



"Protect Your Success: Artesis AMT Pro (portable) or e-MCM (On-line condition Monitoring) Ensure Efficient Operations and Maximum ROI"

Introduction to Artesis Technology Systems

Artesis Technology Systems, a name that rings synonymous with the advent of cutting-edge technology and the forefront of industrial progress. Its crown jewels, the AMT Pro and e-MCM systems, serve as the embodiment of their commitment to innovation and efficiency. Like two mechanical knights in shining armor, they stand guard over your operations, ensuring maximum return on investment while minimizing potential risks.

The AMT Pro and e-MCM are ingenious systems designed to monitor and analyze the performance of machinery, based on the ISO 20958 Section 4.3.4 Model Based Voltage Current Analysis (MBVI). Imagine them as the vigilant eyes and swift minds of your operations, ceaselessly observing, learning, and making informed decisions.

These systems are akin to the human body's nervous system. Just as the brain uses electrical signals to monitor and control different parts of the body, these systems use MBVI to monitor electrical network data and assess the condition of assets. They convert raw voltage and current waveforms into high-quality data, which is then analyzed for faults and inefficiencies.

Based on MBVI, both AMT Pro and e-MCM can extract meaningful information from complex electrical signals, much like unearthing precious gems from the rough. They serve as the unseen hands that sift through the dense layers of technical information, extracting valuable insights about the health of your machinery and operational efficiency.

Furthermore, these systems operate under the principle of 'Measure: Motor as a Sensor, Diagnose: AI Model Based Voltage Current Analysis, Treatment: Road to Reliability' – MDT. They continuously observe the electrical network, learn from the gathered data, and take action by providing real-time diagnostic information. This proactive approach allows for early detection of faults, reducing downtime, and enhancing operational efficiency.

Picture an orchestra conductor, meticulously attuned to each instrument, noticing even the slightest off-note and correcting it before it disrupts the harmony. This is how the AMT Pro and e-MCM operate, maintaining the symphony of your operations by identifying and addressing faults before they can cause significant damage.

Artesis Technology Systems' AMT Pro and e-MCM are not just products; they are solutions. They are the silent sentinels that keep watch over your operations, ensuring that every element performs at its optimum level, every second of every day. They are the guardians of your success, protecting your investment and bolstering your ROI.

Section 2: The Power of Machine Learning and MBVI

In the intricate world of Artesis Technology Systems, machine learning takes center stage, acting as the maestro that orchestrates a symphony of data inputs to predict, detect, and prevent machine faults. In particular, the AMT Pro and e-MCM leverage machine learning to transform raw data into actionable insights. Imagine a seasoned detective, capable of piecing together seemingly unrelated clues to solve complex cases. That's what machine learning does in these systems; it sifts through vast amounts of data, identifying patterns and correlations that hint at potential flaws or impending failures.

But the brilliance of these systems doesn't stop there. They marry machine learning with Model Based Voltage Current Analysis (MBVI), akin to a dancer expertly synchronized with their partner. This seamless integration allows AMT Pro and e-MCM to analyze electrical signals flowing within machines. Like a doctor interpreting an EKG, these systems read the subtle changes in voltage and current to diagnose potential issues long before they manifest into full-blown problems. It's almost as if these systems possess an uncanny sixth sense, alerting users to impending doom before it strikes.

One of the standout features of AMT Pro and e-MCM is their superior fault detection accuracy. Think of them as finely tuned instruments capable of detecting the faintest off-key note in a grand orchestra. These systems can identify minute deviations, picking up on early-stage faults that would otherwise go unnoticed. It's like having a bloodhound's acute sense of smell in a bustling urban city, able to single out one specific scent amidst the cacophony of smells. And it isn't just about identifying a problem; it's also about pinpointing its location. Armed with this information, maintenance professionals can act swiftly, addressing issues precisely where they occur, thereby reducing downtime and saving valuable resources.

