machinemetrics

THE NO EXCUSE GUIDE TO IIoT

GETTING STARTED WITH DIGITAL TRANSFORMATION

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ARE YOU PREPARED?

THE MANUFACTURING INDUSTRY IS CURRENTLY NAVIGATING SEVERAL ECONOMIC CHALLENGES, INCLUDING A SHORTAGE OF SKILLED LABOR, INCREASING MARKET COMPETITION, AND MAJOR SUPPLY CHAIN DISRUPTIONS.

For manufacturers seeking to alleviate and overcome these challenges, digital transformation driven by Industry 4.0 – often referred to as Industrial IoT – holds significant promise with the availability of solutions that can foster agility, innovation, and continuous improvement.

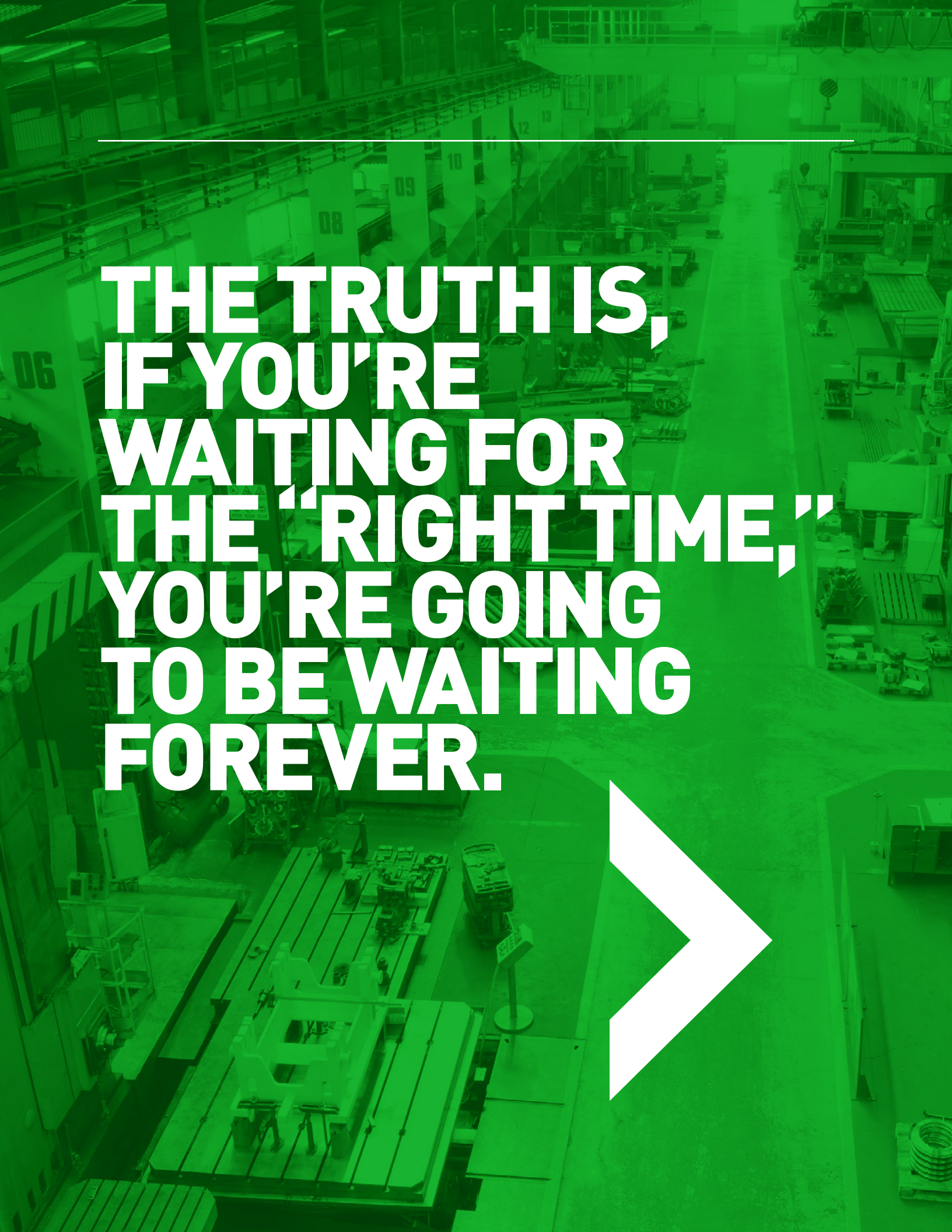
But based on conversations with many manufacturers, a certain degree of reluctance to adopt Industrial IoT continues to persist. Due to the statistically high failure rates among IoT pilots, many manufacturers are wary of pursuing modern technology that they perceive as having a high likelihood of failure. On the flip side of the coin are the many manufacturing leaders who understand technology's transformative potential but simply don't feel they or their organizations are "ready" to digitize.

