your team works, the further behind they get? You push your employees for high performance and pay them generously, but they never seem to catch up. Overtime is not the exception, it is mandatory. Despite your best efforts, the department is not meeting demand and customers are not happy.

What does this mean to the company you work for? Unhappy customers will drive a stake through the heart of a business. Bad word-of-mouth can impact your ability to attract new clients and in the age of social media, it spreads like wildfire.

You certainly won't be getting any referrals from dissatisfied customers. That cuts into profits because it takes significantly less effort (translation: time and money) to turn a referral into a client than to turn a cold prospect into a client.

Worse, you will be losing all-important repeat business – the lifeblood of any business success. Your goal is always to turn a one-time buyer into a customer for life so you can profit from your initial cost of acquisition without having to work as hard.

So, you've got a problem – but, then, so do many businesses. You've got a broken production process, and it is keeping you from achieving:

- Setup reduction: less time lost to setting up for different parts
- Inventory reduction: fewer resources stockpiled protecting for unexpected contingencies
- Reduced scheduling effort: reducing the need to constantly reschedule the shop (which creates new priorities daily or even more often)
- Increased production efficiency: increasing the ability to produce more without adding people or machinery
- Labor load leveling: reducing workflow surges (which cause workers to chase the work)
- Real time information: an up-to-the-minute snapshot of production progress that signals necessary changes before a problem gets out of hand
- Accurate delivery date promises: the ability to meet and exceed customer demand, on time, every time

The Real Source of Production Snafus

Manufacturing success rests on effective production processes, so it is hard to understand why more businesses haven't cracked the code on how to optimize them. One factor is that companies have a habit of dealing with the fallout of production disasters after they happen – for instance, when the team hasn't been able to meet its product quota – rather than identifying and implementing a workable solution before problems arise.

This is a critical mistake. As in healthcare, focus should always be on fixing the root cause, not the symptom of the problem. The root cause of most production failures, and the inability to rai-

se output and keep it at an elevated level, is myopia. No one is looking at the big picture and the need for continuous improvement.

Many organizations struggle with continuous improvement (CI) efforts; real bottom line results, whether in cost savings or increased revenues, just never seem to materialize. In spite of the widespread implementation of strategies to increase output, poor results persist.

Continuous Improvement

At the heart of continuous improvement is the matter of change. In order to improve a process, we must change it. However, not every change results in an improvement. It is pointless to make a change if it doesn't result in something positive, yet many production process changes yield little real improvement.

Why is there such a mismatch between expectations for change and the results? Why are people working so hard but, at the end of the day, they are failing to get the desired results?

The Improvement Challenge

There are two distinct approaches to improvement. One, the traditional approach, can be summed up as, "A cent, plus a cent, plus a cent, plus a cent will accumulate into a fortune," or "Every little bit helps." This additive approach suggests that if we improve a lot of different areas, we will improve the entire system.

In contrast, the systems approach to improvement can be described by paraphrasing

Traditional approach to improvement: "Every little bit helps."

Systems approach to improvement uses leverage to maximize effectiveness.

Archimedes: “If I can find the leverage point, I can move the earth." This approach says that not every local improvement yields an improvement to the system as a whole. Said another way, “not every little bit helps; most changes don’t do a thing” – unless they improve at the leverage point.

Which approach makes the most sense? Many people have more experience with the traditional, “additive” approach. As a result, they would choose that course because it seems familiar and, well, comfortable. Fewer take the focused, leverage-based “systems” approach. We think that’s a mistake, and here’s why.

The Improvement Conflict

In a struggle to achieve “world class” status through continuous improvement, manufacturers try a variety of tools to improve their competiveness. But there is a wide gap between "try" and "achieve." Many organizations try to improve performance with proven business strategies. Most of the time, the results fall far short of expectations.

The goal for any continuous improvement (CI) program is to consistently create improvements. The CI teams must get results: they must improve. The improvement targets that seem to be closest at hand are often the biggest time sinks in the process – the steps that take the longest or consume the most time. The longest setups, the highest scrap rates, the longest process times, these are tempting targets for “improvement”; after all, "time is money," right?