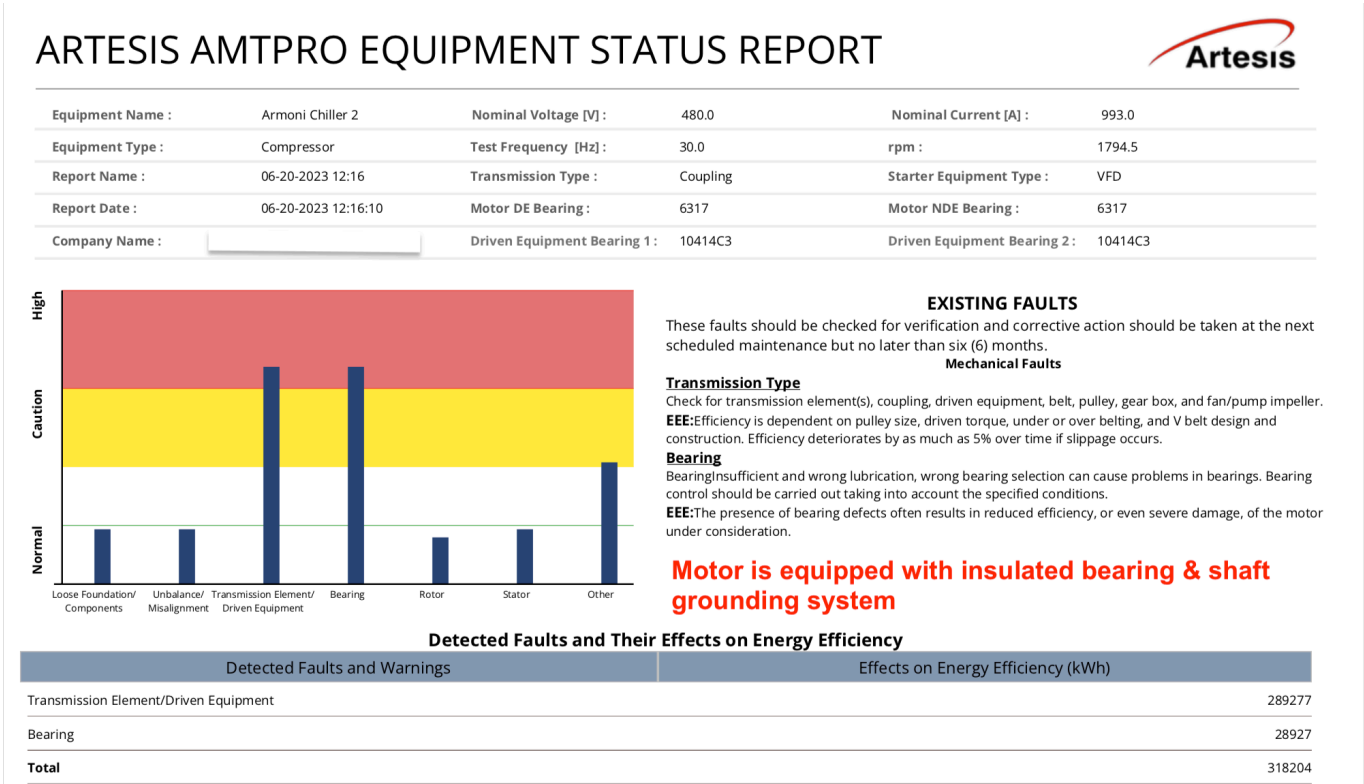
In a world where precision is paramount, the AMT Pro and e-MCM offer an unprecedented level of accuracy. They are akin to the compass that guides a ship through treacherous waters, providing reliable information to navigate the complex landscape of machine maintenance. The result is not just efficient operations, but also peace of mind – knowing that potential problems can be spotted and addressed long before they escalate into costly failures.

Section 3: Diverse Capability: Machines & Faults Detection

The Artesis AMT Pro and e-MCM systems showcase their true prowess in the realm of electrical, mechanical, and process failure detection. With a keen technological eye that mirrors the precision of a hawk swooping down on its prey, these systems can identify a broad spectrum of faults. Picture an electrically induced fault like insulation breakdown, which can lead to catastrophic machine failure if left unchecked. With the AMT Pro or e-MCM, this insidious issue is detected early, allowing for preventative measures.

