

Axional UMS

[Utilities Management System]

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Axional UMS (Utilities Management System)

“Achieve operational excellence and become a customer-centric company ”

Electrical utilities are currently facing several challenges, including the need for grid modernization, increased customer demand for cheaper, more reliable and environmentally sustainable electricity, and tight governmental regulations. New technologies, such as IoT integration, are introducing immense challenges which the industry must solve through truly lean operations.

Utilities companies can reshape their relationship with customers and improve service delivery by embracing new technologies to process consumption data. The industry can use this information to empower customers to manage their service and control their own usage. The era when consumers only interacted with utilities companies for a complaint or service issue is over; it has given way to a new, dynamic, two-way relationship.

The focus of utilities must therefore be to roll out new services and offerings, while simultaneously delivering a modern customer experience to achieve greater transparency. Otherwise, customer satisfaction and loyalty are at risk of declining. The power utility companies to succeed in the future will be those who replace legacy systems with more agile, flexible applications, finding new ways to become more customer-centric. These new systems will empower customers with proactive and personalized care on all channels, alongside the ability to control their usage experience.

The main features of **Axional UMS** include:

Axional UMS is designed to manage the full business cycle of a business in the utilities sector, from meter to billing.

Its internal architecture has the flexibility and scalability to adapt to continuous changes in the business environment while also bringing innovation to the company. When deployed, it offers the ability to easily automate routine/standardized processes, helping to achieve operational excellence. Axional UMS includes modules to enhance all utility operations, such as grid management, asset performance management, billing, customer relationships, workforce management, supply chain and smart meter integration.



Billing

Our billing engine can handle all types of situations that arise in regions where regulations separate power generation from power distribution and service providers. Any combination of these business areas is accepted to generate a corresponding invoice (with logos and formatting specifically designed for the final consumer).

Many other features of this module help ensure a streamlined and error-free billing process:

- **Facility Definition:** The system allows the grouping of various locations (apartments, garages, businesses and other properties) to define a single facility for an individual subscriber.
- **Services & Rates:** For each facility, the user can define any number of any kind of service provided in each facility, with their own combination of rates and services.
- **Single Bill:** Multiple meters or services can be billed on one statement. This feature is aimed at multi-unit property owners or customers who require multiple services grouped on a single bill.
- **Calculate bills periodically based on:**
 - ✓ Meter readings: Uploaded from external meter reading system or via bulk manual data entry with an error control system
 - ✓ Flat rates
 - ✓ Services whose rate is based on other services (pro-rata shared services, etc.)
- Invoices can be sent by email

The module integrates effortlessly with the Smart Metering infrastructure put in place by utilities. It collects and validates the data recorded from meters, both in batches and in real time. With Axional, your organization will possess complete information about your subscribers' consumption, account status, service issues, etc., including the tracking of multiple locations for individual customers. This integration allows your company to track meter maintenance as well.

Armed with all this information, your organization can interpret consumption data and reshape your relationship with customers, empowering them to manage their service and control their own usage.

