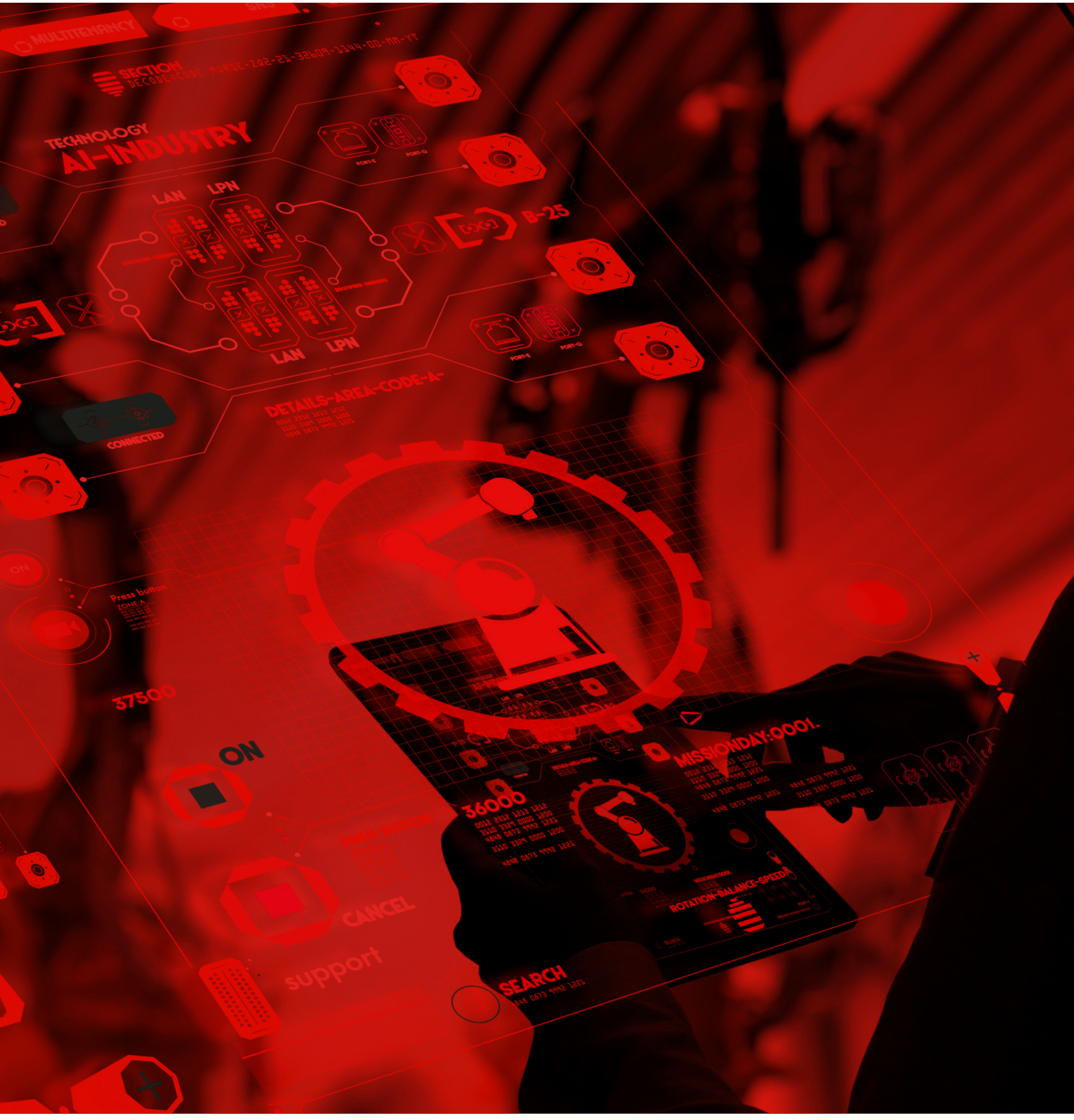
MITSUBISHI ELECTRIC
Changes for the Better



WHAT IF THE NEXT FAILURE WAS PREVENTABLE?

1 Why Preventing Is Smarter

The Evolution of Maintenance — From Reaction to Forecasting

In modern industry, efficiency isn't just a goal: it's a requirement. Every minute of production counts, and every second a machine stops operating can result in a financial cost, failed delivery, or loss of a customer. It is in this context that **preventive maintenance** becomes one of the most valuable strategies to ensure operational continuity, service quality, and sustained profitability.

Preventive maintenance isn't just an occasional checkup. It is an industrial management philosophy based on anticipation, planning and mitigation of risks before they result in failures, shutdowns, high costs or structural damage to production assets. Instead of waiting for machinery to fail, the preventive approach establishes periodic routines for inspection, cleaning, adjustment, analysis, and replacement of critical components to ensure optimal performance of each piece of equipment.

From Reactive to Strategic Paradigm

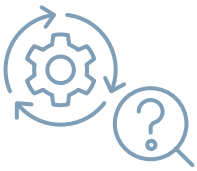
For decades, many industrial plants have operated under a reactive model: waiting for a piece of equipment to fail and then intervening. This approach, while common, has significant consequences:

High unexpected costs.

Abrupt interruptions in production.

Impact on delivery times.

Risk to product quality.

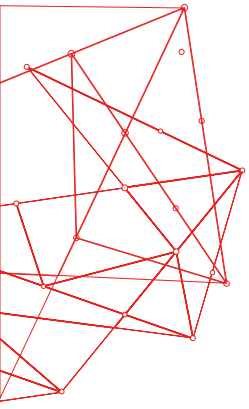


Dependence on urgent spare parts that may not be readily available.

