the guide to successful
Factory Maintenance
Is outsourcing right for you?
Be honest…do you view maintenance as a necessary evil? Do you believe it’s an uncontrollable cost? If so, you could be missing an important productivity opportunity. According to Computerized Maintenance Management Services by Terry Wireman, most internal maintenance groups are only 33% productive.

The key factor is whether maintenance is one of your core competencies. Remember, evaluating your core competencies doesn’t mean assessing what you do well and what you do poorly. A discussion of core competencies should pinpoint activities you must do yourself if you are going to gain a competitive edge in your market.

Is maintenance one of your core competencies? (Does it differentiate your company’s products and entice customers to buy?) This analysis can be tricky—there may be core competencies you perform poorly or non-core competencies you perform well. To help determine whether maintenance is one of your core competencies, ask yourself the following six questions.

1. Do you lack the time, resources, and experience to develop an advanced factory maintenance program?
2. Do you find it difficult to recruit, train, and retain technically competent maintenance personnel?
3. Do you effectively analyze maintenance problems, determine their root causes, and drive continuous improvement?
4. Do you analyze repairs, procurement, management, ownership, warranty administration, and total-cost-to-own issues?
5. Do you have the required spare parts when you need them, while maintaining minimum inventory levels?
6. Do you stay a step ahead of technology demands?

If you answered "no" to two or more of these questions, then maintenance is probably not one of your core competencies, and outsourcing all or part of your maintenance may add value to your business.
Maintenance personnel get called many names around a plant—"fix-it guys, fire-fighters, technical wizards" (to name a few flattering ones) — but they aren’t often described as strategic partners. This is changing as more and more top executives insist on a workable maintenance strategy, aligned with overall corporate strategy. Vague objectives, such as "we will increase effectiveness of the maintenance department," are no good unless accurate and realistic measures are paired up with achievable improvement goals.

*The Guide to Successful Outsourced Factory Maintenance* focuses on two key elements of maintenance: the importance of maintenance to support effective production, and the evaluation of outsourcing’s role in maintenance. This guide helps answer the question “Will outsourcing work for my plant?”
Will outsourcing maintenance work in my plant?

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How Does Maintenance Fit In to a Changing World?

To stay current in our ever-changing environment, manufacturers have implemented integrated supply management and other scheduling tools to manage materials purchases.

Today we are even more sophisticated with quality initiatives like just-in-time manufacturing and LEAN concepts. We’ve seen the Toyota production model come to fruition, and CELL technologies continue to improve productivity and return on investment.

Proactive maintenance combined with supply chain management, and Lean or TPM manufacturing concepts give companies better asset utilization, improved productivity, reduced costs, and improved profits.

What’s key to making sure all those methods work as promised? Maintenance is a critical variable in the equation. But many companies, even the elite Fortune 100, are approaching maintenance the same way they did in the 80s and 90s.

As technology accelerates, companies must have the right technical staff, maintenance processes and systems, test equipment and parts in order to maximize equipment production.

“What it all comes down to is that nothing happens in a plant unless the machinery is working.” (ATS customer)

The challenge factory management faces today is how to transform maintenance from the reactive mode it has taken in the past, to a proactive, data-driven model that can enhance today’s cutting-edge quality initiatives.
To consistently produce a quality product, on time and within budget, you must be able to bring best-in-class solutions to each of the following maintenance challenges:

1. **People**
   
   It’s no secret there’s a shallow pool of skilled maintenance technicians and many are nearing retirement. Most apprentice programs have been shuttled and training programs curtailed, so the shortage of maintenance technicians is nearing critical proportions. Finding, training and retaining skilled maintenance people is one of the top challenges facing maintenance organizations today.

2. **Maintenance leadership**
   
   You must have leadership that can plan, both strategically and tactically to create an environment of change not commonly found in most maintenance teams. Maintenance leadership must be able to convince the team that they need to think and work differently than they have in the past. Maintenance needs leadership that is driven by results, not activity. Where will this leadership come from?

