

ATHENA

Analytical Platform designed for Smart Grids. Advanced intelligence for utilities business processes.

Smart grids provide much more detailed and frequent information about electronic meters and power distribution network.

Utilities' assets telemetry is the Big Data for power industry. Provides much deeper knowledge about load, its behavior and also about the distribution network.

That information, combined with other technical and commercial databases, generates value to the Distribution Company business processes, boosting the investment made in the smart grids.

The challenge lies in the ability to deal with and process big data, allowing users to automatically and autonomously develop analyzes through "ad-hoc" or structured searches.

Even on a conventional network, the solution enables faster and better quality analyzes at strategic, tactical and operational levels, by accessing granular information from different systems and correlating them in a contextualized way.



Predictive, risk and decision support analysis for:

- Corporate Strategy.
- Market Analysis.
- Energy Supply Forecasting.
- Network Expansion Scenarios.
- Real-time operation.
- Pre and Post Operation Studies.
- Revenue protection.
- Customer Service.
- Engineering and Maintenance.



Ciências Aplicadas à Sustentabilidade Science Applied to Sustainability castecnologia.com.br

ATHENA

Pre-Configured Modules

Products and Services Quality

Decision support and service prioritization for outage restorage, with **real-time** information from every single event:

- Regulatory impacts: risk analysis about penalties indicators.
- Revenue losses: not supplied energy forecast.
- Amount of interrupted customers and critical customers identification and location.
- Field teams dispatch: suggestion for sequencing and routing services.

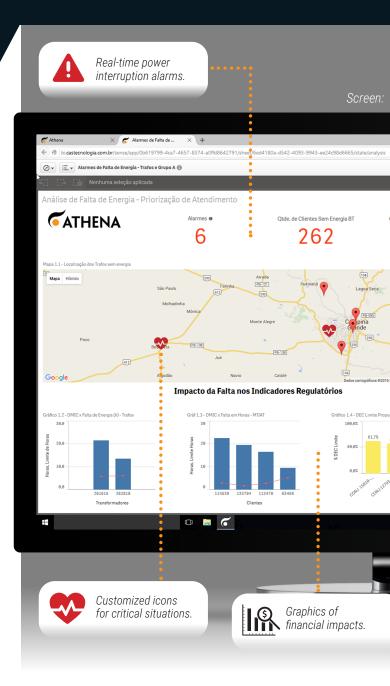
The application extends to service quality monitoring on a permanent basis and can be customized according to the most appropriate business rule for each event, reducing operation expenses, penalties related to regulatory limits and/or minimizing events impact on society.

Infrastructure Management

Maintenance expenses reduction and risk minimization, by:

- Accurate assets performance monitoring.
- Identification of inconsistencies, defects and their consequences.
- Communication services quality monitoring.

A precise asset life cycle management identifies lack of performance and failure trends, guiding preventive maintenance or asset replacement. It makes possible the quality of services improvement, the profitability increase over the allocated resources, and a more efficient acquisition and asset management.



Commercial ••••••

By integrating a wide range of information from different sources, it improves the attendance service and reduce risks in all other customer services:

- Client qualification by adequate scoring.
- Greater assertiveness in customer services
- Agility for new loads approvals, according to network availability.

Provides better quality and greater productivity in services, with detailed customers knowledge, relationship historical and services experience evaluation.





Strategic Management •••

Provides advanced analytical view about different regions, business units or group companies performances, based on:

- Regulatory indicators comparison.
- Specific and personalized indicators configuration.
- Trends recognition.

Promotes risks identification and anticipation, helping to meet strategic management goals.

O Energy Market Analysis •••••

Access to micro localized information such as consumption increase historical rate and demand growth forecast by network electric element/region to support processes that benefit with detailed knowledge about load behavior and network availability, such as:

- Market planning.
- Energy supply.
- Electric system expansion planning.
- Assistance to new loads connection (possibility of online consultation).

Great analysis flexibility and agility, and better planning resources, allowing elaboration of scenarios and associated costs, optimizing resources allocation.



Revenue Protection ••••••

Customer behavior analysis, energy balance monitoring for distribution transformers and other associated commercial information are excellent sources for:

- Detection of potential irregularities.
- Improved assertiveness of inspections.
- Regionalization of potential risk scenarios.

It provides risk scenarios configuration in a flexible, integrating information from different sources and introducing new methodologies for fraud analysis.



Customizable Modules

Fully flexible platform, available for customization according to the utility specific needs.



Access through main

Access through main browsers in market - Internet Explorer, Firefox, Safari and Chrome. Available for Android and iOS for smartphones.

Quality of Information

Information source management (extraction, transformation, cleaning, loading and modeling) carried out by professionals with expertise on utilities' business and all technologies involved.

High Performance

Due to associative and "In-Memory" technology to consolidate multiple data sources and work with all of them loaded into memory (compresses data by up to 90%), the platform reduces problems like slowness and millions of Smart Grid data complexity management.

Integration

Integration with several corporate systems: MDM, GIS, Commercial Systems, Service Order, SCADA, Control of Technical Losses, Public Information Systems etc.

Query Flexibility

"Ad hoc" queries allow users to explore data directly on the platform, automatically and autonomously, no need of an IT analyst.

Quick Decisions

Eliminates logical errors, allowing decision making based on contextualized information from integrated database.

Storyteller

Allows the executive and/or manager to understand analysis records through the construction of scenarios and risk assessment by collecting data.