To make two items clear, it is our opinion that

- **1. TECHNOLOGY IS NOT A SILVER BULLET AND**
- **2. YOU ARE READY TO DIGITIZE YOUR OPERATION.**

In order to achieve success with digital transformation, technology must be driven by a deliberate strategy and supported by people who believe in its potential to drive positive change. To that end, many manufacturers we hear from know they need to make changes to their technology strategy, but in the same breath will say that they are waiting until any number of circumstances settle down to make a move. The truth is, if you're waiting for the "right time," you're going to be waiting forever. As we all know, when one disruption passes, there's usually another one waiting in the wings to take its place.

In this eBook, we will outline many of the common objections that manufacturers cite when contemplating the deployment of Industrial IoT solutions. Our goal is to address these valid concerns and provide guidance that will help you and your team pursue digital transformation with confidence.



THE TRUTH IS, IF YOU'RE WAITING FOR THE "RIGHT TIME," YOU'RE GOING TO BE WAITING FOREVER.

FOUR OBJECTIONS HOLDING YOUR TEAM BACK

THE PACE OF TECHNOLOGY MOVES BOTH BLINDINGLY FAST AND EXCRUCIATINGLY SLOW. HOW IS THIS POSSIBLE?

Leading industrial IoT technology providers recognize the transformational power of solutions capable of capturing machine data, delivering real-time insights, and enabling manufacturers to drive tangible performance improvements. Innovation in this area is increasing at an impressive clip, yet real-world adoption of these solutions is not keeping up.

While the majority of manufacturers feel hope for what these technologies offer, there are many who fear failure. As IoT technology continues to mature and gain market momentum, manufacturers need to better understand where the opportunity lies to ensure their first step on the path to digital transformation is made with confidence.

We're here to identify the valid concerns you may have as well as help both you and your team overcome any hesitancy so that you can start taking action now. Here's to you taking your first step towards optimizing performance with real-time machine data.

REASON #1

WE'RE NOT READY"

THERE ARE A NUMBER OF REASONS WHY MANUFACTURERS DON'T FEEL READY TO PURSUE DIGITAL TRANSFORMATION, INCLUDING LIMITED RESOURCES AND ANTIQUATED TECHNOLOGY THROUGHOUT THE COMPANY.

Meanwhile, their peers are surging ahead in their adoption of Industrial IoT, gaining a valuable competitive edge and increasing the gap between those who innovate – and those who don't.

Often, manufacturers believe that they need to lay extensive groundwork in order to be "digital-ready."

This is a common fallacy that over-complicates the approach to IIoT. It causes manufacturers to hesitate, thinking there is more they must do before they can begin.

In reality, "digital readiness" is not an over-architected technology stack, but more so a state of mind, ensuring that all stakeholders are on the same page about what the goal is and how technology is used to support the goal.

Whether you continue to use clipboards on the shop floor, have 30 year old equipment, or lack technical in-house knowledge, here is your permission: You are ready.

"WE'RE STILL USING CLIPBOARDS ON THE SHOP FLOOR"

Excellent! This means you value data, which is the core purpose of deploying IoT solutions. But, manual data collection methods are holding you back. By capturing machine data autonomously, companies can immediately realize value and eliminate the time-consuming manual tasks that are slowing your shop floor personnel down. Further, this accurate, real-time data provides a strong foundation for the next steps in a continuous improvement journey.

