SMART ENERGY

ENERGY & UTILITIES

Smart Solutions for a Digital World
More than 140 Energy companies worldwide support their key business processes using Indra Solutions

indracompany.com
InGEN - Energy Management

InGEN is a comprehensive and modular solution capable of fully supporting the processes involved in energy management, for Generation & Distribution companies and other energy market participants.

InGEN integrates, on a common and unified vision, the whole energy management business, from operating plants to the generation portfolio management and operation in energy markets.

This integrated view of the energy management is based on more than a decade of accumulated experience with implementations in multiple countries, managing all types of generation technologies and operating under different types of energy markets.

**Real-time Connectivity:** Robust connectivity with process variables.

**Analytical capability:** Allows analysis from basic levels (plant and hourly detail) to fully aggregated levels (Country / Company and monthly / yearly breakdown).

**Modularity and Scalability:** The modular architecture allows easy evolutive maintenance activities on both functionality and number of managed assets.

**Globality:** Geographic assets management with multi-zone, multi-connection, and multilingual capacities.

**ERP Integration:** Full integration with ERP systems.
**InGRID** supports current and future requirements of the grid transmission & distribution companies through a modular solution based on five basic principles:

**Geo-referenced Information:** All modules are supported on GIS advanced features, allowing a clear view of the grid status, as well as all the relationships among its elements.

**Modularity and Interoperability:** Standard-based interoperability, enabling integration with call centers, business systems, management systems, measurement, and other agents’ systems, providing operators and managers with a complete and holistic grid view.

**Real-Time:** Integrated with SCADA systems and field devices through our real-time platform (**iSPEED**), enabling distributed intelligence, real-time monitoring and decision making.

**Smart technology:** Includes advanced analytical and simulation capabilities to allow fast grid diagnosis and effective identification and implementation of optimal resolution strategies.

**Smart Grid support:** Ready to support coordinated demand response, distributed generation, storage and active grid elements.

**InGRID Distribution**

**DASHBOARDS**
- DMS
  - Network Operation
- WFM
  - Work Force Management
- PLAN
  - Network Development & Maintenance
- NDM
  - Network Development & Maintenance
- IDEA Active Assets Inventory GIS

**ISPEED REAL-TIME INTEGRATION**
- Head-ends
  - Communications

**COMUNICATIONS (GPRS, PLC, RF, WIMAX)**
- Distributed Communication
  - InGEN
- Substations
  - InGRID SUBSTATION CONTROL
- Meters/devices
  - InGRID METERING DEVICES
- Electric Vehicle

**InGRID Metering**

**Meter Data Management**
- InGRID METER DATA MANAGEMENT

**Data Analytics**
- InGRID METRIC ANALYSIS
- InGRID INGRID ENERGY EFFICIENCY PLATFORM

**Energy Control & Losses**
- InGRID ENERGY CONTROL & LOSSES

**Energy Efficiency Platform**
- InGRID ENERGY EFFICIENCY PLATFORM

**Big Data**
- Other Head Ends...

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**InCMS - Customer Management System**

**InCMS** is an integrated, modular system designed to support customer management, invoicing and collection for utilities and energy companies. Its highly configurable functional structure has been designed to meet the needs of a dynamic market in constant evolution, having already been covered in more than 90 implementations since 1998.

**InCMS** has been included in Gartner’s Magic Quadrant in the CIS (Customer Information System) category for the last 8 years.
Indra offers an **integral solution to the Security challenges that companies have to face**, minimizing vulnerabilities and ensuring the continuity of the business. INDRA’s Security unit includes services for physical safety and cyber-security, supported by its own products and strategic partners.

### Cybersecurity
The proposal developed by Indra includes a set of **technologies, processes, procedures and services addressed to protect the assets** (physical, logical or services) of a company or organization which depends on an ICT infrastructure.

**Prevention, anticipated answer, protection and reaction to threats** for the systems that support the business processes and systems and networks that operate the **mission-critical infrastructures**. Development and implementation of **cybersecurity plans and Securization of Smart Grids**.

### Physical Security
Indra develops all phases of security projects, **from the definition of security plans to security systems implementation and maintenance**:

The basic characteristics of Indra projects are:
- Smart integration of complex security systems
- Creation of integrated control centers.

**Own products:**
- **Antimalware safety desks**: Access control of mobile and portable devices to restricted areas
- **Safe voice and data communications** with commercial cell phones through cellular and wireless networks
- **Frequency Inhibitors**
- **Radiation portal monitors**

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### CONSULTING
Indra has a portfolio of products and services designed to improve the management of the energy companies. Our offering is tailored to the needs and requirements of the energy sector and it is focused on creating and improving our clients’ competitive advantages.

#### Offering

**Customer Service**
We aim to improve **customer satisfaction** through the improvement of the whole commercial cycle.

**Regulatory Consulting**
We also help our clients **optimizing their regulatory management processes** (tariff setting, wholesale markets rules, regulated revenues).

**Operational Efficiency**
We help our clients to **improve their operations**, focusing on redefining key processes, analyzing the adequacy of the organization and optimizing the use of technology to reduce costs and improve efficiency.

**Market Consulting**
We work with organizations and market operators in ensuring a proper transformation and evolution of the sector: transformation and segregation of activities (e.g. Unbundling, Retail Competition, etc.)

**Strategic Consulting**
The development of sustainable competitive advantages and achieving tangible results are the goals of our activity.
Control and Metering Systems

The area of Control and Metering Systems provides products and services to control, measure and analyze the performance of industrial facilities.

Offering

Electric Vehicle
ICAR is Indra’s end-to-end solution for the supporting infrastructures to the deployment of electric vehicles. It covers from platforms to provide charging services to charging stations (EVSE) designed for private usage with the highest performance.

Smart Metering
Indra includes solutions for Automatic Meter Reading (AMR) and Energy Monitoring. These solutions cover the internal requirements of a distribution and/or retail company and the exigencies of a liberalized market. From equipment Smart Meter (Imeter) to the suite of Advance Metering Management (InGRID MDC, InGRID MDM)

Control Systems
Indra’s offer includes SCADA solutions for Energy facilities (transmission and distribution grids and generation facilities), instrumentation and automation and remote control & monitoring systems (RTUs).

InGRID 4LARES - Energy Efficiency Solution

Indra Technical Overlay can manage advanced energy efficiency services using the most innovative technology intended to manage big amounts of information applying complex rules and alarms.

InGRID IoT
SOFIA-2 is the Internet of Things (IoT) middleware that allows interoperability between multiple systems and devices, and provides real time information for intelligent applications. It is a multilanguage and multiprotocol platform, that allows heterogeneous devices interconnection.

InGRID IEEP
Applied technology for local field devices interconnectivity and platform-device connectivity.

Sensors and Actuators:
Data gatherers and actuators based on low consumption communication protocols, using wire (X10, KNX ©, etc.) and wireless (zWave ©, Zigbee ©, etc.) technologies.

FOLIUM is the intelligent remote control node based on low consumption electronics (ARM Cortex-9) that Indra has developed for the Retail and Residential Sectors.
Over 140 energy companies use Indra technology solutions

- More than 700 Power Plants managed by Indra Solutions
- More than 100 MM clients managed by Indra’s Commercial Systems
- More than 50 Utility companies using Indra’s Grid Management Solutions

Indra reserves the right to modify these specifications without prior notice.