The shift to a strategic model involves understanding that maintenance is not an unnecessary expense, but a smart investment. Planning allows you to schedule interventions, reduce pressure on technical equipment, and minimize operational stress. Leading manufacturing companies have already taken this step, with notable results: longer asset life, reduced serious failures, less waste and equipment running at peak efficiency.

The Hidden Cost of Not Preventing

The numbers speak for themselves. According to recent studies in Latin American manufacturing industries:



70% of mechanical failures are related to inadequate or non-existent maintenance.

The average hourly loss for a downed machine is estimated between $5,000 and $25,000, depending on the type of industry and level of automation.

Companies that implement preventive maintenance reduce total maintenance costs by up to 30% in the first year.

This impact isn't just financial. It also affects the morale of the technical team, end-customer confidence, and brand image in the event of recurring unforeseen events.

Common, Preventable Failures Due to Lack of Maintenance

Below are some real-world examples collected by field technical teams:

Failure of the M6 CNC machine spindle drive due to debris accumulation on the heatsink and fan, causing overheating and internal drive damage. This impacted operations with a 3-day machine downtime and consequent loss of production.

Routine robotic arm position errors caused by drive belt wear. Main impact on raw material waste and line downtime.

Loss of parameterization and machining/routine programs due to depletion of backup battery voltage. Machine/production line downtime for one week due to lack of backup files.

These cases share the same pattern: they were predictable and preventable. With the implementation of periodic routines, monitoring sensors, basic training, and digital backup, all of these failures could have been prevented.

Operational Advantages of Preventive Maintenance

Preventive approach not only prevents crises: it optimizes the day-to-day operations. Its most concrete benefits include:

Reduced downtime: Checkups are planned without disrupting production.

Extended equipment lifespan: By preventing premature wear, components perform better.

Reduced technical stress: The maintenance team works with greater control, not in emergency mode.

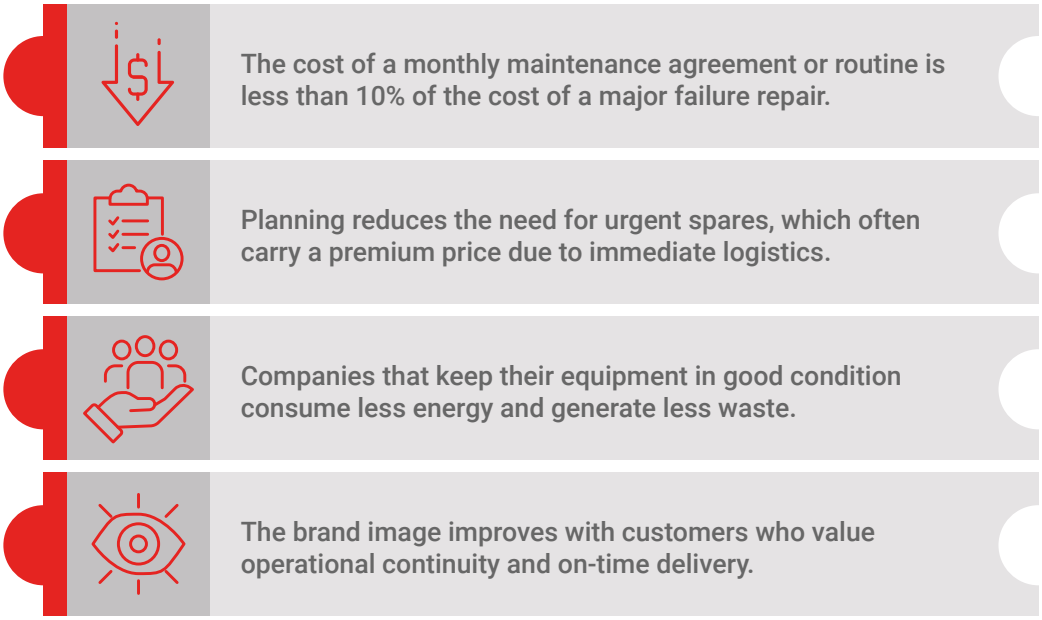
Increased productivity: Well-maintained equipment performs at its best.

Improved failure traceability: Periodic records allow for the identification of patterns and the prevention of wear trends.

Regulatory Compliance: Many audits and quality standards require a documented maintenance history.

Preventing Is Also Cost-Effective

One of the most common myths is that preventive maintenance is expensive. However, a broader view demonstrates the opposite:



In addition, in companies like MITSUBISHI ELECTRIC AUTOMATION, preventive maintenance has been structured as a comprehensive service that doesn't just care for the machine, but cares for the customer: it includes remote support, planned technical visits, spare parts support, and digital protection for CNC programming. Everything, backed by a team of experts in the operation of each model.

Conclusion

Preventing is making smart decisions. It's not about fearing the future; it's about preparing for it. In a world where every second of operation counts, preventive maintenance is no longer a technical option; it is a strategic need.

Investing in prevention is investing in continuity, safety, and growth.

2 The Hidden Costs of Not Having a Maintenance Agreement

The Silent Bill of Improvisation

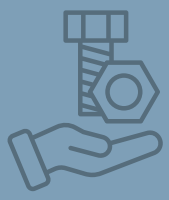
When it comes to industrial maintenance, many companies think only about the cost of a spare part or the time it takes to make a technical change. However, behind an unforeseen failure lies a web of far more complex and costly consequences. It's those "invisible costs" that really impact a plant's operation and balance sheet.