"WE NEED TO UPGRADE OUR MACHINES FIRST"

What's more important than the make, model, or age of your machines? Using them effectively.

Many leaders have little to no insight into their equipment utilization, and as a result, think it's necessary to purchase new or additional machines to deliver the expected throughput.

By deploying a machine monitoring system capable of easily connecting to and capturing data from all types of machines, you'll gain accurate visibility into how effectively machines are running and where hidden capacity exists. Often, utilization is far lower than expected, to the tune of 30% or less. Before spending hundreds of thousands on new equipment, analyze the current utilization of your machines to justify the expense.

"WE'VE HAD TOO MANY FAILED IoT PROJECTS IN THE PAST"

You're not alone. Data from Cisco reveals that up to 75% of IoT implementations fail.

This is often the result of implementations exceeding planned budget, long deployment times, interoperability issues, and IT infrastructure challenges.

Manufacturers need a solution, not a science project. This is why choosing the right technology partner, as well as ensuring that there is a clear measure of value, is so important. With MachineMetrics, you can get to ROI in weeks, while continuing to innovate with more advanced use cases over time.

"WE DON'T HAVE THE TIME, PEOPLE, OR RESOURCES TO MAKE THIS HAPPEN"

Manufacturers are the experts in producing goods, not in building or deploying software. Plug-and-play IoT solutions, like MachineMetrics, offer fast machine connectivity and out-of-the-box features that are easy to deploy and use.

With this type of technology, manufacturers can begin taking action on insights rather than spending time trying to "DIY" a solution that is unlikely to scale.

REASON #2

AN IoT SOLUTION SOUNDS INTERESTING BUT IT'S NOT FOR ME"

FOR DECADES, MANUFACTURERS HAVE RELIED ON LEGACY SOFTWARE SUCH AS ERP, MRP, AND MES, TO MANAGE THEIR OPERATIONS.

These systems have certainly delivered a greater ability to plan and manage production, but over the years, their failure to innovate has resulted in siloed data, a lack of interoperability, and limited visibility into true performance.

As a result, many manufacturing leaders are exhausted and wary of the new slate of Industrial IoT solutions, fearing that they are yet another technology that will fall short of expectations or are simply shiny objects that will divert time and resources. It doesn't help that legacy software companies are now jumping on the bandwagon by offering limited or DIY IoT products that, upon first glance, seem easier to adopt but offer a slew of implementation challenges and functional shortcomings.

In reality, IoT technology is much more than just an upgraded feature that legacy systems can slap onto their systems. Truly transformational Industrial IoT platforms are designed to capture and manage massive amounts of data, providing the essential insights to drive operational performance. IoT solutions are no longer a "nice to have" –they are a necessity for remaining competitive in the digital world we now live in.

Here are some common reasons why manufacturers feel they don't need an Industrial IoT solution:

"WE'RE MEETING CURRENT CUSTOMERS' NEEDS WITH OUR CURRENT UTILIZATION, SO THIS ISN'T NECESSARY FOR US"

While it is critical to meet customers' needs, the importance of a high rate of utilization does not stop there. The reality is that the majority of manufacturers are leaving valuable production capacity on the table, resulting in lower profit margins and an inability to pursue growth opportunities.

Most manufacturers do not have an accurate gauge of production performance, which tends to result in inflated – and misleading – reporting. In fact, most companies average only 28% equipment utilization.

With accurate machine data and real-time production insights captured by Industrial IoT technology, manufacturers can accurately measure utilization and easily pinpoint inefficiencies to reduce waste and unlock hidden capacity. On average, MachineMetrics customers see a 20% increase in efficiency in a matter of months.

"OUR OPERATORS DO A GOOD JOB COLLECTING THE DATA WE NEED TO TRACK AND MEASURE PERFORMANCE"

Not only is manually collected data incredibly time-consuming to collect and compile, but it is far more difficult to analyze and take action on.

Given the workforce shortages currently troubling the manufacturing industry, your operators' time and work satisfaction are at a premium. The manual capture and analysis of performance data steals time and attention away from the areas your operators should be focusing on – quality, safety, and efficiency – that deliver true value to the company.

