

A full solution for consumer engagement into **Smart Grid**



Energy, water and gas consumption manager, metering analysis and relationship interfaces



Smart Grid + Relationship

The Smart Kustomer tool enhances the utilities smart grid processing meters collected information providing client simple comprehension formats and structured for the utilities' analysis – aggregating analytic possibilities throughout the process.

It presents clients' consumption behavior qualification, enabling the evaluation of the consumption's reduction action's impact and/or usage awareness carried by the utility.

It supports planning for awareness actions and makes possible new products and services offerings by the utility.

The Solution

This solution can also solve the problem of effective usage of the information collected during conceptual tests of smart grid. It allows utilities:

- Know the client
- Segment properly the communication
- Integrate the current business and
- Generate a model which guarantees the ROI of smart grid solutions

It can be integrated to the current system through information collected access gateways and it allows the performed actions monitoring.

In a second step, during the deployment and evolution of the smart grid, it will be possible to organize new products and services based on the of the consumers' energy usage profile and even create new relationship and products through the smart grid.

The conditions of energy consumption and billing, according to seasoned and pricing conditions, are presented in order to promote the recognition of consumption and possibilities for the customers.

With this kind of solution, the real time pricing characterization can be presented to client's decision resulting in a possible remote turn off controlled appliances.

Energy Usage Intelligence

smart
kustomer

Client can manage their equipment, consumption and energy usage, simulating change of habits and new equipments (residential, industrial and commercial) - access via web or mobile.

Knowledge management by the utility, habits' viewing, load curves and demand - energy usage supervision.

Management of the collected information, alert or failed communication, data consistency assisted operation - operational supervision.

Logistic and operation management of monitored equipment by/for the customer - maintenance management

Integrates into AMI (Advanced Metering Infrastructure) transforming data into knowledge, and allowing the utility to preview the systemic metering done with their implemented smart metering measuring apparatus.

Intelligence
of Energy
Usage

AMI (Advanced metering Infrastructure)

Medição Inteligente (smart metering)

The solution is composed by a group of resources that allows the Energy Efficiency audit to exert:

- The consumption behavior's analysis and meter load curves reports to the utilities managers
- Consumption overview and usage behavior simulation by the clients, allowing them to evaluate on line appliances energy usage and residential metering information
- Audit and manage installation and maintenance metering and sub metering equipment team services
- Operational control and supervision audit with online document repository and work flow
- Structuring appliances possession and energy consumption survey (awareness of the client's consumption profile)
- Strategic analysis periodic reports per clients and regional metering evaluation grouped by different available parameters
- Permission to access via web and mobile

The availability of the consumption collected and sorted information had supported successfully smart grid implementation cases and had increased its results



Appliances' metering whit smart plugs and communication's concentrator

Energy Information Management

A customs change?

Cultural changes with knowledge and Energy Efficiency app - smart grid projects and implementation tool

It can also be applied to control houses, buildings, condominiums and industry energy efficiency joining energy as well as water and gas dedicated meters.

Supervision and Verification Center

- Detailed information of energy consumption within established intervals
- Installation management and maintenance
- Equipment and consumption supervision
- Monthly, local and familiar demand preview
- Energy usage knowledge management and clients detailed information storage
- Organization and operational maintenance and alarms
- Clients' groups information and segmentation according to their consumption and energy availability/billing



Residence

Via WEB and mobile:

- Detailed information of energy consumption
- Equipment and consumption supervision – “equipment’s remote shutting down - internet of things”)
- Monthly energy consumption preview

Industry

- Detailed information of energy consumption at industries (with or without being connected to the utilities)
- Department monthly energy consumption preview
- Equipment supervision

Company and Commerce

- Detailed information of energy consumption at companies (with or without being connected to the utilities)
- Department monthly energy consumption preview
- Equipment supervision

Inovation

the tests with the technologies of smart grid must be oriented also to evaluate and characterize the changes in consumer behavior/customer energy and produce systems estimates beyond the infrastructure, simulate and evaluate the consumption profiles (whether residential or industrial). They must search the knowledge for a deployment with ROI and operational security.

Deploying Smart Grid is to recognize the necessity to encourage the conscious and rational use of resources.

The use of energy and water, its relevance to modern life and comfort associated, has leveraged debates about the efficient and conscious use of resources, an important factor in the chain of human development.