Not having a preventive maintenance agreement is, at its core, a risky bet. It means trusting that machinery will operate without interruption, that technicians will be available right when needed, that parts will be in stock, and that production can adapt to chaos without compromising results. In reality, that rarely happens.

Visible and Invisible Costs of a Failure

Visible Costs:

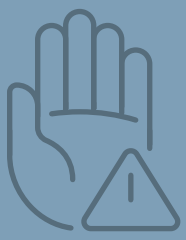
Component replacement (motors, drives, PLCs, etc.).



Emergency Labor (external technicians or off-hours/ immediate work).

Urgent parts logistics (express shipments, imports).

Invisible Costs:



Total or partial production line stoppage.

Wasted man-hours (operators waiting for equipment to operate).

Penalties for late deliveries.

Dissatisfied or lost customers.

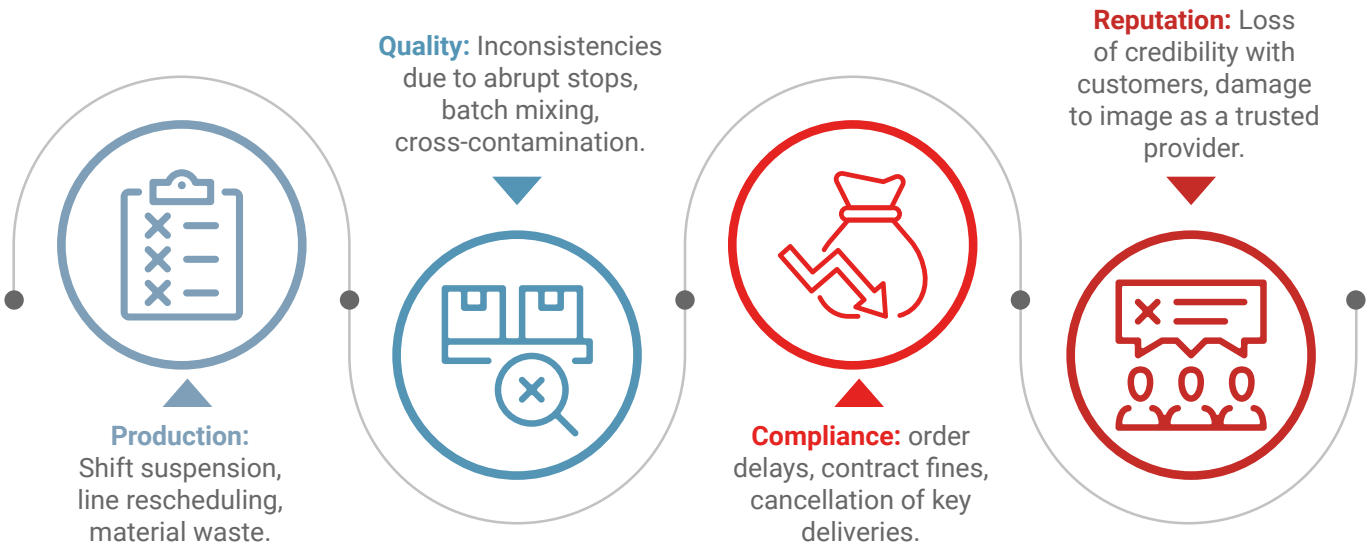
Reprocessing of incomplete or defective batches.

Damage to business reputation and market trust.

What at first glance seems like “just a burnt engine” can, in practice, lead to a chain of losses affecting several departments: operations, quality, sales, logistics, purchasing, and even finance.

The Impact on the Production and Commercial Chain

A technical failure has cascading effects. The initial damage is mechanical, but its shockwaves travel much further:



In an increasingly competitive environment, companies don't just compete for price or product – they compete for continuity. And an interruption due to unplanned maintenance can be the reason a customer chooses the competition.

Real Data, Concrete Consequences

Over the last few years, our technical support team has documented a number of interventions in customers without maintenance agreements.

Case 1: Low Voltage Failure in CNC

Replaced power supply to CNC machine drives due to low voltage failure.

- △ **Impact: Unexpected equipment downtime**
- △ **Estimated cost: Up to $7,500**

Case 2: Communication Failure in Industrial Robot

The main CPU board of the robot controller experienced communication failures with the axes.

- Impact: Interruption of automated tasks
- Estimated cost: $5,000

Case 3: Software Incompatibility in CNC

The CNC's CPU was replaced with one featuring updated operating system, as version incompatibility was causing constant boot failures.

- Impact: Frequent restarts and equipment instability
- Estimated cost: $12,000

These scenarios could have been avoided with preventive intervention, digital backups, or immediate access to remote support. The common denominator: lack of anticipation.

Voices From the Technical Front Lines

"Sometimes the problem isn't the failure, but the fact that the customer didn't know he could avoid it. If we had arrived earlier, it would have been a fuse change. But we arrived when it was already a burnt motherboard."

—Service Technician
Mitsubishi Electric, Querétaro

"Overlooking simple maintenance actions such as re-greasing axes can cause vibration and overload problems"

—Repair Technician
Mitsubishi Electric

"Many users are not in the habit of performing regular maintenance, which leads to premature wear of electronic components, increasing repair times and costs"

—Service Coordinator
Mitsubishi Electric CNC

Short-, Medium- And Long-Term Consequences

SHORT-TERM

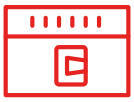
Shift suspension

Late orders

Calls from upset customers

Extra work for the technical area

MEDIUM-TERM



Progressive deterioration of machinery

Increased reliance on expensive spare parts

Increased technical shutdowns

Poor work environment due to continuous pressure

LONG-TERM

Damaged business reputation

Loss of key contracts

Forced investment in equipment replacement

Fall in productivity indicators

Conclusion

Not having a service agreement does not mean saving money. It means risking. Every day you go without a prevention strategy is an invitation to chaos.