But the CI teams must not only get results, they have to get meaningful results – that is, improve the things that are important to the business. On the one hand, to show results, they should focus on the biggest time sinks, but to create meaningful results, they shouldn’t always focus on the big time sinks but rather focus on things that are important to the business. So what are the teams to do?

Unless there is an acute quality or safety problem, most CI projects focus on reducing the process time. CI teams are left to decide for themselves where to work. The focusing methods of Lean and Six Sigma guide the project teams to focus on either the time sinks (Lean) or, indirectly, target the high variation processes (Six Sigma).

In the end, CI teams are not systematically deployed to create meaningful business results; rather they “improve the process” in the hopes that a real return will be generated – the traditional approach to improvement.

And how’s that working? Industry Week Magazine surveyed U.S. manufacturers about the improvement methods they were using and the results achieved by those efforts. At the time 70% of the respondents were using Lean strategies and 29% were using Six Sigma. Despite the effort, fewer than 25% of the companies were able to report significant progress towards world class performance.

But what does improvement actually mean? For most businesses, an “improvement” is not really an improvement unless it enhances the bottom line either now, or sometime in the foreseeable future. Just because you reduce waste doesn’t mean that you’re more profitable. The improvement program must demonstrate measurable, financially justifiable results.

Clearly, the traditional approach to continuous improvement is not working. We hope this report provides you with a new and improved, actionable strategy that will create an effective model for continuously improving production processes, ensuring both immediate success and long-term growth.

And that leads us to a superior solution.

The Superior Solution

A Need for Speed

Let's recap the traditional causes of catastrophic meltdowns in the production process:

- The process is not in alignment with global organizational goals or strategy; we work on the wrong things
- Improvement projects are not geared towards the bottom line (phantom cost savings)
- There is a lack of focus on the leverage point of the business
- The CI teams emphasize tool adoption, not business results
- No clear leadership of the CI process; continuous improvement is not linked to the leadership – it's something additive, not integrated
- Often, there is no structure to reinforce improvements or manage the improvement process
- Accountability for sustained improvements is not clear
- Teams are "self-directed" without a systemic purpose or goal

Now, let us show you how the RABIT process addresses these entrenched problems and solves them in a very short time.

A Need for Speed

"Most success depends on colleagues, on the team."

Frank Lampl, former chairman,
Bovis Construction Group

When systemic problems remain unaddressed on the production floor, every deadline is in constant jeopardy. And each failure to deliver in time costs the business money, along with client satisfaction, reputation, and repeat customers.

When product delivery due dates are falling like dominoes and problems are multiplying exponentially, you need a RABIT. By their very definition, RABITs are fast. RABIT is an acronym for

Rapid Analysis and Bottleneck Improvement Team

The need to have an immediate impact on production due dates and productivity led us to develop the RABIT process. It uses a proven, built-from-within "focused team" approach to make a significant impact on production processes and deliver results in a very short time.

The RABIT approach identifies process bottlenecks and implements a strategy that relieves them quickly – usually within a matter of weeks.

It works!

What People Are Saying about RABIT

"In the past, metrics were buried in the computer. Now they are out in the open and we use them to address small problems before they become big ones."

First Level Manager

"We added a whole shift of work without hiring workers or adding machines."

First Level Manager

The Best Time for a RABIT

The RABIT process focuses on quickly creating a better bottom line for manufacturers. Companies that use RABIT to achieve manufacturing process improvements create teams that are more effective in their work. This allows improvement projects to multiply more quickly (like real rabbits) and business revenue to increase (like crazy).

RABIT teams are deployed within a company when there is a significant, chronic problem where a team, department, or work center is unable to meet manufacturing goals and consistently fails to deliver products on time (and within the budgeted effort). Departments in trouble can be identified by:

- Poor on-time performance
- Long production lead-times
- High work-in-progress and/or raw and finished goods inventory
- High/consistent overtime
- Excessive expediting and rescheduling
- Bottlenecks (wandering and stationary)
- Inability to take on new business

The RABIT process is a product of years of practical experience in continuous improvement and working in manufacturing organizations. As a result, it consistently delivers dramatic increases in process output to nip problems in the bud – so much so that we can confidently promise 20% more output in two months.