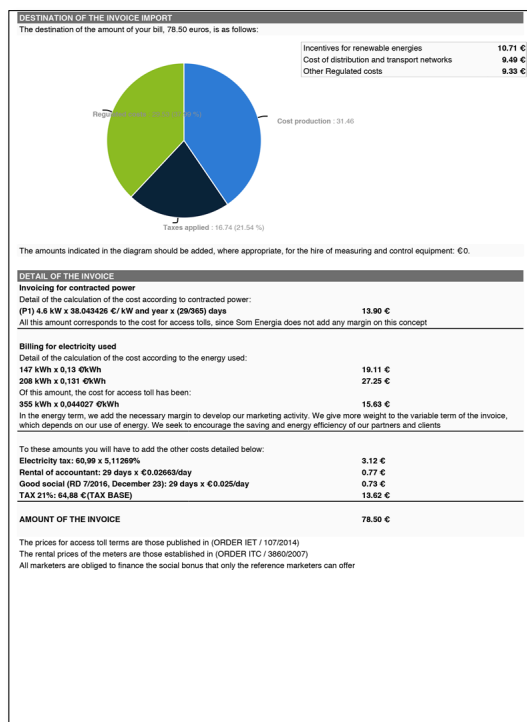
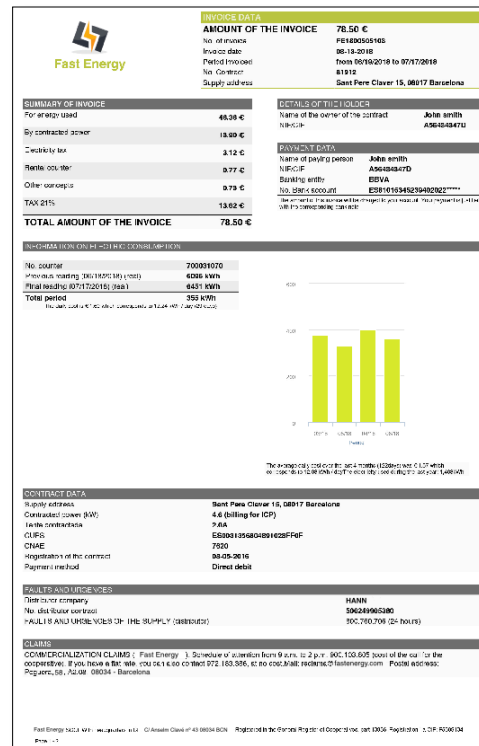
Print Management

Axional UMS incorporates components to develop high-quality documents, with features including:

- Suitability for presentations and formal publications.
- Integration of tables, graphs, maps, etc.
- Easy navigation between reports (through links).
- Production in different formats (HTML, PDF, etc.).

The Report Engine was originally designed as a solution for the mass production of reports in the business environment. It can produce any type of document, all of them customizable to your company's needs.

The report engine produces four categories of reports and includes electronic signature capabilities, mail integration, and strong database integration. It also includes a batch scheduler to periodically distribute reports to specific users.



A key issue in the utilities industry is the generation of invoices with complex layouts that include graphs and images as well as barcodes or QR codes. The system includes a tool capable of designing complex multi-page invoice layouts to comply with ever-changing regulations. These layouts can also be customized at the subscriber level. The billing process will use business rules to automatically choose the most appropriate layout for each customer, according to regional regulations and subscriber preferences. Information such as advice on opportunities for efficiency and energy-saving, percentage of supplied energy which is green, etc. can easily be integrated into the invoice layout.

Thanks to strong database integration, generated invoices can be made readily available through the customer portal. Businesses have no need to worry about delays and discrepancies in information, because they are both essentially the same document.

For internal use, the report engine can also produce business reports with automatic layout, Pixel Perfect reports used for analytics, and published reports. For this last report type, the engine can also print tables with visually appealing mini-graphs in the cells.

Network Management

Axional UMS integrates network data from generation to transmission to distribution, providing a global view of network assets up to consumer locations. Assets can be geographically located on the interface using tools like AutoMap.

The system permits unified management of energy acquisition, including decentralized and distributed (renewable) energy resources, payments to distribution companies, and billing to final subscribers.

Easy integration with automatic meter reading (AMR) systems is possible. The interface is bidirectional, allowing utility companies to send commands to smart meters and even shut them down if required. The system performs long-term data storage and management for the high volumes of data sent by smart metering systems. This information enables companies to gain accurate meter readings and high-quality forecasts of predicted electricity consumption. The result is increased reliability and customer satisfaction metrics, such as CAIDI and SAIFI.

Customer Portal

Improving the customer experience is central to modern utilities. Businesses must find new ways to fulfill customer requirements and engage with them similarly to other industries, like retail, finance and telecom.