For utilities if the customer is elected and respected as a decision maker in the process, different horizons will be conquered, resulting in smart structure of their networks and the "new" business.

All the stakeholders must be involved and organized to build or update the energy grid aspects of quality, availability, infrastructure, standardization, interoperability, reliability and sustainability. Awareness of usage/demand, gains and comprehension of the clients must also be sought in a suitable way.

The sectors of energy, gas and water supply have been through important structural changes, since the public monopoly is evolving towards a model characterized by the private capital participation as well as the modernization, in pursuit of offering bundled services and the organization to transform the consumer into an effective client and an economic-decision maker participant. This environment requires special solutions, considering the production model of the energy company to expand the relationship with this new customer profile, to encourage efficiency and to change consumption usage. This can be achieved by making available their consumption information.

We are looking up to engage the consumer in the process as a decision maker and customer, as an agent and responsible for a conduct that features a commitment with the planet and the community.

Additional information

The courage of changing the relationship with the customer begins with the proposal of smart metering their relative information of energy services. Measuring and sending these information to be processed and made available for the company together with the segregation for the customer's motivation are the first challenges.

This product sorts the data generated by the consumer periodically instead of a single monthly information just for bills.

It maps the active energy, reactive energy, current, phases, interruptions and violation information, etc.

Characteristics, Functionalities and Benefits

General Motivation

- Delivering information to the consumer can be done via web or mobile with the option of modules integration, like cellphones, to the already existing operational conditions in the concessionary
- Use of techniques and methods of the Smart Grid architecture to create consumption management of water and electrical energy, billing and metering solutions based on consumption and demand knowledge
- Validation of multi-technologic communication environment through analysis of data consistency
- Validation of communication and metering management
- Validation and consolidation of telemetry data, multi-metering and information management
- Qualification and implementation of operational platforms which allow the offering of indicators to each user and their own utilities when monitoring their usage habits
- List the regulatory constraints and find ROI solutions in smart grids implementation

business model

SaaS (Software as a Service) and licensing, as a system or mobile app

technology

Architecture
WEB and mobile
Platform
Windows and linux
DBMS
PostgreSQL, SQL SERVER and Oracle
Technology
Java
Methodology and Development
KNBS

Social Motivation

- To develop the involvement and exercise of citizenship of the customer by monitoring and auditing the production chain: create the habit of rational consumption
- Properly present the energy usage in the domestic environment and assist customers in their consumption
- Improve usage awareness considering the economy, comfort, welfare, social and global participation
- Provide conditions to verify the expenses with energy bills and estimate them with a behavior change
- Provide an estimation of residential energy and water consumption
- Contribute to the environment development (energy efficiency)
- Contribute with sustainability actions and policies



Smart Grid (intelligence in the network) with customer insight

Smart Kustomer, a KNBS product to enhance the consumer's energy usage efficiency! The reduction of financial costs without reducing comfort is an individual challenge that should be encouraged.

Smart Kustomer is a platform for analysis and keeping track of energy, water and gas consumption. Utilities could participate and interact with their customers to actively develop this new way of acting.

It organizes the knowledge generated by residences, industry and market's metering and reports also smart plugs appliances sensors information.

It can also control houses, buildings, condominiums and industry energy efficiency joining energy as well as water and gas meters.

KNBS – Knowledge Networks & Business Solutions – works in the research, creation and development of business solutions based on technological expertise in the areas of computational engineering, electric engineering and telecommunications engineering, always trying to contribute to the development of the people and the client organizations through innovative, health-conscious and sustainable solutions.

The business solutions created and developed by our team include specialization in the following areas:

- Knowledge Management applied to Smart grid and to the energy industry
- Telecommunications Network Planning,
- Business Intelligence & Solutions, Analytics
- Geographic processing,
- Services and Solutions Technology planning,
- Customer Relationship.

We frame problems and transform them into solutions.

In order to achieve these results KNBS uses its top technologies and expertise to leverage the knowledge management, new processes, business which benefits the society in general. Our products and researches, based on innovation and criativity are translated into results.

This is the way we want to help to construct a better future added to the rationale behind our passion for technology.

Since 2003, our experience in top technology and business has allowed to apply knowledge and process to specific problems and find out efficacious solutions, with adequate cost-benefit relation. This improves the operation and strategy, resulting in business benefits.



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