RABIT in Action

"It is always easier to talk about change than to make it."

Alvin Toffler, Author, "Future Shock"

RABIT People, Process, & Priorities

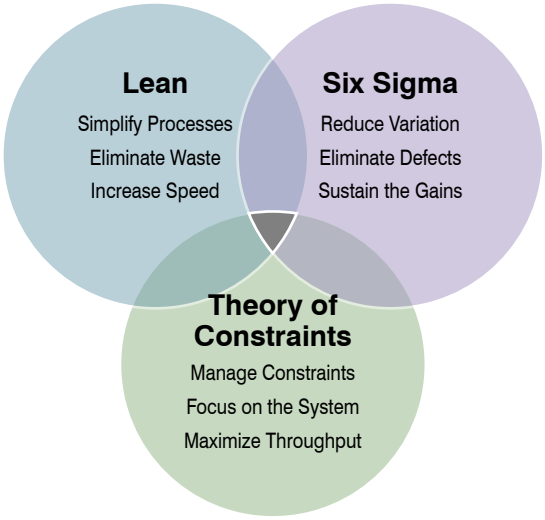
A RABIT team is composed of a cross-functional group of knowledgeable, experienced company employees who learn, understand, and implement the process. It is always an "in-house" activity. Their efforts can target a single functional area or work group. Working under the guidance of a facilitator, the team implements and sustains the processes.

The RABIT event can be thought of as a type of quick response project, a Kaizen event, or tiger team, in that it is a short-term intervention to create a result quickly. However, that's where the similarity ends. RABIT approaches change in an organization in a completely different way, using a singular focus: an increase in output with existing resources.

What are the specific characteristics of a RABIT?

- Rapid implementation of high impact initiatives aimed at system level results
- Realizing that not all waste is created equal, RABIT reduces wastes that matter most
- Structured improvement process
- Theory of Constraints (ToC) methodology focuses implementation of Lean and Six Sigma
- Emphasis on three opportunities:
  - Proactive Scheduling
  - Standardized Work
  - Performance Management
- Results in less than two months

RABIT integrates several improvement methodologies, rather than utilizing a single-theory approach. A combination of the highest impact techniques and strategies from the Theory of Constraints (ToC), Lean Manufacturing, and Six Sigma, RABIT creates a synergistic effect that produces dramatic results very quickly. Strategic implementation of just a few key aspects of each methodology provides the-whole-is-greater-than-the-sum-of-the-parts results, illustrated in the graph-ic below by the peerless "diamond" at center:



The first step of RABIT's integrated framework is to identify the current constraint(s) that block the improvement of process output. One of the most critical areas of emphasis is separating the work that matters most to the customer from the rest of the activity that occurs in the process. Any activity that does not contribute to customer value is deemed to be waste. Since all waste is not created equal, it is crucial, in order to create results rapidly, to identify and eliminate the wasted activities that affect output and deliveries the most.

The second and third steps follow the spirit of ToC by exploiting the capacity of the constraint. The immediate effect of these steps is to improve the performance of the bottleneck, reducing or eliminating work backlog. However, it is the long-term effect that is the most dramatic. RABIT produces a paradigm shift in team behavior: a permanent change for the better that propels the team towards continuing improved productivity.

At the end of a RABIT Implementation:

- Process improvements and behavior changes are completed and sustained
- A performance measurement system is in place that tracks results over time and provides immediate feedback to workers and managers
- A process output and productivity improvement of at least 20% is achieved

Run, RABIT, Run

The best way to illustrate the power of the RABIT process and to demonstrate the kind of positive effects it can bring to your process is by sharing one of our case histories. Client X approached us with several ongoing challenges including cost increases, a decrease in profits, and unmet delivery timetables. Employee overtime was routine and at times mandatory. One department was consistently identified as a major problem area. Its complex system was a real bottleneck. Customers were constantly calling the team leadership and sending emails to request "hot parts."