Offering a well-designed Customer Web Portal is a good start to enhance customer experience. Axional UMS includes a module to build modern and comprehensive Web Portals, offering the following features:

- Help Desk / Self-Service Portal: Many customers prefer self-service, at least during the first steps of the process. With our Portal, your company can provide answers 24/7. Customers can access all information related to the services provided by your company: billing, past consumption records, energy-saving advice, safety recommendations, etc.
- Complaint Management. One of the Portal's key functionalities. It includes:
 - ✓ Trouble Ticketing: All communications, including emails, are converted into tickets to ensure the quality of the resolution process.
 - ✓ Complaint Monitoring: Customers can keep track of the status of their complaints. Also,
 - ✓ Integration with maintenance management, financial and other systems to facilitate issue resolution.
 - ✓ Known Issue Management. Thanks to a Docs & Knowledge Base, customers can describe their issues more easily. The system can guide them to the appropriate point and even provide an automatic first response.
- Social Networks: Social media is fundamental to listen to customers' needs in a real environment. The Portal provides ways to answer customers on Facebook and Twitter. It includes functionalities to build a Customer Community as well.
- Live Chat: The Portal features a built-in, real-time chat widget with automated invitations. Chat invitations can be triggered based on available customer information, as well as visitors' behavior metrics such as geographic location, current/referral page, time spent on website, number of previous visits, and more.



Asset Maintenance

The goal of this module is to optimize the use of scarce resources (manpower, equipment, material, and funds) to maintain the facilities and equipment which a maintenance organization oversees. The system provides integrated processes, granting the manager control over the maintenance of all facilities and relevant equipment from acquisition to disposal.

Work Orders

The ability to manage work requests, labor assignments, planning, and scheduling allows companies to make the most of their resources while improving productivity.

Axional CMMS uses Work Orders to track all aspects of work performed on assets: from installing new equipment to carrying out preventative maintenance tasks and managing critical shutdowns.

Axional UMS includes a powerful dynamic scheduling system which can create and administer work orders based on preventative, inspection-based and condition-based maintenance information.

Preventative Maintenance

Work Orders are created and scheduled automatically based on information from preventative maintenance programs. There are numerous scheduling options available to generate work orders:

- Schedule by calendar, both fixed and elapsed dates (Preventive Maintenance Guides).
- Schedule by equipment metrics, such as operating hours, production counts, mileage, etc.
- Schedule by equipment condition or alerts.
- Schedules based on Operations/Production planning.
- Opportunistic scheduling (based on machinery availability, such as performing preventative tasks during machine downtime).

The broad set of information managed by Axional helps managers ensure that operators follow proper procedures during equipment checking or repair, even for new hires.

Track Work Progress

This system enhances the company's capability to track and manage work requests, labor, planning, and scheduling. All work performed on assets is fully recorded through Work Orders:

- Tracks job time, response time, machine downtime and other user-defined metrics.
- The module records and tracks multiple costs for labor, parts, and materials.
- Technicians and operators can easily record these costs by customer, building, department, cost center or other user-definable criteria.
- The system allows for user-definable cause, failure and solution codes specific to asset types.

The system allows planners to view detailed planning information: work plans, scheduled costs of labor, materials, and equipment, failure analysis and related documentation. They can monitor outstanding Work Orders by searching the Work Order backlog using any field. Planners can also manage work order assignments by, for example, viewing all work orders, or viewing work orders assigned to or by a particular person.

Purchasing and Inventory Management

Axional helps companies maintain an optimal inventory of parts and supplies. It includes a Purchasing module to initiate materials acquisition against a work order, as well as to track the item's delivery and cost data when the material arrives. Its database handles all information related to items, including non-structured data such as drawings, schemas, etc.

Purchase requisitions or orders can be created for both materials and services. Purchase requisitions are automatically converted to purchase orders. When necessary, operators can create special orders by entering item descriptions as line items for parts not in the inventory database.



The system includes several useful features:

- Control of supplies' expiration dates.
- Extensive set of functions for inventory valuation.
- Use of rotating inventory method.
- Very flexible approach to receiving (back order or cancel any amount on an order, split quantities for individual line items, apply individual discounts to items, etc.).
- Tracking of item costs by most recent cost, average cost or user-defined standard cost.
- Bar code management of equipment.

The purchasing cycle is fully integrated with other enterprise financial applications, either from Axional or from third parties, allowing for two-way (PO/Invoice) and three-way (PO/Receipt/Invoice) matches. Inventory records of parts are updated automatically, and Work Order costs are automatically transferred to financial applications. There they are associated with the corresponding Cost/Profit Center.