Wise manufacturing leaders are recognizing the need to move past manual, paper-based systems and have begun to adopt digital solutions that enable both people and systems to make better, faster decisions.

"OUR NEW MACHINES CAME EQUIPPED WITH TECHNOLOGY THAT CAPTURES DATA FOR US"

Many machine tool builders see the value of capturing machine data and are jumping on the IoT bandwagon.

These forays into IoT tend to take the form of equipping their machines with rudimentary monitoring capabilities. Manufacturers that rely on the monitoring solutions installed on their machines will soon find that older, lower-tech equipment is left behind, leaving a gap in visibility. Furthermore, the data that is captured is limited in scope and delivered in a format that does not work well with data from other sources, such as machines from other brands or business systems such as ERP, MES, and CMMS.

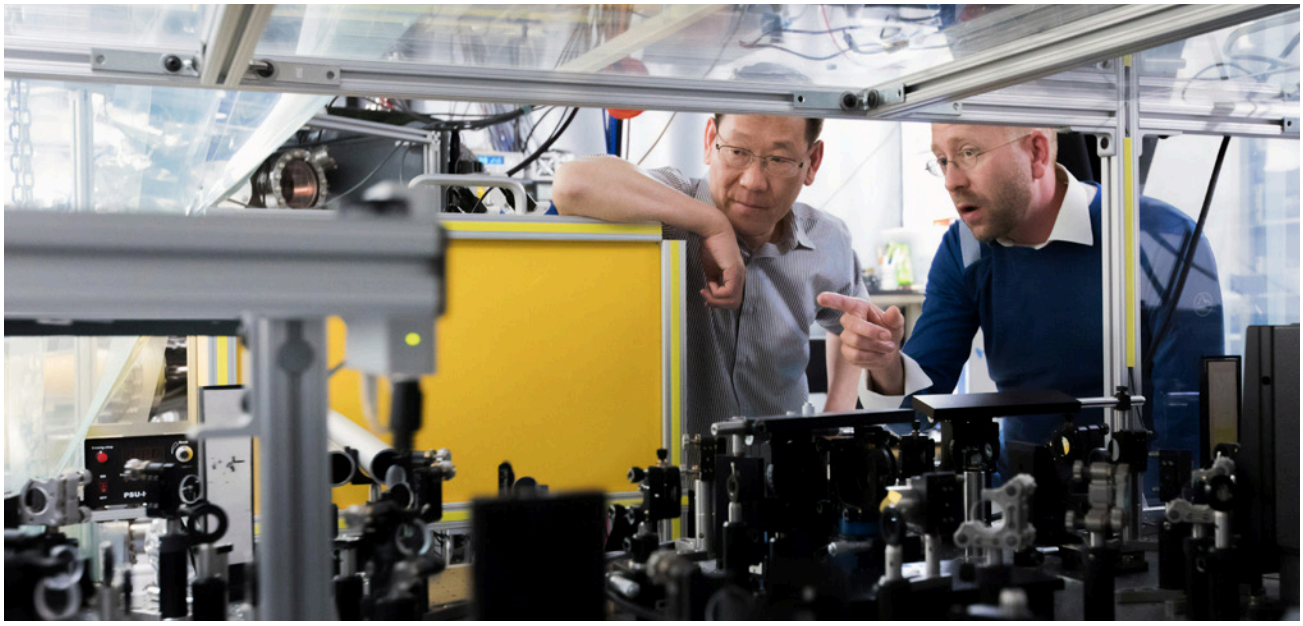
The last thing manufacturers need is more information silos. A solution like MachineMetrics easily connects to machines of all makes and models, translating the captured data into a

universal language that can be easily compiled, analyzed in aggregate, and driven into other business systems.

"WHEN THE TIME IS RIGHT, MY MES PROVIDER SAYS I SHOULD USE ONE OF THEIR SOLUTIONS SO I CAN BE SURE IT INTEGRATES"

Solutions offered by ERP or MES providers are often process-centric and have poor data collection capabilities. Just as an OEM wants you to invest exclusively in their equipment, ERP and MES vendors try to limit customers to select from their own proprietary solutions, citing outside solutions' inability to integrate.