Imagine also mechanical faults, such as misalignment, imbalance, or bearing defects. These are akin to a ticking time bomb, gradually eroding the efficiency and lifespan of machines. But with the sentinel-like vigilance of AMT Pro or e-MCM, these faults are identified swiftly, even in their

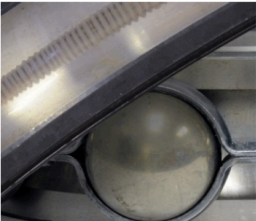
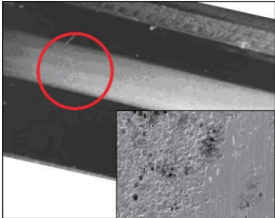
nascent stages. It's as though these systems possess an almost clairvoyant ability, pinpointing issues before they erupt into full-blown problems.



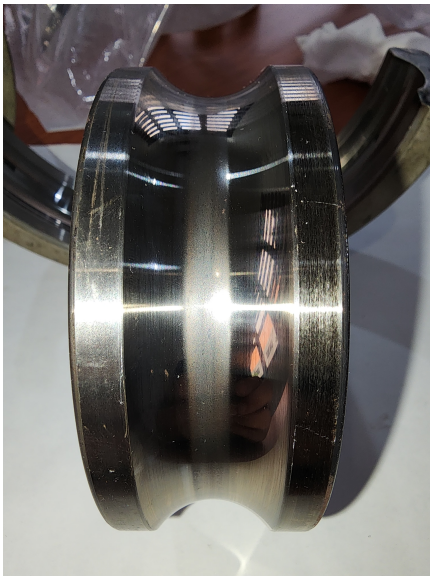
Bearing inspection

ANSI/EASA Standard AR100-2015, Section 2, Mechanical Repair: 2.2 Bearings states that “Bearings should be inspected for failure modes such as spalling, contamination, fretting, fluting, and scoring.” Signs of electrical arcing in the bearings are:

- 1) Burnt lubrication/grease
- 2) Pitting of the bearing race (a grey line along the bearing ball track)
- 3) Fluting damage (washboard like pattern) in the bearing race – inner or outer – sometimes heavier in the load zone
- 4) Discolored dull or gray rolling elements (balls) or fluting lines on the cylindrical elements



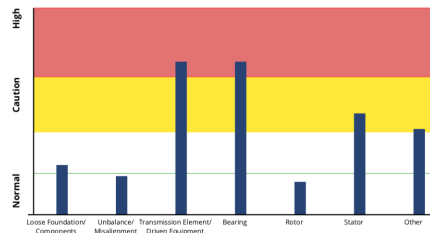
Reference: NTS1.1_Kressbach.B



ARTESIS AMTPRO EQUIPMENT STATUS REPORT



Equipment Name :	Armoni Chiller 2	Nominal Voltage [V] :	480.0	Nominal Current [A] :	993.0
Equipment Type :	Compressor	Test Frequency [Hz] :	30.0	rpm :	1794.5
Report Name :	06-20-2023 12:35	Transmission Type :	Coupling	Starter Equipment Type :	VFD
Report Date :	06-20-2023 12:35:29	Motor DE Bearing :	6317	Motor NDE Bearing :	6317
Company Name :	en Equipment Bearing 1: 10414C3		Driven Equipment Bearing 2: 10414C3		



EXISTING FAULTS

These faults should be checked for verification and corrective action should be taken at the next scheduled maintenance but no later than six (6) months.

Mechanical Faults

Transmission Type
Check for transmission element(s), coupling, driven equipment, belt, pulley, gear box, and fan/pump impeller.
EEE: Efficiency is dependent on pulley size, driven torque, under or over belting, and V belt design and construction. Efficiency deteriorates by as much as 5% over time if slippage occurs.