Companies that survive and thrive in the industrial environment are the ones that not only react quickly, but that get ahead of issues. And that starts with a decision: stop improvising.

With the right maintenance agreement, hidden costs are no longer a threat and become opportunities for optimization.

3 What's Included in the Service Agreement

More Than Maintenance: A Comprehensive Maintenance Agreement for Your Operation

When we think of a maintenance agreement, what often comes to mind is a document that offers coverage in case something goes wrong. But a Service Agreement is much more than that. It's not just about reacting to the unexpected, but it's an ongoing strategy to protect, optimize and extend the service life of your CNC equipment. It is a tool for prevention, efficiency and operational peace of mind.

Designed to accompany the real service life cycle of your equipment, this maintenance agreement combines manufacturers' technical knowledge with the expertise of the industrial environment, providing a complete plan that adapts to the specific needs of each operation.

What Does the CNC/Robot Service Agreement Include?

Unlike reactive technical services, the service agreement allows you to keep maintenance/ repair budgets controlled. Below, we break down the key elements it includes:

1. Parts and service

- ☑ On-site service visits for troubleshooting by qualified specialists.
- ☑ Replacement of spare parts such as CNC CPU, X, Y, or Z axis drives, spindle drive, cables.

2. Specialized technical support

- ☑ Priority access to a technical support team with specific knowledge on Mitsubishi Electric models (M6, M7, M8, among others).
- ☑ Telephone or remote advisory support at no additional cost.
- ☑ Priority scheduling for technical visits.
- ☑ On-site diagnostics with certified measuring equipment.

3. Covered plans and common spare parts

1. Spare Parts Plan.
   - It covers drives only, CNC and screen under warranty.
2. Spare Parts and Service Plan.
   - It covers the same parts as Plan 1; plus 4 Service visits per year.
3. Premium Spare Parts and Service Plan.
   - It covers the same spare parts as Plan 1; plus motors, encoders and unlimited visits per year.

- ☑ Guaranteed availability for key spare parts in domestic inventory.
- ☑ Elimination of logistical delays or urgency surcharges.

Exclusive Per-Event Service Benefits

CONTRACTING TECHNICAL SERVICES ON A PER-EVENT BASIS HAS CLEAR LIMITATIONS:

There is no history or tracking.

Availability of personnel and spare parts is not guaranteed.

Costs per visit, diagnosis, travel and parts are higher.

WITH THE MAINTENANCE AGREEMENT, THE APPROACH CHANGES COMPLETELY:

There is a documented tracking for each piece of equipment.

Attention is fast and prioritized.

Cost is fixed, transparent and predictable.

Internal resources are optimized.

Adaptability based on equipment type

The CNC service agreement is designed to cover different types of machinery within the brand's portfolio, with specific adjustments for:

CNC M6, M7, and M8 models

Warranty equipment

Out-of-warranty equipment

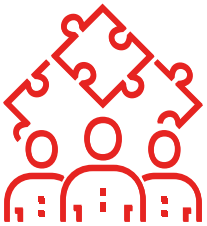
This allows for realistic, efficient coverage tailored to the true needs of each customer. It is not a "closed package" but a flexible solution that evolves alongside the operation.

Priority Response Guarantee

One of the most valued items by our customers is the peace of mind that they will not be alone in the event of any alert or emergency. With the maintenance agreement:

A preferential response protocol is activated.

Service requests are normally addressed within 24 hours.
(Please refer to our Terms & Conditions).



Technicians are assigned priority over customers without a maintenance agreement.

Parts logistics are accelerated with immediate access to stock.

This means that in a critical situation, your production will not be adrift, but supported by a prepared and committed team.

Conclusion

The CNC service agreement is insurance against error: it is a strategy for expense control. Its comprehensive structure, real benefits and flexible application make it a key tool for any company that wants to operate with stability, confidence and control.

In times where operational continuity is synonymous with competitiveness, having a service agreement is much more than a good decision – it's a strategic advantage.

4 Digital Security – Protecting Your Programming

Beyond Metal: The Intangible Value of Information

In the era of industry 4.0, production is defined not only by the robustness of the machine, but by the intelligence that operate it. On a CNC machine or robotic arm, that intelligence is contained in the **programming.** Losing it isn't just shutting down a line; it's losing years of technical knowledge, custom configurations, efficiency gains, and optimized productivity.

That's why at MITSUBISHI ELECTRIC AUTOMATION, **digital security** is a fundamental pillar of our value proposition. Through **Cloud Backup** technology, we've developed an intelligent backup system that protects the digital heart of your operations.

What Is Cloud Backup and Why Is It Crucial?

Cloud Backup is a remote backup and management service for information contained in the control system of CNC machines and/or robotic arms. It acts as a secure digital copy of all the configuration, G-code, parameters, routines, and other critical data needed to operate the equipment.