Contractor Manager Module

External labor costs are becoming increasingly crucial in all operations and maintenance environments. The system includes a Contractor Manager Module to track external labor (contractors, maintenance services and outsourced labor).



Workforce Management

Our system is capable of managing all types of personnel: your company's own employees, personnel from third-party maintenance companies, or external individual specialists. The objective is to help managers ensure manpower availability.

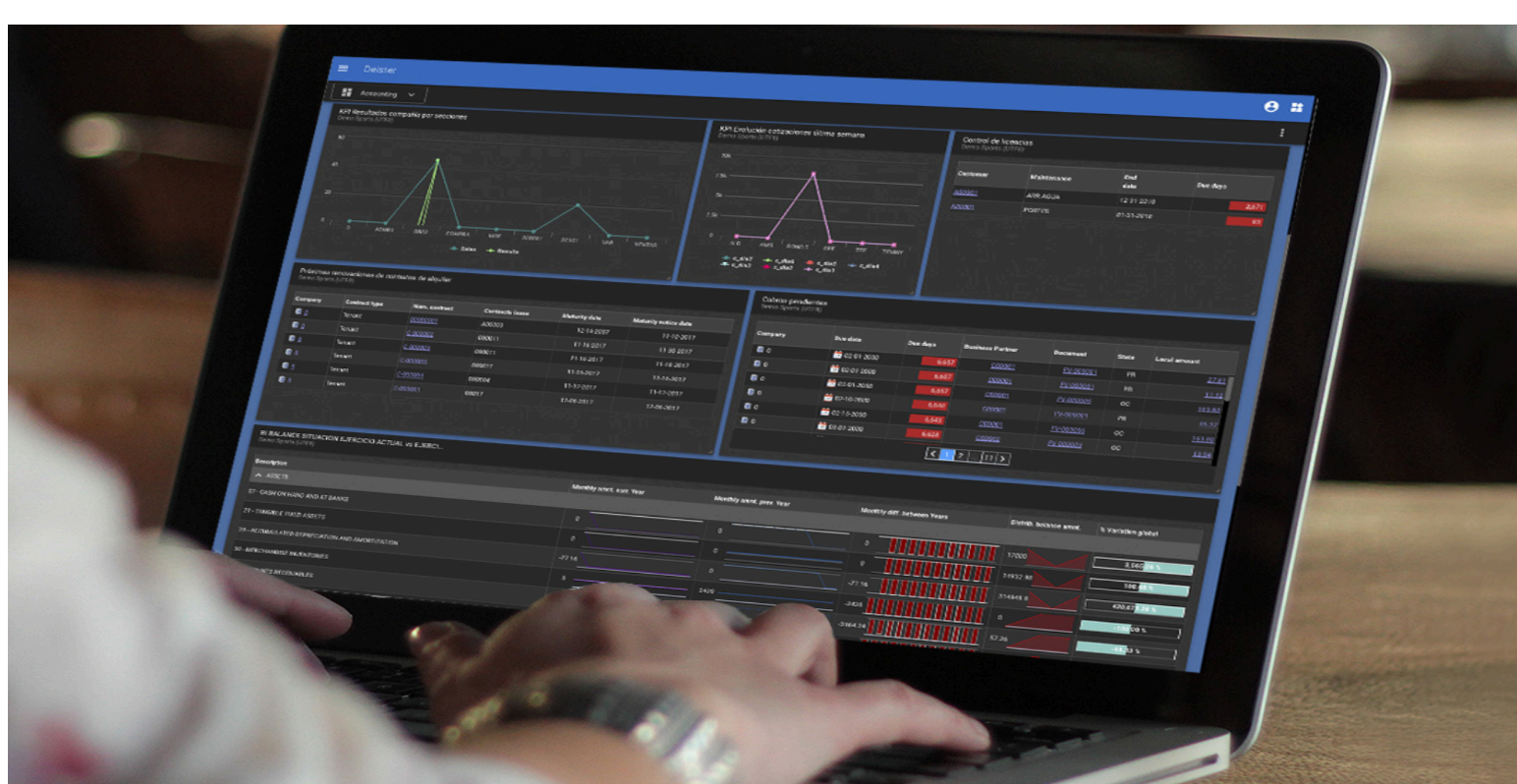
The module provides a full record of employee information, including training, hourly wages, individual safety issues, etc. Thanks to integration with corporate applications, the module also keeps track of employees' schedules and holiday entitlements. It uses all this information about availability and capability to assign personnel to work orders.