Bearing

Bearing insufficient and wrong lubrication, wrong bearing selection can cause problems in bearings. Bearing control should be carried out taking into account the specified conditions.
EEE: The presence of bearing defects often results in reduced efficiency, or even severe damage, of the motor under consideration.

Disconnected shaft grounding system.

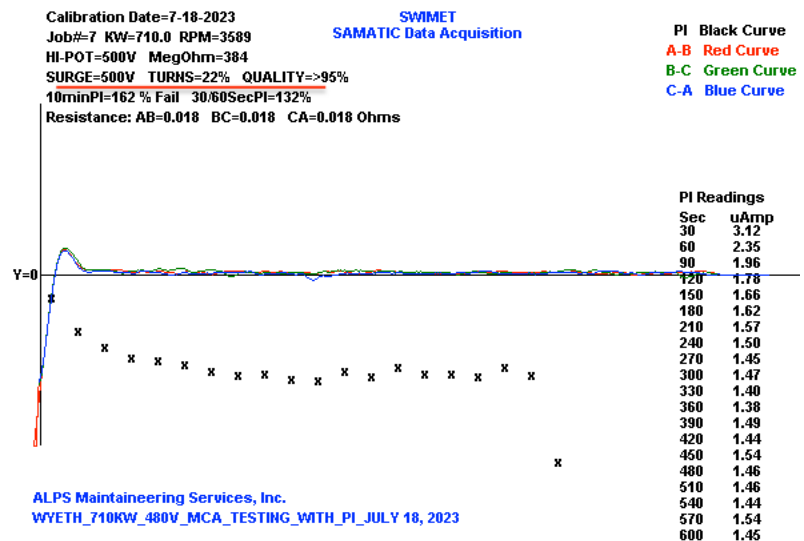
Detected Faults and Their Effects on Energy Efficiency

Detected Faults and Warnings	Effects on Energy Efficiency (kWh)
Transmission Element/Driven Equipment	289277
Bearing	28927
Total	318204

Corrective maintenance action will save energy up to 318204 kWh per year, increase productivity, reduce maintenance cost, and increase equipment life time.



The prowess of these systems isn't confined to the end stages of the transmission path, where faults often manifest most glaringly. Instead, their capabilities extend across the entire transmission pathway. From the power source to the motor terminals, and even extending to the mechanical load itself, no stage is beyond the watchful gaze of AMT Pro or e-MCM. Visualize these systems as diligent sentinels, guarding every stage of your machinery with unparalleled vigilance, ensuring no fault slips through undetected.



But the abilities of AMT Pro and e-MCM extend beyond mere fault detection. They have a unique talent in recognizing various process issues and changes directly. Whether it's identifying changes in load conditions or spotting anomalies in operational parameters, these systems are like bloodhounds on a trail. They sniff out the subtlest shifts in machine performance, providing invaluable insights that can help optimize operations. It's akin to having an extra set of highly trained eyes monitoring your machinery, leaving no stone unturned.

Indeed, the Artesis AMT Pro and e-MCM systems are far more than ordinary fault detection tools. They are comprehensive guardians of your machinery, capable of spotting a wide range of faults at all stages of the transmission path, and able to detect process issues directly. With such diverse capabilities, they ensure that your operations run smoothly, maximizing efficiency and minimizing costly downtime.

Section 4: Advantages for Maintenance Professionals

In the world of maintenance, professionals are constantly faced with the Herculean task of managing numerous resources while keeping their machines in peak condition. AMT Pro and e-MCM, the twin warriors from Artesis Technology Systems, step in to lend a helping hand, functioning as the unseen sentinels that streamline resource allocation and ensure optimal machine performance.

Strategic Deployment of Resources

The AMT Pro and e-MCM systems serve as invaluable aids to the modern maintenance professional. They act as reliable compasses in the complex labyrinth of resource management. With the power of Machine Based Voltage Current Analysis (MBVI) and machine learning, these systems diligently monitor the health of various assets, detecting any signs of malfunction at an

early stage. This allows maintenance professionals to strategically deploy their resources, focusing on areas requiring immediate attention rather than wasting them on routine inspections of healthy machines. The ability to prioritize tasks effectively not only saves time but also reduces costs significantly, making these systems a boon to any maintenance team.