While your ERP or MES system should be a priority, you should never allow it to drive your strategy or stifle your innovation. Industrial IoT platforms like MachineMetrics optimize legacy systems by easily integrating to provide them with the accurate production data necessary to make better, faster decisions. This integration maximizes the value of your existing business systems and enhances ROI without having to resort to a "rip-and-replace" approach.



REASON #3

I'M CONCERNED ABOUT CLOUD AND SAAS SOLUTIONS"

WHEN IT COMES TO THE CLOUD AND SOFTWARE AS A SERVICE (SAAS) APPLICATIONS AND PLATFORMS, MANY COMPANIES WORRY ABOUT SECURITY AND LOSING CONTROL OF THEIR DATA.

Understandably, these concerns stem from the industry's historic reliance on legacy on-premise technology that is sold with perpetual licenses. Manufacturing leaders grew comfortable with this model and, because they were running within servers they could physically see and touch at their own facility, were confident that they had full control of the data collected and felt there was greater security.

At MachineMetrics, we take manufacturers' security fears seriously. These concerns have driven our commitment to develop a platform and delivery model that gives customers peace of mind that their data is in safe hands.

Below, we'll address some of the top concerns that manufacturing leaders have around Cloud technology:

"OUR IT DEPARTMENT IS SKEPTICAL OF THE CLOUD"

This reluctance is likely the result of having spent years building infrastructure, justifying IT budgets, training staff, running cables, and troubleshooting problems. The thought of moving all that data to the Cloud may feel as if they are losing control of it.

In reality, moving to the Cloud frees up IT resources to focus on other areas and ensures IoT solutions can be deployed without manually building and maintaining a solution

"THE CLOUD IS LESS SECURE"

This may have been true in the past, but today the Cloud is far more secure and less vulnerable than an on-premises solution. This is due to economies of scale, as cloud providers can devote significant resources to top-notch security practices that far exceed those of any on-premise or in-house systems.

Further, on-premise solutions are incredibly expensive to implement and maintain which is likely to lead to less comprehensive security measures.

"WE DON'T WANT TO LOSE CONTROL OF OUR DATA"

Data stored in the Cloud is part of an infrastructure that offers superior backup, disaster recovery, and other safety features to ensure the continuity and integrity of your information.

The Cloud also does not control your data. It simply provides a structured, secure, and resource-rich environment to store, move, and access the data. Companies maintain all the control over their information and who has access to it without having to maintain a database.

"SUBSCRIPTION SERVICES ARE MORE EXPENSIVE IN THE LONG RUN"

Many manufacturers balk at the idea of paying yearly or monthly to use software and initially prefer the legacy license-based model that is erroneously viewed as a "one-time" cost.

The reality is that these legacy, on-premise solutions have a steep upfront cost associated with not only the licenses, but expensive system customization, implementation, hardware, IT staff, and training. On top of that, these systems bring ongoing costs to address maintenance, upgrades, server space, and IT resources.

By contrast, SaaS solutions offer a predictable, structured pricing model that is easy to plan around. SaaS offerings require minimal upfront costs that allow manufacturers to get started very quickly. Because there is no infrastructure to maintain or upgrades to manage, manufacturers also avoid the high ongoing costs of on-premise solutions.

REASON #4

"I'M DEALING WITH INTERNAL RESISTANCE"

AS ANY INNOVATOR KNOWS, YOU ARE BOUND TO BE MET WITH SOME LEVEL OF SKEPTICISM WHEN PURSUING NEW IDEAS OR STRATEGIES.

Change can be intimidating and you have likely heard seemingly valid points on why IoT should not be a focus for your team, or at the very least why it's not a focus right now.

If you're reading this report, you likely understand or are beginning to suspect the positive impact that IoT technology can have on a manufacturing organization. Using accurate, real-time production data to guide operational improvement is a powerful prospect, but this concept is not always easy to sell internally.

Below we dive into the most common objections you will hear from your team, and how you can counter them effectively.

"MY LEADERSHIP TEAM DOESN'T SEE A NEED FOR IoT"

When building a case for new technology, it is critical to connect the technology to the specific challenges it solves and how it will deliver measurable results.