The production department had been working excessive overtime, including Sundays, for over a year. They had made some efforts to increase capacity with the existing staffing levels, but nothing seemed to help. They couldn't simply hire more people; neither the money nor the people were there. Besides, they felt their costs were already too high. Adding more people would have simply aggravated the situation.

There was always an extensive backlog of work waiting to be processed. In addition, waves of demand could double the work required from the troughs to the peaks. Each time they thought there was a light at the end of the tunnel, their optimism was quickly extinguished. Production always fell short of the customer demand, pushing them further and further behind.

The team leader had no way to track performance of his people, and more importantly, the team did not have a clear goal. Every day, they would be criticized for not satisfying the customers' demand.

To make it worse, the behind-schedule condition and constant expediting gave them no real chance of solving these problems because everyone was focused on putting out fires. They didn't know what to do. It was a "perfect storm" of production chaos.

Something had to be done, and fast, without making the problem worse. Something that would generate significant results immediately. This was the necessity that served as the "mother" of the invention of RABIT. Its focus was to identify and fix the core problems that prevented them from meeting customer demand on a normal work schedule.

Here are the three steps that led to a decline in shortages to the customer, decreased overtime, and most importantly, increased profitability for the company among other improvements.

Forming a Purposeful Team

Before we could answer the question, "What should we change?" we answered the question, "Who should be on the team?" The team needed to include four people:

- An operator who knew the process
- A manager who owned the process
- A capacity planner to reconcile the demand to capacity
- A facilitator

We also identified several people with specialized skills that would be temporarily involved in the process, but the four people listed above were the core members driving the improvements.

Next, we had to create a sense of urgency to change. A kick-off meeting with the entire department was held, with the senior process leader (Director) speaking. He informed the operators in the area of their current situation, explained to them the importance of this project, and his expectation for effort and results.

As the team was forming, we conducted a preliminary analysis. Its purpose was to guide the team's analysis. We looked at three areas:

- Planning the work through proactive scheduling
- Standardized work
- Performance management

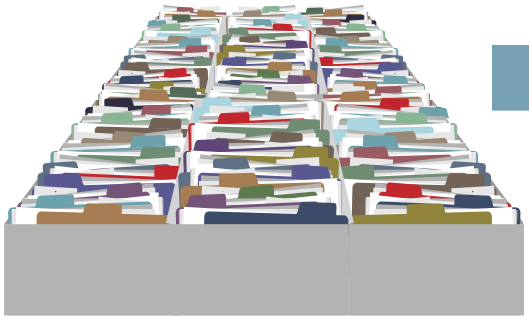
These three areas formed the backbone of the team's activities, providing structure and direction. Let's look at each in detail.

Proactive Scheduling

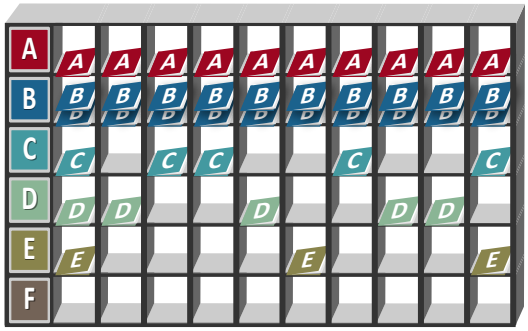
The company was experiencing spikes in demand that would take the entire department on a wild rollercoaster ride of demand from over-loads to under-loads. In order to level the schedule and stay synchronized with the demand, the Capacity Planner split some of the orders and pulled them ahead in the schedule. This staggered the demand, filling in the "valleys" and lowering the "peaks," to provide the department with a steady workflow.

The team also had difficulties allocating production to the various types of machines in the department. The parts were just launched to the shop without considering the impact on the load of the various types of equipment. This pushed the work to whatever machine happened to be available, compelling operators to do more set-ups, thus losing valuable production capacity.