Prolonging Machine Performance and Lifespan

The longevity and performance of a machine are two sides of the same coin, directly influencing the productivity and profitability of any business. AMT Pro and e-MCM, with their superior fault detection capabilities, play a crucial role in this aspect. Functioning like vigilant guardians, they constantly monitor machines, catching even the slightest deviations from normal operating parameters. This early warning system allows maintenance teams to intervene before minor issues escalate into major problems, thereby preserving the machine's health and extending its lifespan.

Moreover, by mitigating unplanned downtime and reducing the need for costly repairs or replacements, these systems help maintain a steady rhythm of operations. The result is improved machine performance leading to increased production and, ultimately, operational efficiency. Thus, AMT Pro and e-MCM become the beating heart of any successful maintenance strategy, ensuring machines run smoothly and reliably for longer periods.

Therefore, the benefits of AMT Pro and e-MCM extend beyond just fault detection. They transform the way maintenance professionals operate, leading to better resource management and enhanced machine performance. In this way, they contribute significantly to achieving operational efficiency, making them indispensable tools in the arsenal of maintenance professionals.

Section 5: Emotional Connection: Overcoming Challenges with Technology

Embarking on a technological journey is often fraught with uncertainties and challenges. However, AMT Pro and e-MCM from Artesis Technology Systems have consistently proven their worth by resolving intricate problems and averting possible catastrophes. They act as silent warriors, constantly vigilant, ensuring the smooth functioning of operations while saving time, money, and resources.

Imagine an industrial scenario where a major production machine begins to exhibit signs of an impending breakdown. Such a situation can be nerve-racking, potentially leading to huge losses in productivity and revenue. It was in one such instance that the AMT Pro came to the rescue. The system's advanced fault detection capabilities identified an anomaly in the machine's operation well before it escalated into a full-blown problem. The early warning allowed the maintenance team to intervene promptly, preventing a complete machine shutdown and subsequent production halt. This incident underscores the critical role these systems play in safeguarding operational efficiency, resulting in immense relief and satisfaction for the team involved.

Similarly, there was an occasion when the e-MCM system prevented a potential disaster in a power plant. Here, a subtle change in the operating pattern of a critical turbine was detected by e-MCM's advanced algorithms. It prompted a timely inspection revealing a mechanical failure that could have led to a catastrophic event had it gone unnoticed. This early detection and intervention ensured the safety of the entire plant and its workers, bringing about a profound sense of security and gratification among the management and staff.

The stories of AMT Pro and e-MCM are replete with such examples where they have emerged as the unsung heroes, solving complex issues before they morphed into significant problems. The sense of relief that envelops you when a potential crisis is averted is indescribable. It's akin to spotting a lighthouse in a stormy sea, guiding you safely to the shore. The satisfaction derived from such experiences is immeasurable. Utilizing a tool that accurately detects faults early not only makes operations more efficient but also infuses a level of confidence and peace of mind that is priceless.

Moreover, these systems do more than just detect issues; they build an emotional connection with their users. Using AMT Pro or e-MCM feels like having a trusted ally, always watching your back, ready to alert you at the first sign of trouble. This emotional bond, fostered by the assurance of reliable performance and consistent results, creates a feeling of deep satisfaction that enhances the overall user experience.

Section 6: Innovative Technology and Versatility

Diving into the world of Artesis Technology Systems, the AMT Pro and e-MCM are not just any ordinary systems. They stand tall on the shoulders of cutting-edge artificial intelligence-based MBVI technology which equips them with a set of keen eyes that can monitor a wide array of assets and detect an extensive list of faults.

Imagine a vigilant sentinel keeping watch over your machinery, tirelessly scanning for any signs of trouble. The AMT Pro and e-MCM act as such sentinels, tirelessly tracking the health of various types of machinery from electric motors to pumps, fans, and gearboxes. These systems adopt the principle of constant learning, where they analyze data patterns and make accurate predictions about potential faults. This versatility in monitoring different assets accentuates the power of AI-based MBVI and showcases how it is revolutionizing predictive maintenance strategies.