Manufacturing leadership teams almost universally place a high level of importance on operational efficiency, productivity, and out-performing the competition.

The reality is that many companies' operations are still managed on gut feel. A lack of visibility and access to data leads to massive inefficiencies that affect every component of a company's operations, from an inability to drive process improvements and difficulty justifying capital expenditures, to unexpected machine failures that cause significant downtime and production losses.

Manufacturing produces the most data of any major industry in the world, yet it has the least amount of digitization. This presents a huge opportunity to the manufacturers who are bold enough to tap into that data.

As we stated earlier, on average, MachineMetrics customers see a 20% increase in manufacturing efficiency within the first month of deployment. That's a number any leadership team will struggle to ignore.

"OUR OPERATORS WILL THINK THEY ARE BEING REPLACED BY TECHNOLOGY"

People tend to fear change, especially when they don't understand how much they stand to gain from it. Many shop floors are bogged down by time-wasting manual work, while a lack of operational visibility and accessibility to data creates barriers between departments.

Industrial IoT solutions like MachineMetrics deliver accurate, real-time insights to all of the users on a shop floor, increasing transparency across the facility and enabling collaboration across teams.

Ultimately, these solutions empower operators to make better, faster decisions and ensure high-quality parts are delivered on time, eliminating the tedious work that inhibits their productivity.

"OUR STAFF ISN'T TECHNICAL ENOUGH TO USE IoT"

Digital transformation should never be a burden on your internal team. Adoption may require a cultural shift, but the right technology will be intuitive and user-friendly, ensuring it is easy to learn.

A solution like MachineMetrics can also make training simpler and more effective. With a system in place to understand operator and equipment performance, managers have a better understanding of where opportunities for improvement exist. They can pinpoint bottlenecks, areas of inefficiency, and see what shifts, jobs, machines, and operators are high performing, and which are not.

This information can be used to develop stronger training material and leverage the successful components of the factory floor to ensure that the less successful components have the tools needed to drive productivity forwards.

Technology that has a low barrier to entry, enables users to learn as they use, and unlocks broader opportunities will quickly win over any hold-outs.

"OUR EMPLOYEES DON'T WANT BIG BROTHER WATCHING"

As MachineMetrics customers say, operational visibility means having insight into the performance of processes, not people. The right solution enables engineers and continuous improvement leaders to develop better processes for operators, rather than simply using it as a tool to micromanage.

Accurate production data leads to visibility, meaning that inefficiencies, waste, and opportunities will finally be brought to the light. This is scary, but with the right mentality, it should feel that IoT solutions are empowering you to make better decisions while holding you to a higher standard of accountability.

Instead of being unsure of the effectiveness of your labor force, operating procedures, or equipment, you will have a real-time pulse on production performance across the board, no matter which level of the operation you work at.

DRIVING DIGITAL TRANSFORMATION TODAY

THIS IS A PIVOTAL POINT IN YOUR COMPANY'S TRAJECTORY. COMMITTING TO DIGITAL TRANSFORMATION IS A MAJOR STEP FORWARD THAT WILL IMPACT NOT ONLY YOUR ORGANIZATION'S PERFORMANCE BUT ALSO ITS CULTURE.

Now that you are armed with logical points to counter common objections, we can discuss both the "why" behind digital transformation and "how" manufacturers can ensure that the Industrial IoT solution they adopt drives value today and acts as a foundation for continuous improvement tomorrow.

FINDING THE SOURCE OF TRUTH

In every organization, there is some form of truth that exists which can be referenced to understand the current status and performance of operations. This could be anything from excel spreadsheets, whiteboards, or management systems, such as an ERP. Part of the problem here is that this data is likely time-delayed, inaccurate, and difficult to operationalize. As a result, organizations are relying on a flawed source of truth to drive crucial decisions.

After all, if all this information is manually collected and locked within Excel spreadsheets, it requires time to compile, standardize, and analyze. And it's likely to be inaccurate.

This is why surfacing accurate data from all components within a factory setting is incredibly important for understanding the actual performance of the plant in order to make effective decisions. Only with real-time, accurate data can continuous improvement leaders, manufacturing engineers, and plant management ensure that the decisions being made are based on fact and not gut instinct or biased data.