3. **Procurement and management of maintenance supplies**
   
   Most manufacturing companies view spare parts as very expensive, difficult to manage, and usually way out of control. Maintenance supplies constitute up to 60% of maintenance spending, but most plants don’t have effective plans to reduce the cost and number of inventory parts.

4. **Tools and technology**
   
   Effective maintenance has changed significantly in recent years, due to rapidly changing technology. There’s a far greater emphasis on predicting and forecasting maintenance needs, and no plant can perform effective maintenance without a Computerized Maintenance Management System (CMMMS). If you don’t measure it, you can’t improve it. It’s that simple. With the remote monitoring capabilities of today’s controls, catastrophic failure can be a thing of the past.

5. **Processes**
   
   85% of all problems are process related and 15% are people related, so why do we focus 85% of our efforts on people improvement and 15% of our efforts on process improvement? Maintenance people, despite traditional stereotypes, are hard workers who really care about doing a great job. Maintenance organizations fail, not because of people, but because those people lack the systems, methodologies, and disciplines to be successful. Activity without effective processes will not work.

6. **Cost**
   
   How does a maintenance organization effectively address all of the challenges of maintenance in a cost-effective way? By demonstrating a measurable return on investment and showing how it reduces machine downtime, reduces overtime needed to hit production schedules, improves on-time delivery and improves the quality of the product. But how does maintenance quantify their role in achieving those savings?

With all these maintenance challenges—downtime, overtime, and delivery time—how can a manager stay on top of all of these areas and develop new initiatives at the same time?
Maintenance is critical, so why would you even consider outsourcing it?

Manufacturers have invested billions of dollars to become "low-cost producers." These initiatives flowed from executive offices all the way down to the front lines and have produced great results. *Industry Week*’s “2003 Census of Manufacturers” shows that the majority of world-class plants have successfully implemented strategies such as lean manufacturing. But maintenance has not yet been recognized as a contributor to the initiatives. Therefore, few companies have invested in maintenance. What more and more factories are realizing is that they can’t sustain successful production lines, be they lean or 6Sigma, without great maintenance.

Effective maintenance is key to the success of any lean manufacturer, but predictive and preventive maintenance must be utilized in order to address sophisticated delivery requirements. But for many plants, internal factors work against them in making critical improvements to their maintenance programs. Outsourcing factory maintenance sidesteps internal barriers, to ensure that the right equipment is working, at the right time, to produce the right results.

Outsourcing is especially viable when company resources must be dedicated to what differentiates the company’s success—its core competencies. If activities aren’t core, they’re likely candidates for outsourcing. And while maintenance is critical, it may not be core.

How do you know if maintenance is a core competency?

Why do customers buy your product? What makes it different from the competitors? For most companies, functions like manufacturing, engineering, distribution, and customer service answer these questions—these are your true core competencies. Other activities, such as payroll, accounts receivable, human resources, janitorial services, and security generally don’t make the list. Today, production equipment maintenance is often being added to that list of non-core competencies.

But usually maintenance is excluded, and when equipment is poorly maintained, it’s hard to produce quality parts in the correct volume, according to the customer’s schedule.

Outsourcing has emerged from a dirty word, spoken only in the privacy of corporate boardrooms, to a dynamic management tool for reducing costs and improving productivity.
The Top 7 Myths of Outsourced Maintenance

Myth #1
Production equipment maintenance is too important to outsource. It must be performed internally.

Fact
Of course, it's important. If critical machines can't produce product, business suffers. And this is the very reason outsourcing makes sense. "Important" no longer means "doing it internally." You can't accomplish every important activity internally. Resources are insufficient in today's streamlined organizations.

If maintenance isn't getting enough attention to sustain best practices, and it's recognized as being extremely important, then outsourcing must be considered.

Myth #2
Outsourcing maintenance is admitting failure.

Fact
Traditionally, outsourcing has been a "reactive" response to performance failure. But in recent years, plants have learned through experience that outsourcing is a valuable tool to increase productivity and efficiency.