But the genius of these systems doesn't stop at simply monitoring a wide range of assets. These guardians of operational efficiency possess an exceptional ability to capture minute changes in the electromagnetic signals emanating from equipment. It's almost as if they have a sixth sense, allowing them to detect the earliest signs of faults. This unique feature makes them akin to a skilled physician who can diagnose an ailment even before the symptoms start appearing, thereby preventing catastrophic consequences.

Picture a situation where a critical motor in your production line starts developing an internal fault. Without an intelligent system like AMT Pro or e-MCM, this fault could go unnoticed until the day the motor grinds to a halt, leading to costly downtime. But with these systems in place, the emerging fault is detected at its nascent stage when the electromagnetic signal from the motor undergoes a subtle change. This timely detection allows for early intervention, saving precious time and resources.

The ability of these systems to capture electromagnetic changes for early fault detection is indeed a game-changer. It breathes life into the old adage, 'A stitch in time saves nine.' By identifying faults at their earliest stages, the AMT Pro and e-MCM ensure that machines are repaired or replaced long before they can cause any significant disruptions to operations. This proactive approach to maintenance not only boosts operational efficiency but also extends the lifespan of machinery, thereby contributing to a healthier bottom line.

From this, it becomes evident that the AMT Pro and e-MCM are not merely technological tools. They are strategic partners that offer you the power to foresee problems, the versatility to monitor a myriad of assets, and the intelligence to make informed decisions. They embody a blend of innovation and versatility, making them indispensable allies in the quest for operational efficiency and maximum return on investment.

Section 7: Realizing Maximum Return on Investment

Unraveling the ROI of Artesis AMT Pro and e-MCM is akin to peeling back the layers of a perfectly crafted business strategy. Every layer reveals another dimension of value, every stratum is a testament to the potential these technologies hold for transforming operational efficiency.

The cornerstone of any successful investment is the return it yields. In the context of Artesis AMT Pro and e-MCM, the ROI is multi-faceted, extending beyond just monetary terms. These innovative systems bestow their users with the invaluable asset of time, the luxury of foresight, and the power of precision. By predicting failures and identifying faults before they manifest into costly repairs or debilitating downtime, these systems offer an unquantifiable return on investment. They allow businesses to proactively manage their resources and optimize their operations, thereby reducing expenses and boosting profits.

The payback period of these systems is also worth noting. Just as every industry has its unique challenges and requirements, the payback period for AMT Pro and e-MCM can vary. For industries that depend heavily on machinery – manufacturing plants, power plants, oil refineries, and the like – the payoff can be swift. The high cost of equipment failure in such sectors makes the early detection capabilities of these systems incredibly valuable. Therefore, the payback period in these cases could be as short as a few months.

In other contexts, the payback period might be longer but no less significant. Consider, for example, a commercial office building where the stakes of equipment failure might not be as immediate or catastrophic. Here, the payback period might extend over a year or two. However,

the long-term savings achieved through optimized energy usage, extended equipment lifespan, and reduced maintenance costs make the investment in AMT Pro and e-MCM worthwhile.

It's a game of chess, not checkers. Implementing Artesis AMT Pro and e-MCM is a strategic move designed for long-term gain. The initial investment might seem daunting, but the potential savings and increased profits they lead to make these systems an investment that businesses can't afford to overlook.

Section 8: Ensuring Operational Efficiency

Imagine a world where downtime is minimized, production targets are consistently met, and operational efficiency is not just an abstract concept but a tangible reality. Welcome to the world of Artesis Technology Systems' AMT Pro and e-MCM.

The magic behind these systems lies in their ability to significantly increase site uptime. The secret sauce? A combination of advanced machine learning algorithms and Model Based Voltage Current Analysis (MBVI). Much like a hawk scanning the landscape for its prey, these systems constantly monitor the health of your machines, searching for any signs of potential failure. This ability to anticipate and detect problems before they escalate into full-blown issues enables you to swiftly intervene and prevent costly downtime. It's akin to having an ever-watchful sentinel, always on guard, ensuring that your operations continue to hum along smoothly.

