Productive Maintenance: How to optimize Asset Uptime and Cost Control in the Food Processing Industry

IFS Ultimo

Productivity and Profitability

Food processing companies depend upon machinery and equipment to be productive, which is why asset management is so essential to the operation. When a system goes down, so does profitability, with unplanned downtime costing food processing companies $30,000 per hour on average.

This paper explores the asset management challenges food processing companies face and how Enterprise Asset Management (EAM) technology helps.

Industry Oversight and Resilience

Along with maintaining assets and ensuring uptime, businesses in this sector must comply with food safety regulations, including oversight from the Food and Drug Administration (FDA), as well as the Occupational, Health, and Safety Administration (OSHA).

Regulatory oversight is especially important as deficiencies in processing equipment can lead to product contamination. These events result in fines, plant closures, and consumer health emergencies.

Asset managers are under increasing pressure to keep food safe and improve productivity with ever-dwindling budgets. The operation must be agile and able to respond quickly to unanticipated events such as supply chain issues, rising energy prices, and inflation.

Uptime

With unplanned downtime costing industrial manufacturers as much as $50 billion a year, it's no surprise that uptime is fundamentally important to the success and profitability of the company.

If assets are non-performant, even for a short duration, the impact to the business is immediate. Workers are at greater risk when equipment fails. Lost production means less product to sell. Failure to deliver on time diminishes the company's standing as a reliable partner. And when downtime is due to a food safety breach, the business could face recalls, fines, and lasting damage to its reputation.

The costs to investigate and repair mechanical problems that lead to unplanned downtime, especially when the source is unknown, include time, labor, replacement parts, and in some instances, the replacement of an entire machine.

Meanwhile, unfinished products and ingredients go to waste, languishing on a halted production line.

Streamlining maintenance practices helps stabilize the operation and reduce downtime. For example, Agristo produces frozen potato products across four sites serving 115 countries. Previously, each site followed its own maintenance practice which led to inconsistent oversight and productivity. The company implemented IFS Ultimo to manage maintenance across all operations, increasing uptime and consolidating operational data.

Watch the video.

Cost Control

While improvements in asset uptime increase productivity, there is no benefit if it comes at the expense of excessive maintenance spend. The investment must be balanced with careful cost controls in place.

Maintenance costs typically consist of time, labor, parts, and materials, with the potential of unintended waste at every stage of the operation. If the cost of the work exceeds the benefits of immediately restoring production, then a different option should be considered. Spare parts management is another area where costs can spin quickly out of control.

To offset these scenarios, asset management and maintenance must be implemented to extend the lifetime of parts and machines, while optimizing the energy efficiency of the operation. Well-maintained equipment is less likely to fail, reducing downtime and product waste.

Data analytics are critical to these outcomes. Accurate data insights help inform important decisions, such as where costs can be reduced without severely affecting overall productivity.

Resilience

The future is never easy to predict. For example, recent production delays due to supply chain disruptions have led to unplanned downtime for many food processing companies.

IFS Ultimo customers rely on effective enterprise asset management to future-proof the operation. With increased agility, the business more easily adapts to unexpected change, protecting uptime and profitability.

Key Capabilities to maintain Uptime and Costs

The best enterprise asset management practices depend upon a solid strategy, organized workflows, and well-founded decision-making.

Optimized Uptime

Without an asset management strategy, food processing companies are forced to react to maintenance issues. In these scenarios, action occurs only when a fault or malfunction arises. By the time the situation is flagged, serious damage may have already occurred. If a machine breaks down during active operation, the time needed for repairs will be even longer and more disruptive.

IFS Ultimo supports a predictive maintenance model that preemptively forecasts when components should be replaced, reducing planned–and unplanned–downtime.

Data from IFS Ultimo tracks asset performance, quickly identifying poorly performing assets and identifying patterns and causes of failure. Repairs are preemptive, before a failure occurs. As a result, short- and long-term costs are reduced, along with downtime.

Data-driven Decisions

Today, most assets and equipment are connected, generating rich data to guide planning and maintenance. These data provide valuable insights to the state of every asset, including performance and maintenance history and other real-time information.