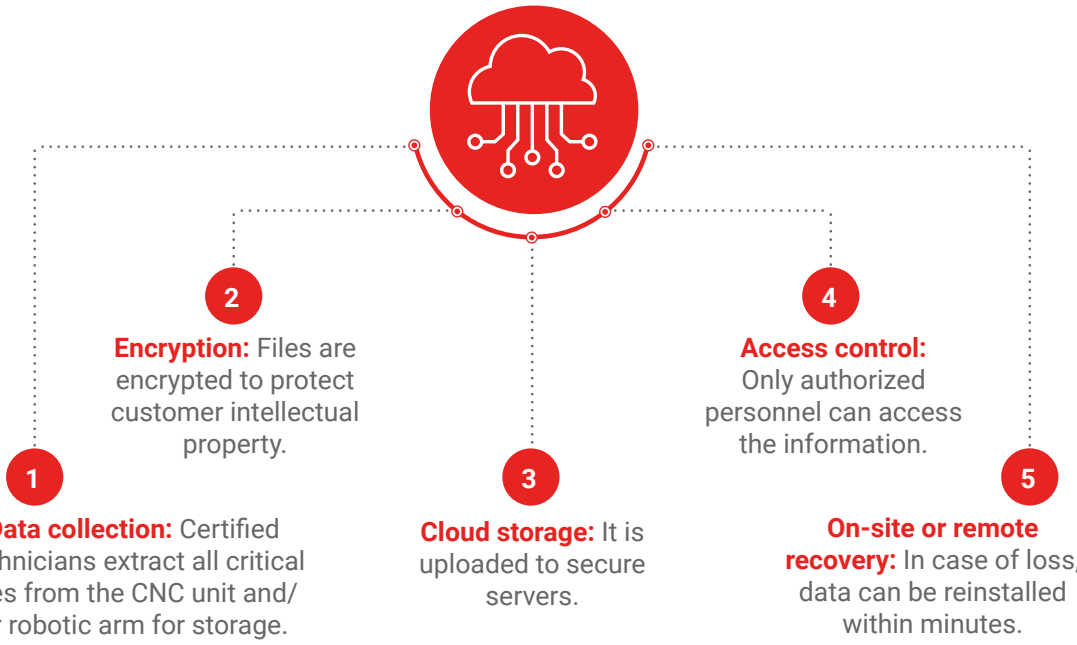
In simple terms: it's your machine's reliable external memory. A tool that allows you to recover all the functionality of the unit from any failure without having to start from scratch.

In modern operations, where every second of downtime represents thousands in lost revenue, **recovery speed is as important as the physical repair.**

Cloud Backup ensures that recovery is almost immediate.

How Backup and Recovery Is Performed

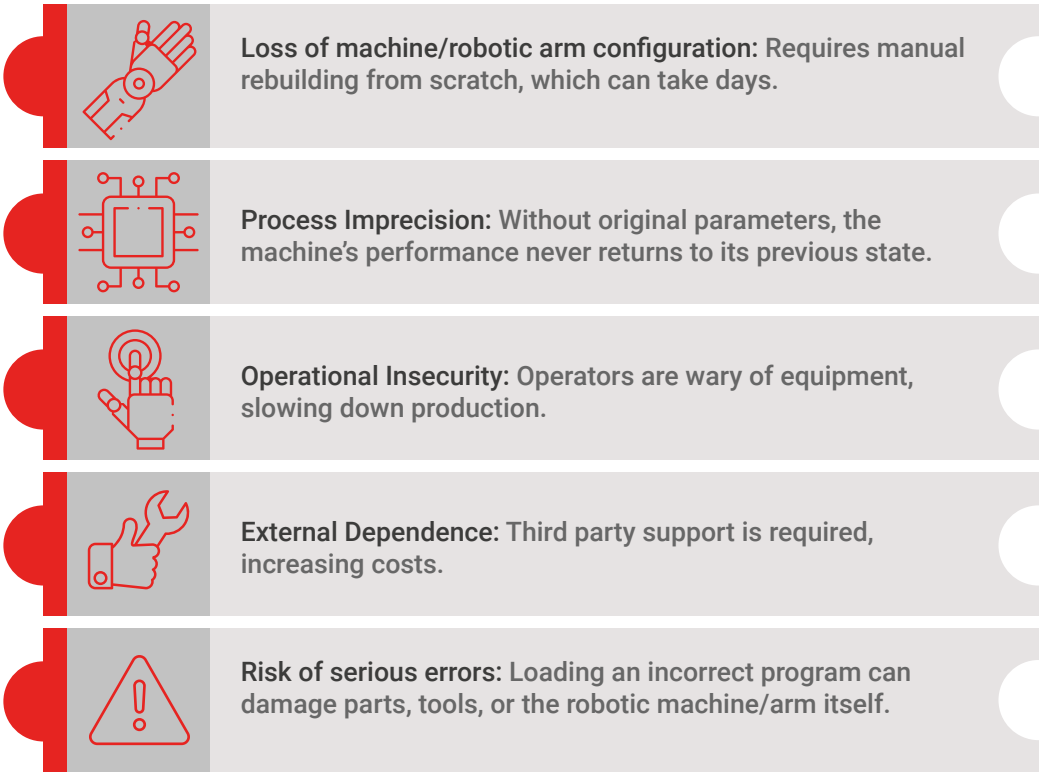
The Cloud Backup system operates under an automated high-reliability protocol:



So, you can have peace of mind that the backup is available 24/7.

What if You Don't Have Backup?

Most companies do not value their digital information... until they lose it. And when that happens, the consequences go far beyond the lost file:



Loss of machine/robotic arm configuration: Requires manual rebuilding from scratch, which can take days.

Process Imprecision: Without original parameters, the machine's performance never returns to its previous state.

Operational Insecurity: Operators are wary of equipment, slowing down production.