During the RABIT process, the team was able to move certain types of work to dedicated machines by part type. This significantly reduced their setups, resulting in increased output for the department as a whole.



Before RABIT: incoming order storage disorganized



After RABIT: heijunka box leveled schedule and provided visibility

Standard Work

The first step was to define acceptable performance. Some reorientation in thinking about "value-adding" and "non-value-adding" activities took place. The team quickly came to the conclusion that at the core of the department, the most important value-adding work could be expressed as "chip cutting." Value was added when the machine was "cutting chips." Although necessary, set-ups and other non-chip-cutting activities did not add value to the customer.

That became our focus: to increase the amount of cutting time. The team then set to work to remove all non-value-added activity from the operators' processes. They looked at all facets of the work, from obtaining raw materials to walking to the printer for paperwork.

The team realized that a work standard was a necessary condition to creating the results they wanted. Each worker had developed his or her own method to do a job that would have required a routine set of tasks to complete. There were seventeen operators with seventeen different ways of working, resulting in a wide variation of task completion time.

To create a standard for performance, the RABIT Team Facilitator studied the process and challenged the operators to verbalize the absolute requirements to complete their jobs. The goal was to create a set of step-by-step instructions for everyone to follow. Implementation followed on the spot. After several drafts, a standard work document was finalized. This led to an immediate increase in team output with no sacrifice of quality.

To manage the process, the team also prepared standard work for the first-level manager. This gave him the ability to do regular process audits and identify deviations from the standard. It ensured that the team was performing the work consistently, and gave him a way to track individual operator progress.

Then the team got down to work and it was time to move to the third phase.

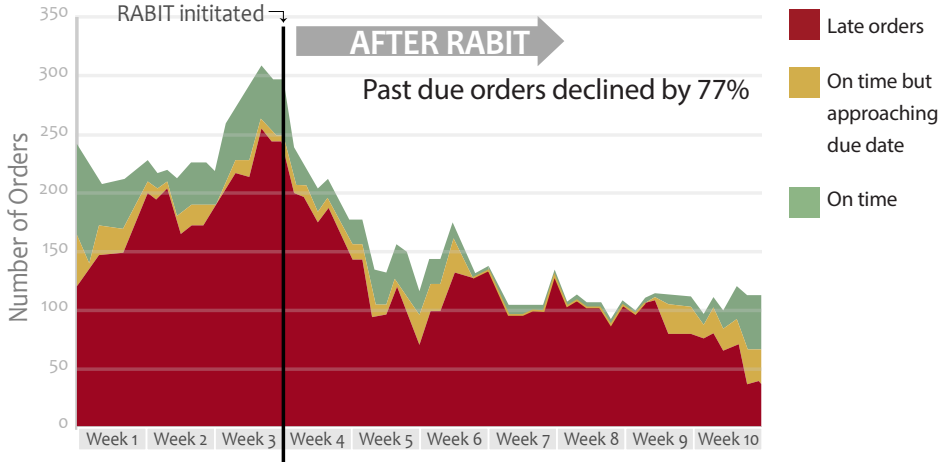
Performance Management

Performance Management was the most crucial element of the entire project. When the project began, there was a wide variance in the output of each operator; they simply didn't know what the customer needed, and the operator did not understand his contribution to customer satisfaction (or, in the initial case, dissatisfaction). The team was able to put together a pacer board for the operators. Horizontal lines showed each operator how they were doing throughout the day in comparison to the goal. A vertical line illustrated the daily goal for all three shifts. Each operator now knew how he was doing, and managers could lend assistance to those not meeting the instant target. We trained managers to always ask "How can I help you?" as they approached an underperforming operator, rather than accusing the operator of being behind.