IFS Ultimo provides the framework for recording, sharing, analyzing, and utilizing operational data. Planning is optimized, including the execution and tracking of all maintenance activities, including materials, tools, and employee skills.

The IFS Ultimo cloud platform collects relevant data across multiple sites, centralizing it within a single repository. The system integrates easily with other solutions to connect the entire operation.

Maintenance workers in the field can access and record operational data via a mobile device, expediting the time to resolution. Repairs can also be carried out remotely using augmented reality capabilities (VR and AR), eliminating long travel time and reducing carbon emissions.

Cost Control

With IFS Ultimo, operational data is digitized and easily at hand, allowing the company to eliminate outdated, time-consuming practices such as paper-based systems and spreadsheets. These workflows are rife with inconsistencies and human error, leading to cost overruns and unplanned downtime.

Asset Performance

IFS Ultimo supports a centralized data strategy for the operation. Asset performance–historical, real-time, and into the future–is easily accessed. Managers have immediate insights to maintenance costs, asset history, and potential costs of lost production if a machine goes down.

Performance metrics are incredibly granular, including the hours worked by the machine, the cause of previous failures, and the time spent on specific maintenance tasks. These insights inform decisions that improve and streamline productivity.

Empowered Workers

With information accessible to all, more senior workers easily mentor employees who are still learning. IFS Ultimo enables knowledge transfer, empowering the workforce while increasing skills and first time fix rates. Advancement opportunities are streamlined, supporting longer tenures, and seamlessly backfilling important roles as senior workers retire.

How an EAM System can maximise Asset Uptime and Control Costs

Data should be treated as a vital asset, but its full value can only be realised if the right data is captured, made accessible and analysed to produce actionable information. An enterprise asset management system such as Ultimo provides the framework for recording, sharing, analysing and utilising data in relation to maintenance optimisation.

Data-driven Decisions

Enterprise Asset Management software can be used to manage the whole life cycle of each asset, from design to decommissioning, including the planning, optimisation, execution and tracking of all related maintenance activities. Its functionality and database take account of the user company's associated priorities, skills, materials, tools and information. It helps businesses not only to optimise asset performance but to increase employee productivity.

With the help of EAM software, companies can harness data to gain better visibility over their assets, optimise uptime, increase maintenance efficiency and improve cost control. The Ultimo EAM cloud platform gathers all relevant data, across single or multiple sites, into one place. In addition, it can integrate HSE software, data and management without the need for duplication in a separate system. It can also link easily to other systems, such as business intelligence (BI) platforms, to extract further insights from their combined 'Big Data'.

EAM software enables users to interrogate the system's data and make data-driven decisions on what steps to take and when. In this way, critical maintenance workflows can be streamlined and asset uptime optimised. At the same time, the staff hours and other costs logged against specific maintenance tasks can be analysed. This helps, for example, in comparing preventive maintenance costs against evaluations of asset uptime benefits.

Planned Downtine Opportunities

Another fundamental EAM function is to track asset performance, identify poorly performing assets and identify patterns and causes of failures. Based on this information, management can intervene to address recurrent problems and improve processes. EAM systems help businesses to maximise asset performance, uptime, lifetime and return on investment through the principle of constant measurement, learning and adjustment.

The improvement enabled by an EAM system moves companies towards more efficient and productive maintenance models and processes, with reduced short-term and long-term costs. This is largely a matter of finding the appropriate balance between maintenance spending and uptime gains. It should be noted that unlimited investment in maintenance work to avoid uptime is financially counter productive.

An effective EAM-assisted strategy will focus on maintenance optimisation. In other words, it will plan for the right amount of maintenance work, at just the right time, and will schedule bundles of actions to make the most of planned downtime opportunities.

A study of UK manufacturers found that over 50 percent of downtime is caused by hidden internal faults in the machinery.

Distinct Maintenance Strategies

There are several distinct maintenance strategies to choose from and an EAM system will help to identify the best option for each situation. Across an organisation, the optimum solution may be a blend of more than one of these.