Not only is outsourcing maintenance NOT admitting failure, it is embracing the concept that if you hire the best people and surround yourself with the latest technology, you are actually avoiding failure.
"...the outsourcing decision wasn’t based on people failures, but on a system that couldn’t produce successful maintenance."

**Myth #3**
*Employees feel abandoned when maintenance is outsourced.*

**Fact**
They don’t feel abandoned by their employer, nor do they feel betrayed. Maintenance people generally enjoy working for a maintenance company far more than working for a manufacturing company. The maintenance company understands their issues, and gives them career paths other than maintenance supervision. They invest in training and other skill-improvement benefits. Strange as it may seem, if the culture of a company is to do what’s best for employees, outsourcing can be a great tool to convey that message.

After almost 20 years of experience, we’ve noticed a trend in the reaction of in-house maintenance groups’ to outsourcing. After the initial shock fades, they ask why management didn’t do it earlier.

**Myth #4**
*Control of maintenance is lost if it is outsourced.*

**Fact**
You get greater overall control when you outsource maintenance. It’s important to define the term "control." Does control mean dictating what maintenance does every day and how they must do it? Or does it mean making sure critical machines have top priority? Ultimately control can be defined in terms of activities and results. If you aren’t achieving maintenance objectives, do you really have control? It’s absolutely true that some direct control of maintenance tasks is lost; however, control of maintenance results is significantly improved.

Without data, results can’t be driven proactively. A third party must present performance metrics to justify their contract and demonstrate continuous improvement. Data allows fact-based decisions about root-cause problems, machines that require excessive maintenance dollars and when to upgrade or replace an asset.
Myth #5
If outsourcing maintenance is unsuccessful, all our internal knowledge will be gone. It will be difficult to re-establish our internal maintenance organization.

Fact
When assuming responsibility for maintenance in a plant, most companies utilize existing staff. The reason is three-fold. First, although a third party probably has broad expertise in a variety of manufacturing processes, specific equipment knowledge resides with the current workforce. Second, using the current workforce soothes uneasiness associated with outsourcing. If there are no mass layoffs, the entire workforce feels better. Third, using the current workforce demonstrates the outsourcing decision wasn’t based on people failures, but on a system that couldn’t produce successful maintenance.

Myth #6
Maintenance can be improved faster and better by using internal resources.

Fact
Most organizations believe they can solve their issues by hiring more or better people, whether it’s better technical staff or maintenance supervision. But the focus has to be on the entire maintenance process. It’s scary to think about addressing all of the challenges, but you can’t address only one or two of them and let the others go because they are all so intertwined. For example, if you solve the people challenge and have poor leadership, maintenance will not be successful. If you have great people and leadership, but parts and inventory challenges aren’t addressed, maintenance will fail. All of the challenges must be addressed simultaneously for improved maintenance.

Most manufacturing plants simply can’t address these challenges well enough using only internal resources. Since maintenance is usually non-core, gaining access to required people and financial resources is difficult. The surest way to address these challenges is to gain access to experts who already have the broad knowledge of maintenance best practices. The experts can address all the challenges quickly and cost-effectively. That’s their core competency!

“If you have great people and leadership, but parts and inventory challenges aren’t addressed, maintenance will fail.”
Myth #7
Outsourcing maintenance will significantly increase my costs.

Fact
Good maintenance reduces a plant’s total cost to produce. Effective maintenance always:

- Reduces machine downtime.
- Reduces unplanned downtime.
- Increases the useful life of manufacturing assets.
- Reduces requirements for redundant assets.
- Improves employee and customer satisfaction.
- Reduces scrap and waste.
- Positively impacts safety and lost time.

In time, maintenance costs decrease because proactive maintenance is much less expensive than reactive maintenance. The question is: are plants willing to make an initial investment to garner the long-term cost savings associated with outsourced maintenance?