In its simplest form, the goal of digital transformations is to surface accurate, reliable data for this purpose. With this information in hand, manufacturers can then begin to operationalize the data for a variety of purposes, which is where value attainment can be realized.

As part of a best-of-breed factory stack, MachineMetrics offers the source of truth for production performance and enables this information to be used across the factory. After all, machines don't lie, so if you are able to capture equipment data across your entire operation, you can unlock key performance data that can be used to improve a variety of functions, including maintenance, production, and quality.

SIMPLE IS BETTER

There are all sorts of legacy software providers, system integrators, and consultants attempting to cash in on the concept of IoT. This tends to lead manufacturers toward complex solutions and a bloated tech stack that holds manufacturers back from actually driving value. It's not uncommon for manufacturers to spend hundreds of thousands of dollars on custom development work and waiting years to realize ROI.

REAL-TIME
MACHINE DATA
IS A CRITICAL
SOURCE OF
ACCURATE,
RELIABLE
PRODUCTION
DATA.

With your digital transformation projects, the objective should be to get to value as soon as possible while ensuring that the solution is scalable. This helps find the middle ground between overly complex, time-intensive IoT solutions and flimsy solutions that cannot grow in usage and adoption in the future.

As a result, manufacturers should be looking for a solution that can enable instant visibility today while ensuring that future value creation is possible tomorrow. The MachineMetrics platform provides out-of-the-box features on top of simple machine connectivity. This plug-and-play data collection ensures that all machine data is captured and standardized. In combination with reports, dashboards, and automations, stakeholders receive instant operational visibility from a platform they can innovate and grow with long into the future.

AVOIDING RIP-AND-REPLACE

Deploying IoT should not require a rip-and-replace of existing solutions. After all, many manufacturing enterprises have made significant investments in MES and ERP platforms and to do so would be incredibly disruptive.

However, it is worth acknowledging the flaws of these systems, and the impact of enabling them with automated data collection solutions. Though MES and ERP systems do help to centralize manufacturing operations, they often lack accurate production data to inform their core functionality.

Interoperable IoT solutions can automate the flow of data into these manufacturing management systems. This ensures the system is updated with accurate, real-time data, making the MES core functionality more effective. For example, cycle times can be automatically updated within an MES or ERP in real-time so that you no longer to plan production schedules or develop new business quotes using inaccurate estimates.

MachineMetrics offers native integrations, as well as robust APIs, for connecting to other shop floor systems. With an integrated factory ecosystem, machine data-driven insights can inform anything from product design and production, to quality and maintenance, enabling greater visibility and efficiency throughout the factory.

A PERFECT STORM...OF OPPORTUNITY

Amidst a skilled labor crisis, increasing market competition, and major supply chain disruptions, manufacturing leaders are scrambling to identify their next steps.

Despite these challenges, American manufacturing is moving in the right direction, with 70% of organizations planning to reshore in the coming years. To bolster their operations for this influx of demand, manufacturers need to pursue digital solutions that strengthen their operational efficiency, decision-making ability, and agility, while also driving automation to account for the ever-growing skills gap.

MachineMetrics supports hundreds of customers in their digital transformation journey, helping them to unlock operational intelligence with real-time production data. The actionable insights not only drive immediate value through increased visibility, but also support in-depth analysis of production performance to spot bottlenecks and identify hidden capacity.