1. Corrective or reactive maintenance, implemented when failures occur, can be very expensive in terms of asset downtime and damage.

2. Scheduled preventive maintenance, in its simplest form, involves servicing assets and replacing parts according to a fixed routine. It can be wasteful, as sometimes the parts are not yet worn enough to need replacing.

3. Usage-based maintenance can reduce such wastage of labour, materials and parts. In this form of preventive maintenance, timing of actions is determined by hours operated or some other measure of asset use.

4. Condition-based maintenance uses measurements such as temperature and vibration to indicate when parts should be replaced. Condition can be checked at intervals, using hand-held devices, or monitored continuously via sensors with IoT (Internet of Things) connection.

5. Predictive maintenance takes this further by using large amounts of data to model component behaviour so that malfunctions can be predicted before they occur.

Sometimes referred to as 'smart maintenance', it can be combined with artificial intelligence (AI) and machine learning (ML) for the most accurate predictions.

High Costs or Safety Risks

The costs of these different strategies vary with their differing equipment, maintenance software and training needs. For an asset which is unlikely to present serious downtime and cost consequences, even if it breaks down in service, corrective maintenance may sometimes be the most cost-effective approach.

For a machine whose failure would result in high costs or safety risks, the more advanced maintenance models may be justified. The most sophisticated approaches supported by EAM include reliability-centred maintenance (RCM), which can be used to determine the impacts of changing maintenance budgets and methods.

High-level Functions

Amongst many high-level functions, an EAM system can produce instant reports and meet auditing needs with quick and simple access to relevant information. By enforcing and documenting compliance with food safety legislation such as IFS Food 6.1, its EHS software minimises the risk of fines and unplanned shutdowns. If retailers, for example, wish to audit the food processor's maintenance provision, it can easily be shown that the company is compliant, in full control of its assets, and a reliable partner.

Ultimo's Cloud-based EAM Platform

Ultimo’s cloud-based EAM system gives easy access to its information and functions for every authorised user, via desktop, laptop, tablet or smartphone. Use of mobile devices allows them to connect with assets, oversee maintenance and make records, via the IoT, wherever they may be. This means people can work more efficiently and flexibly, saving time on administration and travel.

Following the Same Process

Pre-set procedures and checklists ensure that everyone follows the same process every time, so minimising the risk of errors and enforcing best practice. Automatic notifications prompt the relevant managers to review and sign off jobs.

A growing area of mobile technology which can be integrated with EAM systems is virtual and augmented reality (VR and AR). For example, an on-site maintenance engineer might use it to share views of a machine with an expert who can then give live advice and instructions. As well as saving on travel, this helps to make the most of specialist expertise within the business.

> “With Ultimo, we can demonstrate the performance of our maintenance department much better."