The cost savings will far exceed the initial investment. Unfortunately, maintenance departments are too often measured by how much they spend instead of their effectiveness in achieving cost savings.
Deciding to Outsource

Once you decide to work with an outsourced partner, use the tips outlined in this guide to ensure a proper fit. Be sure the partner keeps up with technology and utilizes maintenance best practices, including leadership, planned maintenance, preventive/predictive maintenance, reliability improvement, and material management.

Consider these ten keys to successful outsourcing:

(Outsourcing Institute’s Buyer’s Guide)

1. Set reasonable and obtainable expectations.
2. Understand objectives, both strategic and tactical.
3. Calculate the true costs of the functions and processes to be outsourced.
4. Carefully qualify and evaluate service providers.
5. Communicate often with internal staff regarding objectives and intentions.
6. Develop measurable and achievable service levels and a process for adjusting them.
7. Define performance metrics and reporting.
8. Craft a contract flexible enough to reflect and incorporate changes in requirements, services, and prices, yet explicit enough to lay out the framework, terms, and conditions to manage the relationships.
9. Establish a format and empowered contract-management function and team, and recognize that a long-term relationship requires constant communication and management.
10. Use a competitive bidding process.
Reaping the Rewards

Improved Management Focus
During times of economic downturn, plant managers deal with one fire after another. Everything is an emergency, and there’s little margin for error.

Management must keep a tight grip on the rudder and make sure everything runs according to plan…but there’s only so much time in the day, and attention must be focused on core activities. With equipment maintenance (which is generally considered non-core) in the hands of professionals, management can apply necessary resources to other hot spots in the organization.

Minimized Risks
Because staff is often reduced in production and support areas; because spare parts inventories are at bone-bones, since replenishment purchasing has been slowed or stopped; and because even the rudimentary preventive maintenance tasks are scaled back to "machine down" situations, the risks associated with machine failure are great.

Morale risk can also be minimized. There’s a considerable amount of personal stress and cultural upheaval with schedule cutbacks and staff reductions. Of course, the decision to outsource during tough times instead of making appropriate changes. Experience shows it’s far easier to get through emotional change if you make all changes at one time rather than in stages. Tensions are dealt with up front so the plant can move on to the business of making money.

Ability to Overcome Internal Resource Limitations
Staff cuts slice into muscle, especially hurting smaller facilities, where knowledge and machine history are restricted to the combined experience of the current staff. For plants of any size, keeping senior level staff during slow economic times can be quite costly.

Tapping into a professional maintenance organization alleviates the dependency on limited internal resources, providing "big plant" experience, procedures and reporting capabilities without the high costs associated with that level of expertise.

Preparation for Recovery
When business rebounds, plants need effective maintenance systems in place. Without them, maintenance will be woefully inadequate to handle the demands of increased production. Prepared plants gain market share on the upswing.

The Benefits of Outsourcing
Outsourcing the maintenance on your production equipment can:

**Improve your maintenance organization quickly.**
because all maintenance challenges can be addressed simultaneously.

**Result in better service from your maintenance team.**

**Focus limited management time on core business issues.**
You may give up some short-term control of maintenance tasks, but you will gain greater control of maintenance results.

**Grant you immediate access to the most advanced maintenance technologies available in the world.**

**Allow your maintenance team learn from people who eat, drink, and sleep maintenance.**
Your team gains exposure to maintenance professionals who possess significant experience in transforming weak maintenance teams into high performance groups. The opportunity for personal and career growth is significantly enhanced as the outsourcing company assimilates your maintenance team into their organization.

Not only are the benefits of outsourcing maintenance realized during good times, many other benefits become apparent during economic slowdowns:

**Reduce Production Costs, Maintain Efficiencies**
When demand dwindles, the usual response is to cut people and costs wherever possible, and try to ride out the storm. Minimizing costs is the smart approach, but not when operations are continued the same way. This misses big dollar savings opportunities...like stepping over dollars to pick up pennies. Just reducing staff won’t make the situation better.

When maintenance is performing well, costs are reduced and overtime (production and maintenance) goes down because machines are available and running when needed.