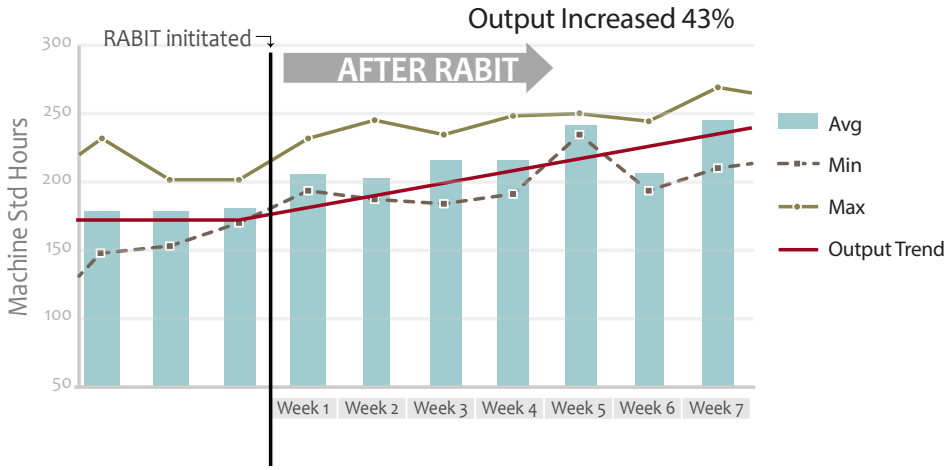
These goals were set to be challenging, yet attainable, and operators were held accountable to achieve them. Most importantly, Performance Management provided the operators a target and gave them a reason to work at a steady rate. The difference was night and day. Operators' spirits were immediately lifted, and for the first time in a long time, they had something of which to be proud. As the Team Lead described the change: "It's like a horse race and everyone wants to be a lead horse."

And then came the results...

Big Results in Three Weeks



Injecting new ways of thinking in the three areas of proactive scheduling, standardized work, and performance management produced an exceptional outcome for our client. The RABIT team was able to deliver a 27% improvement in performance in a matter of three weeks, and more importantly, increased the visibility of the metrics which allowed sustainability of these improvements.



- Department shortages dropped from a high of 214 per day to a near zero steady state, resulting in a savings of $2.8 million per year in overtime spending to "catch up" when the parts arrived.

- The improved schedule led to a decrease of one full day's worth of inventory at each machine. This generated one-time savings of $35,000 for the company.

- Finally, overtime was reduced by more than 80%.

The reduction in operating expense from overtime alone was $504,000 per year, dropping straight to the bottom line.

What People Are Saying about RABIT

> ***"Our area has worked overtime for years, normally with 20 operators on Saturday and 20 on Sunday. Now, we only work two to three on Saturday!"***
>
> First Level Manager

Put RABIT to Work for YOUR Business

At Pinnacle Americas, we have a proven record of creating positive results that matter to manufacturing shareholders and managers. Everything we do is focused on making tangible, permanent changes that produce those results.

Most improvement projects change things; few achieve outstanding outcomes. That's why we're so proud to report that the RABIT process consistently creates outstanding results. We've seen it happen again and again. The changes we effect don't interrupt your business; they enhance it. Each phase of improvement is seamlessly integrated into the project, assuring minimal disruption.

The RABIT process, a product of years of practical experience in process enhancement, consistently produces dramatic increases in process output – so much so that we can confidently promise that you'll get 20% more output in two months.

The Bottom Line

Using the RABIT approach, we improve consistency of results and improve manufactur-ing productivity... guaranteed. And unlike most consultants, we're willing to base our compensation on the results we achieve.

Our philosophy is to impart the knowledge, implement the solution, then follow through with hands-on, personal coaching for you and your team. And if you are anything less than completely satisfied with RABIT or our performance, then you need only pay us what you think the work was worth.

It's the ultimate in "risk management."

Free Consultation

No two companies are alike which is why we prides ourselves on providing customized solutions that are tailored to the specific need of each client, particularly those in manufacturing. And we'd like to take this opportunity to invite you to contact us so that we can get to know you better and explore ways that RABIT can be deployed for your company.

The consultation is free and, of course, you are under no obligation to engage our services. But we truly believe once you begin to see how you will be able to realize great profitability through improved operations, you'll be as excited as we are to put RABIT to work for you.

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