External Dependence: Third party support is required, increasing costs.

Risk of serious errors: Loading an incorrect program can damage parts, tools, or the robotic machine/arm itself.

The cost of this vulnerability can be thousands of dollars per piece of equipment, not counting the impact on delivery times, quality and reputation with customers.

Real-World Loss Cases and Their Impact

Case A: Mold manufacturing in Leon

- ☑ A machining center lost parameters and programs due to a drip in the backup battery voltage.
- ☑ The user did not have a backup of this information, so it was necessary to request the parameters from the machine manufacturer and manually rebuild the machining programs.
- ☑ This lack of foresight resulted in two major consequences:
  1) Additional cost for data recovery from the manufacturer.
  2) Production stoppage of approximately 2 weeks, with a direct impact on delivery and operation times.

Case B: Production plant in the State of Mexico

- ☑ There was a loss of information due to a computer virus.
- ☑ It was necessary to replace the affected hard drive and restore the available backups.
- ☑ This incident resulted in a 5-day impact on production, with operational impact and possible delivery delays.

Case C: Assembly plant in San Luis Potosi "Customer with active Cloud Backup"

- ☑ A one-day production stoppage was scheduled for planned maintenance shutdown.
- ☑ Upon reactivation of the production line, some robotic arms failed due to lost or corrupted data.
- ☑ Thanks to Cloud Backup, critical information was recovered in less than 10 minutes, allowing production to resume the same day without major disruptions.

These three scenarios show how having a maintenance agreement in place and being prepared makes a difference in the face of a crisis: risks are reduced and impacts on operations and production are minimized.

Additional Benefits of Digitizing Maintenance

Adopting tools like Cloud Backup doesn't just improve digital security. It also transforms the way preventive maintenance is managed:

Digital history per equipment: Every intervention is recorded and accessible.

Remote management: Allows for support without the need to physically visit the site.

Audit and compliance: Improve process traceability for quality or safety audits.

Industry 4.0 Integration: Enables connected, predictive, and efficient environments.

In other words, digital backup is the gateway to smarter industrial management.

Conclusion

Digital security is no longer optional. It is an operational responsibility. With Cloud Backup, your machines not only have physical protection, they also have a defense system against information loss.

Preventing mechanical failures is critical. But preventing loss of digital knowledge is just as important. Today, more than ever, protecting programming is protecting your productivity.

Investing in backup is not an additional expense. It's the guarantee that, no matter what happens, your operation can continue.

5 Case Study

A True Story: When Preventing Was the Best Investment

In the industrial world, the numbers speak. But stories convince. This case study clearly and tangibly demonstrates how a preventive decision can make the difference between significant loss and uninterrupted operation. Below is a case based on actual facts documented by the MITSUBISHI ELECTRIC AUTOMATION technical team, maintaining customer confidentiality to protect their identity.

Context

- **Industry:** Metalworking
- **Situation:** Critical failure during a key delivery.
- **Action taken:** Immediate diagnosis and response with active maintenance agreement support

Before vs. After: Costs and Time

ITEM	NO MAINTENANCE AGREEMENT (estimated)	WITH CNC MAINTENANCE AGREEMENT
Downtime	96 hours	24 hours
Spare parts cost	Starting from $5,500	Included
Emergency Labor	Starting from $1,750	Included
Estimated Total	Starting from $7,250	$0

Testimonial From the Plant Floor

> *"This service agreement has been very useful in managing the maintenance budget. We have more than 60 CNC machines in operation, and each failure was a high cost. Before, we didn't have any coverage, and that affected us much more than we thought."*

Case Study Takeaways

Having a service agreement is not an expense, it's a smart investment.

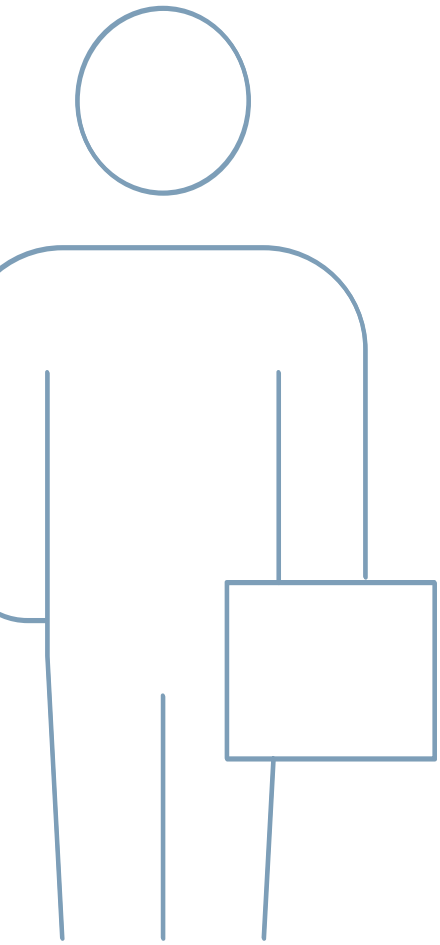
Preventing reduce downtime, eliminate unexpected costs and keep your operation running.

6 Who Is the Maintenance Agreement For?

Not Every Maintenance Agreement Is for Everyone. This One Is.

One of the greatest virtues of a service agreement is its adaptability. It is designed to meet the real-world profiles and needs of today's industrial environment. Whether you're a large-scale production plant, specialty shop or strategic supplier, whether your operations depend on CNC machines/robotic arm, this maintenance agreement was created for you.