Simplifying and Streamlining

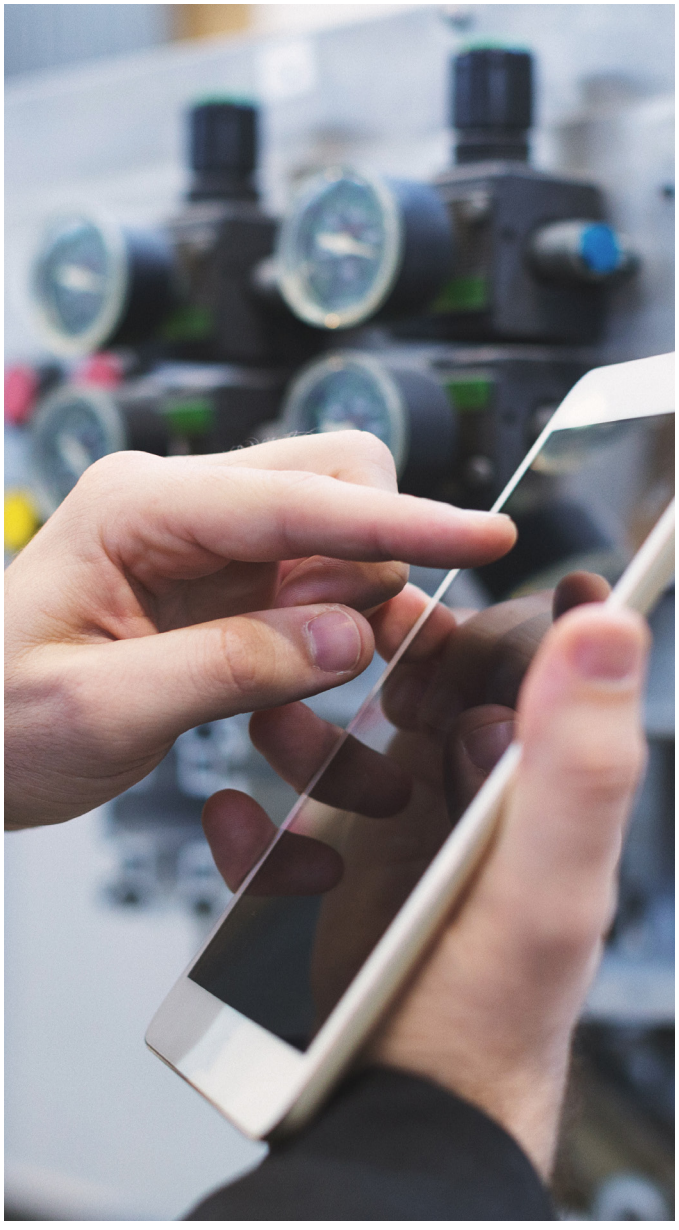
EAM systems, in conjunction with mobile and connected solutions like those described above, have a major role to play in future-proofing assets and businesses. With holistic, consistent processes, applied across organisations and sites, assets are fit for high productivity with minimal downtime and long life. By simplifying and streamlining maintenance, and helping to control and reduce costs, they make businesses healthier and more resilient in the face of future pressures. Their flexibility equips companies to meet changes in demand or circumstances with an agile response – even when events are as unexpected and dramatic as a global pandemic. In the case of Covid, for example, mobile EAM solutions were an invaluable aid to socially distanced working.

New Generations of Employees

Looking further ahead, these solutions will help businesses to retain valuable practical knowledge when older asset management staff retire. In the meantime, their expertise will be effectively shared via the EAM system and will benefit the development of new generations of employees.

Ultimo EAM – for a more Productive, Profitable and Resilient future

Efficient maintenance of production assets to maximise uptime and control costs is essential to profitability in the food processing sector. Threats to asset uptime and cost control include: outdated and poorly planned approaches to maintenance and information management; lack of data on which to base sound decisions; insufficient utilisation of data; slow, inflexible and inconsistent processes; and failure to retain or share knowledge.



Streamline Maintenance

An enterprise asset management system like Ultimo overcomes these obstacles and more with its single-platform data gathering, powerful analytical functionality and user-friendly application. It enables data-driven decisions which streamline maintenance workflows and operations, maximise asset uptime and cut costs. EAM software also ensures that facilities remain audit-ready and compliant with food safety legislation, thus avoiding the great expense of fines and unplanned shutdowns.

Greater Work Flexibility

Mobile and connected EAM technology allows simple access to the system's information and functions, for greater work flexibility and consistent maintenance processes. Above all, an EAM system helps to future-proof businesses and their assets by maximising asset fitness, conserving financial resources, enabling agile responses to unexpected challenges and retaining valuable knowledge.

Cloud-based EAM with IFS Ultimo

IFS Ultimo delivers cloud-based enterprise asset management with unparalleled time to value. We work with food processing manufacturers globally, helping them increase uptime and control costs within a safe and healthy work environment.

For more information about IFS Ultimo, visit the website or contact us.

About IFS Ultimo

IFS Ultimo is a SaaS EAM solution from IFS, focused on maintenance & safety and well known for a rapid deployment, ease of use and an unparalleled time to value. Details about IFS Ultimo can be found at Ultimo.com.

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations. Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers—at the Moment of Service™. The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our team of 5,000 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers. Learn more about how our enterprise software solutions can help your business today at ifs.com.

www.ultimo.com