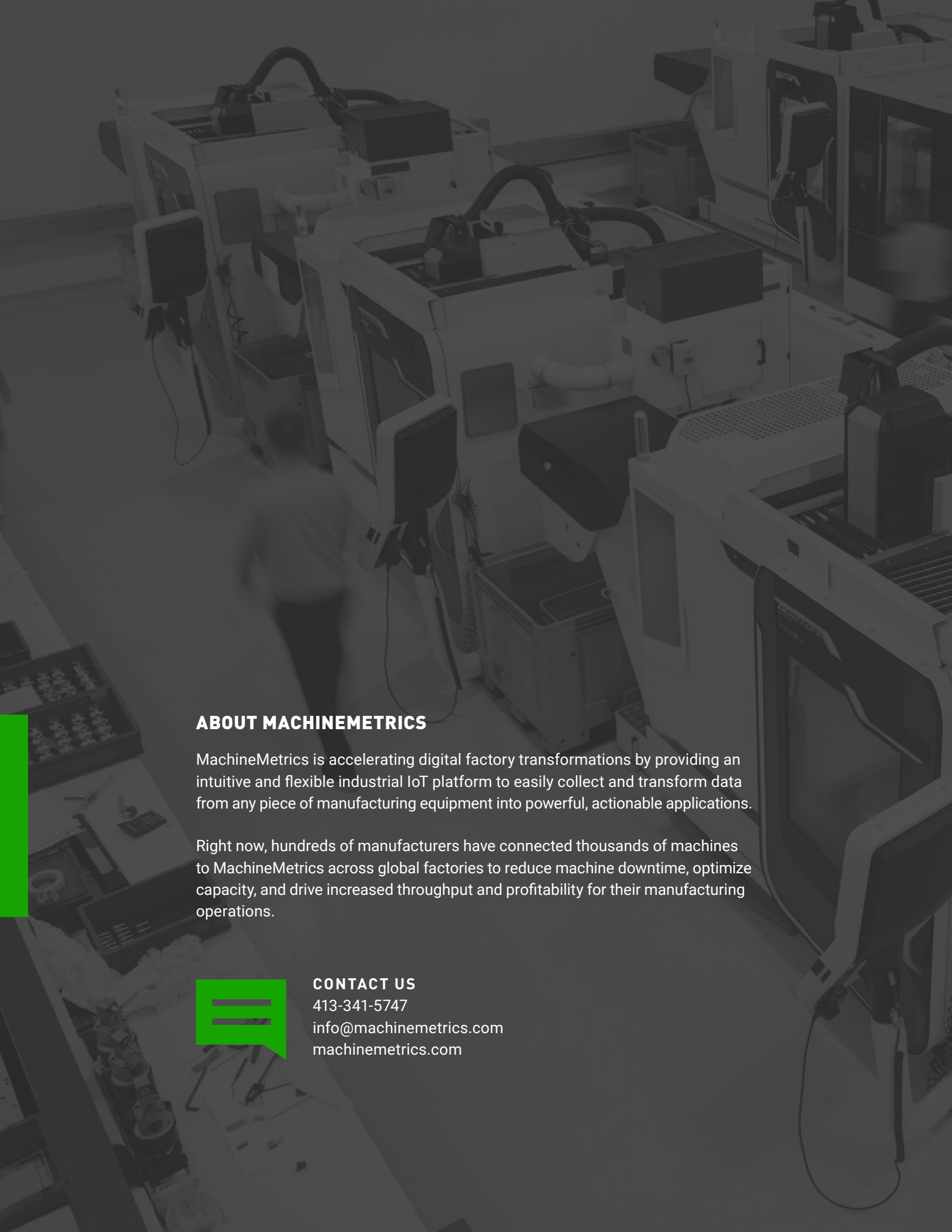
As a plug-and-play platform, manufacturers use MachineMetrics to drive ROI in weeks simply by unveiling machine data for visibility across the shop floor. And continuous improvement leaders use the platform to enable advanced use cases such as condition-based monitoring and factory automation.

You are ready for digital transformation. It's simply a matter of pinpointing what you are trying to achieve and identifying the right solution to help you get there.

THE MACHINE DATA PLATFORM FOR MANUFACTURING

MachineMetrics is the leading platform to collect, monitor, analyze, and drive action with manufacturing equipment data. Our platform easily captures data from your manufacturing equipment and provides a complete toolkit to drive actionable insights for frontline workers and other factory floor systems that improve the efficiency and quality of production.

BOOK A DEMO



ABOUT MACHINEMETRICS

MachineMetrics is accelerating digital factory transformations by providing an intuitive and flexible industrial IoT platform to easily collect and transform data from any piece of manufacturing equipment into powerful, actionable applications.

Right now, hundreds of manufacturers have connected thousands of machines to MachineMetrics across global factories to reduce machine downtime, optimize capacity, and drive increased throughput and profitability for their manufacturing operations.

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