But it's not just about preventing downtime. AMT Pro and e-MCM also play a pivotal role in assisting businesses in reaching their production targets. In a world where time is money, the ability to predict upcoming failures is akin to possessing a crystal ball. These systems not only provide early warnings of impending machine issues but also give insights into the severity of these potential problems. This allows your team to plan interventions intelligently, maximizing uptime, and consequently, production output.

Consider a manufacturing plant churning out thousands of units per day. Each hour of downtime could result in a significant blow to the production numbers. With AMT Pro or e-MCM, the plant management can stay ahead of the curve, predicting and resolving issues before they impact the production line. Imagine the relief of knowing that your production targets will not be threatened by unforeseen machine failures. It's like having a trusted ally in the relentless pursuit of operational excellence.

In essence, AMT Pro and e-MCM serve as the backbone of operational efficiency for any business that relies heavily on machinery. By increasing site uptime and helping reach production targets, these systems empower businesses to operate at their highest potential, unhindered by unexpected machine failures. It's akin to having your cake and eating it too – maximum efficiency with minimum downtime.

Section 9: Reducing Costs and Risks

The magic of AMT Pro and e-MCM lies not only in their superior fault detection capabilities but also in their ability to transform the financial and safety aspects of your organization. The heart of these systems beats with the rhythm of efficiency, drumming out a steady beat of cost savings and risk reduction.

Cutting Operational Costs

In an era where every penny counts, the power of AMT Pro and e-MCM to dramatically reduce operating costs is nothing short of revolutionary. These systems work like a hawk in the sky, its sharp eyes scanning the landscape below for any signs of inefficiency or redundancy. By eliminating unnecessary routine inspections, they streamline operations and free up resources, allowing your business to soar higher and faster.

Imagine a world where routine inspections become a thing of the past, where your workforce is liberated from the shackles of repetitive and time-consuming checks. This is the world created by AMT Pro and e-MCM. By continuously monitoring machines for faults, these systems empower your personnel to focus on more strategic tasks, boosting productivity and slashing operational costs.

Enhancing Safety Through Early Detection

But the benefits of these systems extend beyond the realm of finance, reaching into the vitally important area of safety. Like a loyal watchdog, AMT Pro and e-MCM guard your machines, their sharp senses alert to any sign of degradation. Their ability to detect issues at an early stage is akin to having a crystal ball that foresees potential problems before they manifest, allowing you to intervene before any harm is done.

Consider the peace of mind that comes from knowing your machines are under the constant watch of a vigilant guardian. That's the reassurance offered by AMT Pro and e-MCM. By detecting degrading machines early, they help you avoid costly repairs or replacements, and more importantly, prevent accidents that could endanger your workforce. In this way, these systems not only protect your bottom line but also the safety and wellbeing of your employees.

In the dance of business operations, AMT Pro and e-MCM are the perfect partners, guiding you gracefully around potential pitfalls and towards a future of reduced costs and increased safety. They provide not just a shield against unexpected expenses and threats, but a ladder to reach new heights of operational efficiency and financial success.

Conclusion: Protecting Your Success with Artesis Technology Systems

Just as a masterful conductor guides an orchestra to create a harmonious symphony, Artesis Technology Systems' AMT Pro and e-MCM orchestrate the intricate symphony of machinery operations. They give voice to the silent parts, detect the slightest discordance, and direct the rhythm of your business towards success.

The AMT Pro and e-MCM's sophisticated fault detection capabilities stand as their magnum opus. Their abilities are akin to an eagle-eyed detective, unearthing clues and nuances that may slip past the human eye. Equipped with the ISO 20958 Section 4.3.4 Model Based Voltage Current Analysis (MBVI), these systems delicately scan your machinery for electrical and mechanical failures. They are vigilant guardians, identifying anomalies at different stages of the transmission path, and detecting process issues and changes directly.