Ideal Customer Profiles



Plant Managers

- ☑ They need to ensure production goals are met.
- ☑ They need to eliminate unforeseen events and reduce operating costs.
- ☑ They seek to ensure continuity to avoid impacts on the supply chain.

Maintenance Managers

- ☑ They are responsible for preventing unplanned stoppages.
- ☑ They need spare parts control, fast support and technical support.
- ☑ They value tracking tools and programmed diagnostics.

Purchasing Managers

- ☑ They are looking for cost-effective, transparent and predictable solutions.
- ☑ They want to eliminate emergency purchases and optimize the annual budget.
- ☑ They value long-term relationships with trusted suppliers.

Owners of machine shops with CNCs

- ☑ CNC machines are assets that must be available to operate 24/7.
- ☑ They know that a single failure can compromise their entire operation.
- ☑ They value direct, personalized and high-level technical support.

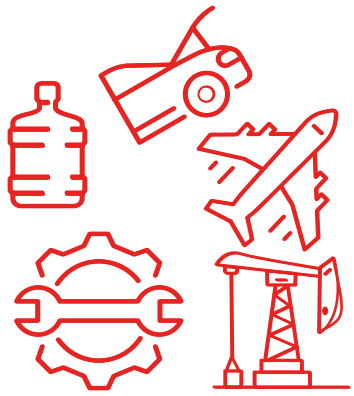
Is This Maintenance Agreement for You?

If you answer “yes” to any of these questions, the answer is clear:

- ? Is your equipment out of warranty?
- ? Do you have unplanned stoppages at least once a month?
- ? Does your production depend on a single key machine?
- ? Have you had to reschedule deliveries due to technical failures?
- ? Have you paid for urgent spare parts more than once?

The maintenance agreement is made for those who cannot afford to make an improvisation.

Recommended Industries



- ☑ **Metalworking:** Where milling or turning accuracy is essential for B2B contracts.
- ☑ **Automotive:** Operational continuity is key to meeting production plans.
- ☑ **Aerospace:** Maintaining production quality is key to complying with international safety standards.
- ☑ **Oil and Gas:** The manufacture of valves and tools requires maximum assurance of product availability and quality.
- ☑ **Plastics:** The manufacture of molds and parts requires precision for the production of final products.

Conclusion

There is not just one company that benefits from preventive maintenance. There are dozens of profiles that need it urgently. The maintenance agreement is not a generic proposal: it is a specialized solution for those who understand that the best maintenance is not the kind that fixes, but the kind that prevents.

If your operations depend on CNC equipment, this maintenance agreement was designed for you.

7 How to Activate the Maintenance Agreement and Costs

Activating Your Maintenance Agreement Is Easier Than You Think

The decision to prevent must be accompanied by ease, clarity, and support. That's why activating the CNC/Robotic Arm Service Agreement is an agile, bureaucracy-free process, designed so you can start protecting your operation as soon as possible.

Steps to Activate Your Maintenance Agreement

1. Request your quote

Send a picture of the machine nameplate to:

service@meau.com

Specify the type of maintenance agreement you wish to get a quote for.

Plans available for CNC:

- ☑ **Spare Parts:** It covers drives, CNC, and display only (under warranty).
- ☑ **Spare Parts + Service:** It covers the same as the plan above, plus 4 service visits per year.
- ☑ **Spare Parts + Premium Service:** It includes all of the above, plus motors, encoders, and unlimited visits per year.

Plan available for robotic arms:

- ☑ **Spare Parts + Premium Service:** It covers all parts of the robotic arm and its controller, with unlimited visits per year.

2. Submit your purchase order

Once you receive the quote, submit your purchase order indicating the plan chosen.

3. Complete the maintenance agreement contract

The service team will send you the contract form, which you must fill in with your company details and the signature of the responsible party.

4. Activation confirmation

You will receive an email message confirming that your maintenance agreement has been successfully activated by the Customer Service/ Service Department.

What Is More Expensive: Prevent or Repair?

ITEM	NO MAINTENANCE AGREEMENT (estimated)	WITH CNC MAINTENANCE AGREEMENT
Downtime due to failure (3 days)	Starting from $3,000	$0
Emergency spare parts	Starting from $5,000	Included
Urgent Labor	Starting from $2,000	Included
Total	Starting from $10,000	Starting at $950

A single event can cost you more than a full year of coverage. Investing in prevention is betting on stability.

It Costs Less Than a Daily Coffee... And It Protects Your Production

An easy way to size the value of a CNC maintenance agreement is with this comparison:

- ☑ **Monthly cost per piece of equipment: Starting from $80**
- ☑ **Estimated daily cost: Starting from $2.60**
- ☑ **Machine downtime cost per hour: From $2,000 to $5,000 (Depending on segment, product type, and production volume)**

For less than what premium coffee costs a day, you can protect your operation, reduce risks, and keep your productivity at its best.

Conclusion

Activating a CNC/robotic arm maintenance agreement is not just a technical process. It's a strategic decision to protect your productivity and investment. With clear steps, flexible options, and a team that supports you from day one, taking this step is simpler than it seems.

Because preventing doesn't have to be complicated. But ignoring it can be very expensive.