With effective maintenance in place, production can be accomplished in 1 or 2 shifts, rather than 3. Or perhaps goals can be met in 4 days rather than 5 or 6. Less finished goods inventory is required to meet shipping demands.
Contracting versus Outsourcing

When evaluating the nature of your outsourcing alliance, consider the differences between contracting and outsourcing to be sure you’re generating maximum return.

A contractor is hired to provide "bodies and tools" and emergency maintenance, often on a time-and-materials basis. They provide the same maintenance, in the same way, and nothing in the process changes significantly.

An outsourcing partnership establishes a total maintenance system, including performance measurements, preventative maintenance planning, incorporation of new maintenance technologies, parts repair and exchange services, Computerized Maintenance Management System (CMMS), continuous process improvement plans, and a quality improvement culture. Outsourcing maintenance to a third-party expert provides maintenance differently than an internal maintenance group, in order to achieve a different result.
How can ATS help your factory run better?

The leader in outsourced maintenance for manufacturers, ATS solves complex industrial problems for many of the world’s most respected organizations. Because of our proven ability to devise solutions that solve our customers’ conventional manufacturing problems, ATS significantly improves quality, increases productivity and reduces downtime. We employ more than 800 employees at ATS and customer locations throughout the United States, with regional offices in Detroit, Michigan, Peoria, Illinois and Greenville, South Carolina.

In fact, ATS is the only company that delivers such a complete combination of factory maintenance, industrial parts repair, and legacy product support services. We can package products to satisfy specific client needs, and then provide continuous improvement as time goes forward. That’s different from traditional maintenance service companies. And that’s why we stand out in a crowded marketplace.
**Four Walls Maintenance**

ATS’ comprehensive Four Walls Maintenance® services encompass all the elements of factory maintenance. We provide management expertise, trained technical teams and proven solutions to prevent equipment failures. ATS focuses on quality to extend the life of your capital investments, improve your machine availability and reduce your costs.

Through our Four Walls Maintenance® solution, ATS serves as a "change agent" to help maintenance transition from traditional reactive practices to a more proactive approach. We will transform your factory maintenance from a costly "necessary evil" into a positive contributor to manufacturing and operations productivity.

**Calibration**

ATS verifies measurement and test equipment both onsite for clients and in our ISO-17025-accredited calibration labs. In some cases, we manage customer Calibration Labs; we also provide calibration as an integral part of line production. For example, an automobile manufacturer must torque down bolts on the head of an engine. These bolts have to be torqued to a certain measurement every single time – the same on every car.

The manufacturer is required to meet strict specifications, and then to certify that every single bolt is torqued at the right level. ATS has a program that not only manages the torque tools, but also provides for regular inspection. If a tool is out of certification, we immediately repair it (usually overnight), so the client doesn’t experience a service interruption and doesn’t have to buy a second tool or have a large inventory of spare parts. We help clients manage assets, meet certifications and have a good quality product as it goes down the assembly line.

**Repairable Parts Management (RPM)**

RPM provides the process and staffing to track and manage all electrical and mechanical parts repair and stocking for a manufacturing plant. Within RPM, we also offer reductions of assets for clients who are trying to reduce inventories and better utilize spare parts. By itself, this process creates productivity results, but even more improvement can be seen when it’s packaged with other ATS products.

**Legacy Product Support**

What if you can no longer get replacement parts or service on a piece of equipment? ATS provides a wide variety of legacy products and support, along with a world-class Customer Service Center and we’re usually able to extend the life of a product by 5-10 years. These are just a few examples of innovative solutions driven by customer need.

We’d love to meet with you to help alleviate your maintenance challenges. To learn more, please contact our customer service center at 800.328.7287 or e-mail info@AdvancedTech.com.
Additional Resources

ATS has a library of other documents that may help you, including:

*Best Practices in Factory Maintenance Outsourcing: A Plan for Success*

*Conquering the Fear of the Unknown: Preparing Your Maintenance Staff for Outsourcing Business-Based Maintenance*

ATS provides expert speakers and interview sources for factory maintenance-based articles and publications.

We also have factory maintenance case studies available upon request.

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