Axional UMS includes a mobile solution that makes maintenance functions more agile and efficient, helping technical staff sent into the field manage the tasks assigned to them. Your company will efficiently manage emergencies, increase reliability of information collected in the field and, as a result, improve your level of service. The module functionality is based on a work order (WO) manager used to carry out assignment and tracking of labor hours, replacement parts, tools, etc. It can be used equally well for scheduled tasks or for unplanned incidents. Work orders are the fundamental element in managing preventative and corrective maintenance, performing inspection tasks, consulting repair history, and generally tracking the efficiency of maintenance functions against associated operating costs.

To ensure rapid and successful deployment of the system, the following features are included:

- **Ease of use:**
 - ✓ A simple and intuitive interface. The learning curve is virtually zero.
 - ✓ Remote access to textual and graphic information about machinery (images, diagrams, manuals, etc.).
 - ✓ Barcodes to aid data entry.
- **Security:**
 - ✓ Allows users to work in a completely 'offline' mode with previously-received work orders. When a connection is re-established, the system receives completed data and sends the user an updated calendar.
 - ✓ In the case of breakdown or loss of a terminal, the user can log in on another device and regain access to all of their information.



Business Intelligence

The system can provide various types of dashboards to use when managing the organization's resources, along with visual representations of facilities' key performance indicators (KPIs) or metrics. This intelligence is used to evaluate the effectiveness of current operations and to make organizational and personnel decisions.

Typical KPIs relevant for utilities include, among others:

- Number of active customers
- ARPU (Average Revenue per customer)
- Churn rate (customers lost/gained in a period)
- Percentage of possible power revenue billed
- Industry-standard Reliability Indicators, such as:
 - ✓ Customer Average Interruption Duration Index (CAIDI)
 - ✓ System Average Interruption Duration Index (SAIDI)
 - ✓ System Average Interruption Frequency Index (SAIFI)
 - ✓ Momentary Average Interruption Frequency Index (MAIFI)

- Percentage of customers that would characterize their bills as accurate and timely
- Customer satisfaction index, tracking complaints and service issues
- Average cost and revenue per megawatt produced

Many other relevant KPI can easily be built into customized dashboards for each management level, using multiple integrated data sources. All these KPI will help management to:

- Respond to market opportunities by making timely decisions in the realm of inventory, purchasing and distribution
- Evaluate market and consumer trends, watching out for variances between projected and actual data
- Ensure power grids' optimum functioning
- Perform accurate financial planning

Why Choose Axional UMS?

Efficiency is critical for businesses. That's why computing systems must be specifically adjusted to the concrete needs of each organization. **Axional UMS** was designed under this premise from the beginning, and offers the following benefits:

- **Flexibility.** The system offers numerous options for configuration and adaptation. We even offer a complete framework to create specific developments with rapid turnaround, without the need to rely on hired specialists.
- **Rapid rollout.** Highly intuitive user functions, combined with the availability of standard features, make rollout projects far smaller and simpler. The learning curve is brief, and companies can begin to add value quickly via improvements to their workflows.
- **Powerful, flexible software architecture.** Based on modern architecture, capable of handling thousands of users, and totally web-accessible from any place and any device. Our architecture is multi-tenant, meaning that the system can be hosted in the cloud (whether private or a public cloud like AWS or Azure). Powerful mobile features are also available to help minimize non-productive time and proactively manage operations.
- **360° visibility for your business.** The system runs completely in real time, using the 'single data' concept. This trait is tied to the ability to use our tools to create Balanced Scorecards; it ensures that managers can continuously access highly useful information to act on key aspects of operations which affect their business.
- **Traceability.** To guarantee an excellent customer service level, it has become essential to possess detailed information..The system offers total traceability for all operations thus offering clients a high level of service.