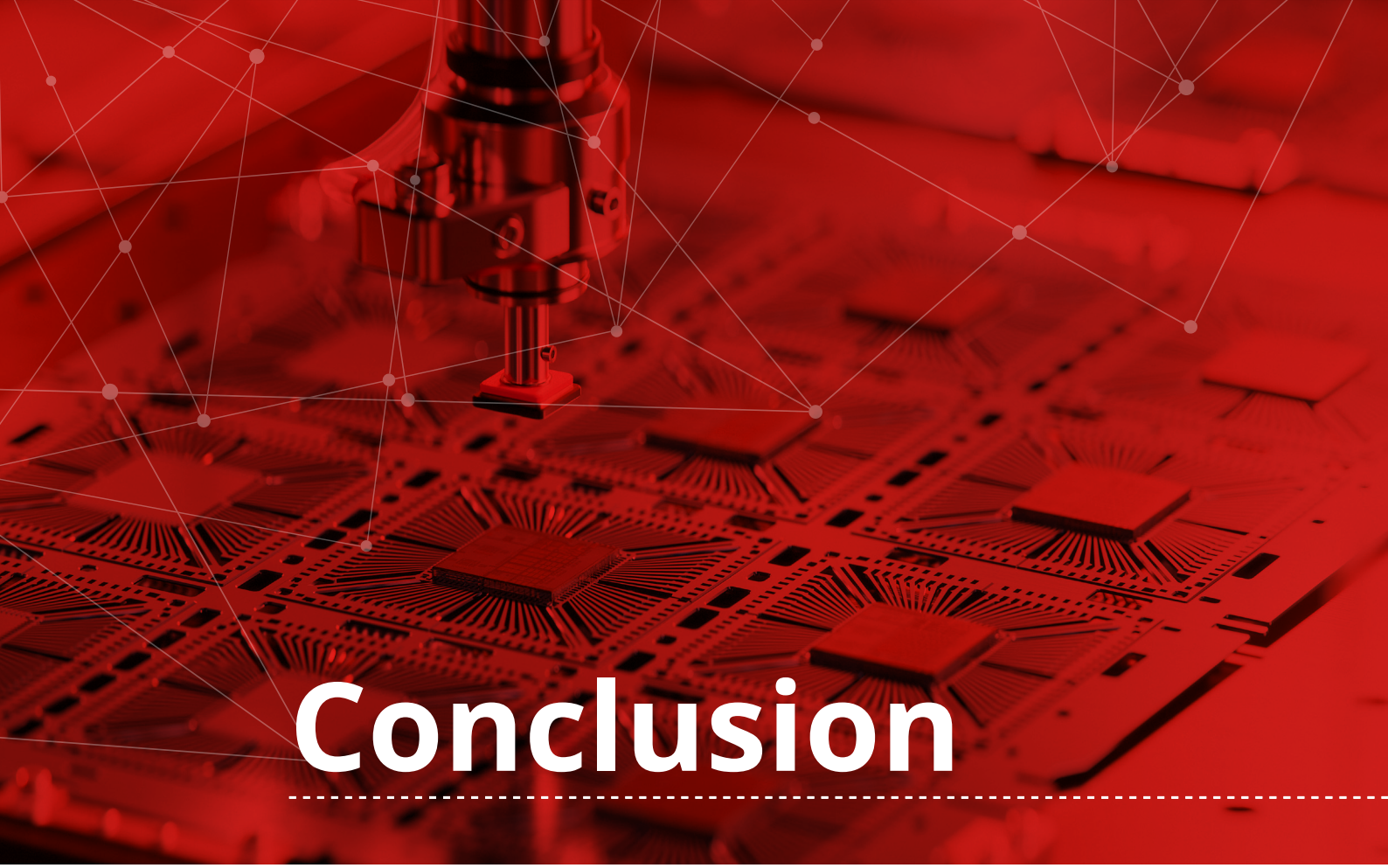
8 Last Step: Take Your Operation to the Next Level

Production Continuity Is Easy to Achieve

At Mitsubishi Electric we are interested in you getting the most out of your technology. That's why we're offering a free visit to:

- Collect data from your machines or robotic arms
- Assess the current status of the equipment
- Provide you with specific improvement recommendations
- Prepare you for a potential service agreement activation

"Activate the change today. Turn prevention into a competitive advantage."



Conclusion

The Time to Act: What's at Stake Is Your Continuity

After analyzing the benefits, risks, real-world examples, and prevention strategies, it's time to take the decisive step. Because the difference between a reactive company and a strategic company is summarized in one word: action.

At MITSUBISHI ELECTRIC AUTOMATION, we understand that preventing is not a luxury. It is an operational need. And that's why we've created a maintenance agreement designed to protect what's worth the most: your time, your production, and your reputation.

Recap of Key Benefits

1. Technical Support

- ☑ Access to certified specialists.
- ☑ On-site diagnostics and remote support.
- ☑ Priority and personalized care.

2. Time and cost savings

- ☑ Common spare parts included.
- ☑ Prevention of major losses and urgent expenses.

3. Operational peace of mind

- ☑ Access to national inventory of spare parts.
- ☑ Priority response to incidents.

4. Digital protection

- ☑ Cloud Backup with CloudCNC/CloudRobot.
- ☑ Immediate recovery from data loss.
- ☑ Technical and digital security at all times.

Preventing Is Not an Expense. It's a Strategy.

This phrase is not just a slogan. It's an industrial philosophy. Every action you take today directly influences your future productivity. And preventing means making smart decisions, planning with vision, and acting responsibly.

Today, you're one click away from transforming your maintenance management and shielding your operation from the unexpected.

Multiple Contact Methods

Would you like to get a quote, ask a question, or schedule your free assessment?
We're ready to help:

Phone: 1-847-478-2500

Email: service@meau.com

LinkedIn: Mitsubishi Electric Automation, Inc.

Request your maintenance agreement today!

Because in the industry,
preventing is the only way
to move forward without stopping.