Beyond just fault detection, these systems are a boon for maintenance professionals. The tools are like seasoned generals on the battlefield, assisting in strategically deploying resources and improving machine performance and lifespan. They enhance operational efficiency, much like how a skilled sailor maneuvers a ship through treacherous waters, ensuring safe passage without unnecessary detours.

There is a palpable sense of relief and satisfaction that comes from using these powerful tools. It is comparable to the comforting warmth of a lighthouse guiding sailors home amidst turbulent waves. This feeling is not unfounded – the AMT Pro and e-MCM have proven themselves time and again, averting potential disasters and solving challenging situations.

Moreover, the versatility and innovative technology of these systems are like the many strings on a harp, each one tuned to a unique frequency to produce a wide range of notes. They utilize AI-based MBVI to monitor a diverse range of assets and detect numerous faults. Their ability to capture electromagnetic changes for earliest fault detection is akin to a skilled tracker spotting the tiniest footprint in an expansive wilderness.

The return on investment (ROI) offered by AMT Pro and e-MCM is akin to an abundant harvest following a season of careful cultivation. The payback period, although varying depending on the industry and the scope of the project, is typically swift and rewarding. It is as if one has discovered a treasure chest full of gold after a challenging quest.

Usage of AMT Pro or e-MCM ensures operational efficiency, increasing site uptime, and helping reach production targets. Think of it as an expert chess player, predicting upcoming moves, and strategically positioning pieces for victory. Furthermore, they reduce operating costs by eliminating redundancy and routine inspections, and enhance safety – much like a vigilant night watchman who safeguards a village from potential threats.

In essence, the AMT Pro and e-MCM are not just tools – they are silent partners in your journey towards success. They ensure efficient operations and maximize ROI, playing an integral role in the symphony of your business's growth and sustainability. So, as we draw the curtains on this

discussion, remember that the key to protecting your success lies within these innovative solutions offered by Artesis Technology Systems.

Section 11: Final Remarks: Embracing Innovation for Maximum ROI

In the sprint towards operational efficiency and maximum return on investment, embracing innovation isn't just an option, it's a necessity. As we journey through the technological advances of the 21st century, Artesis Technology Systems – with its remarkable AMT Pro and e-MCM – presents a promising beacon of hope.

These systems, replete with machine learning and MBVI, are designed to be more than just 'efficient.' They are your companions in the quest for operational excellence, offering you a level of fault detection accuracy that is nothing short of extraordinary. From electrical and mechanical failures to process changes, these AI-enabled allies can detect a myriad of faults even before they manifest visibly. The result? A significant reduction in operating costs, improved safety, and enhanced performance.

But embracing these innovative solutions means more than just integrating new technology into your operations. It's about embracing a new perspective on how businesses should function. It's about understanding that by leveraging technology, we can drastically improve our operational efficiency and maximize our return on investment. It's about recognizing that technology like AMT Pro and e-MCM is not just an expense, but an investment that pays for itself many times over in the long run.

So, as we stand at the precipice of this new era, let us not shy away from the opportunities that lie ahead. Instead, let's seize them with both hands. Let's leverage the power of technology to minimize risks, optimize resources, and protect our success.

Think about this for a moment: What if you could increase your site's uptime, reach production targets consistently, and reduce operating costs, all while ensuring the safety of your team? That's the value proposition offered by the AMT Pro and e-MCM. These systems are not just tools but powerful allies in your journey towards operational excellence.

So, here's my call to action for you: Explore the potential of AMT Pro and e-MCM for your business. Consider the value they can bring and the success they can help protect. Remember, embracing innovation is not a gamble, it's a strategic move towards sustainable success. And as the old saying goes, 'Fortune favors the bold.' So, be bold, embrace innovation, and let AMT Pro and e-MCM guide your path towards operational efficiency and maximum ROI.

Take this leap towards innovation. Protect your success with Artesis Technology Systems. The future of efficient operations and maximum return on investment is here, and it begins with AMT Pro and e-MCM.