REAL TIME DATA INTEGRATION (PLANT INFORMATION SYSTEM, PI) PRACTICE

Indra in real time data world for Energy

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PI System is a reference for industry in regards to real time information management, allowing optimal integration among Plant Control Systems and Management, Monitoring and Analytics Systems.

**Main features:**
- Capacity for storage and gather big amount of data: More than 2,000,000 values / second
- Several client types for users: Web, Excel, etc.
- Worldwide leader (+14,000 implementation over 70 different countries; +50% of power generation companies in USA use PI)
- Different sectors applying: Power Generation, Transmission, Distribution, Oil & Gas, etc.

**Main challenges:**
- Process Improvement: Improvements on plant / process operations requires expert systems that help in the study and optimization of the processes
- Decision Making: Teams involved on management and decision making have to use the same trusted, available and updated data
- Historical: Analytics environment must be an open environment with well trained staff and capacity to manage large amounts of data
PI Center of Excellence (CoE) is an OSI Software PI platform knowledge center, composed by PI and IT expert consultants from various countries.

The main features of the PI Competence Center are:
- Consultants with expertise in OSI Software implementations since the year 2000
- OSI Software products consultants, experts in the development of interfaces, reports, graphs and applications
- Infrastructure experts
- Engineers with expertise in plant systems, experts in monitoring tools and process modeling (data reconciliation, etc.)
- System Integration of Process Control Systems, Plant Management and ERP
- Development of new Applications. Specific API from OSI Software to connect with Plant Management Indra Solution

Indra – OSISoft Alliance

2000
- Indra’s first PI system project
- Spain PI Center of Excellence

01-07
- OSISoft-Indra S.I. agreement signed
- > 20 PI systems projects

07-09
- OSISoft-Indra agreement upgraded
- Mexico PI Center of Excellence

09-14
- 40 PI Experts
- 8 PI Centers of Excellence worldwide
- > 25 customers
- LaTam commercial approach
- East Africa VAR agreement signed
- All PI systems Services provided (design, implementation, training, maintenance, etc.)

PI Centers of Excellence are an integral part of Indra, developing strategies about PI System integrations that reflect specific regional requirements. PI Center of Excellence will assist customers achieving higher value and benefits. PI Indra Center of Excellence mission is: “Providing services to PI for commercial and implementation purposes worldwide and transforming this experience into a worldwide network of Indra services”.

Indra PI services - METHODOLOGY

Initial Analysis
- Collection of user requirements
- Definition of PI platform architecture. Collection of technical information, and approach of the most adequate architecture for the PI solution
- Solution design; licenses / components, configuration, interfaces and infrastructure

Implementation
- Data base design, creation and configuration
- Installation and configuration of PI platform elements (servers, interfaces, etc.)
- Interfaces development
- Design and development of displays and reports
- Development functionality on - top - of PI System
- Testing. Post-implementation support

Training
- Users training
- Administrators training

Documentation
- Definition of processes for PI platform maintenance
- Reference manuals for final users. Quick guides
More than 40 Indra PI Experts working in more than 20 customers in 4 continents

Global reach, Indra PI Center of Excellence

Integration with Plant Management Solutions

Over 140 energy companies and 700 plants around the world rely on our technology and solutions

**Operation Support**: Management of plant processes (log book, calculation of ratios and consumption, outages management, incidences inventory, reports, etc.). It also includes connections with the generation dispatch and with the network operator.

**Maintenance Management**: Control over the follow-up of all actions carried out on the facility’s physical assets.

**Fuel Management**: Management of the entire fuel cycle in a generation plant.

**Environmental Management**: Integral control and follow-up of atmospheric pollution, fluids dumping and stocking of toxic and hazardous waste produced in the facilities.

**Management of Inventory and Measures**: Unification of all plant information and measures associated with it. It includes the integration of real time information management tools and the development of interfaces for data acquisition.

**Dam Monitoring**: Modeling and follow-up of the mechanical behavior of dams.

**Technical Optimization**: Integration of monitoring, analysis and process diagnosis tools.

Production planning and gas control of LNG plants.

**Production Management**

**Fleet Management**

- Monitoring Center
- Fleet Operations
- KPIs Management

**Plant Management**

- Maintenance Management
- Operation Support
- Fuel Management
- Environmental Management
- Facilities & Measurements Management

**Plant Management**

- DCS
- Plant I&C
- Real Time Plant Information
- Performance Monitoring
- Condition Monitoring
Since the establishment of our partnership with OSIsoft, Indra has executed a substantial number of successful projects in the Americas, Europe and Asia.
Indra reserves the right to modify these specifications without prior notice.