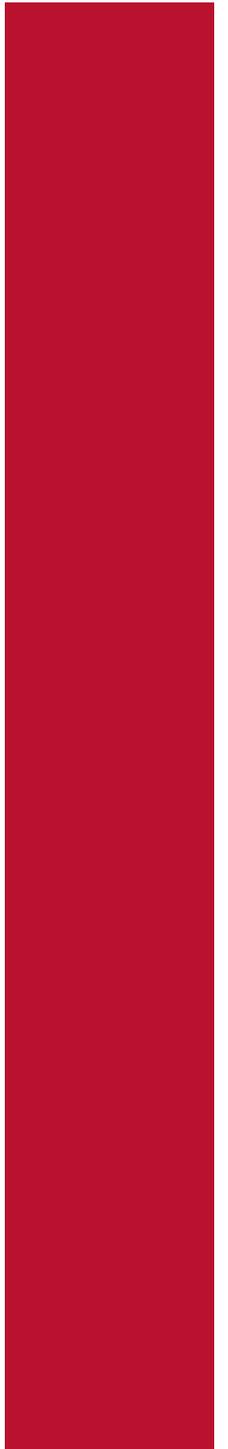


Ingeteam

INGETEAM TECHNOLOGY presentation



INGETEAM Technology is part of a holding that comprises more than 25 state-of-the-art technology companies with significant references worldwide in sectors such as industry, energy generation and distribution, marine and rail transport.

INGETEAM Technology provides hardware and software products and services mainly to the energy market.

Technological innovation and the development of our own products are key factors in our competitiveness strategy. Moreover, INGETEAM fits to the last international standards as it is the case of the IEC 61850 international standard for substation automation systems and wind power plants (IEC 61400-25).



**Next generation IEC 61850 based
Automation Solution**

INGETEAM IEC61850 Solution modules

INGETEAM offers an **IEC 61850** HW & SW fully integrated solution:

○ HW Modules:

- **Ingesys® IC3**, a powerful PLC and Remote Terminal Unit (RTU) that integrates both an IEC 61850 client and server.
- **Ingeteam IEC 61850 Gateway**, to interface with IEC 61850 non-compliant equipments existing in the market.

INGESYS



○ SW Modules:



- **energyFactorySuite** set of engineering and runtime tools: iedFactory, substationFactory, operationFactory and emulationFactory.

INGESYS



- **Ingesys® IT** fully integrated SCADA.

Note: INGETEAM IEC 61850 Server is a **KEMA certified** product



ENGINEERING TOOLS

Next generation software toolkit to speed up the device and system engineering in conformity with IEC 61850 and related standards.



iedFactory : graphical IEC 61850 IED engineering tool.



substationFactory : graphical IEC 61850 system engineering tool.

INGESYS



Fully integrated with **Ingesys® IC3** PLC to program substation logics according to IEC 61131 standard using the models created with **substationFactory**.

INGESYS



Fully integrated with **Ingesys® IT** SCADA system to create the views, templates, alarms/events,... of the HMI using the models created with **iedFactory**.

RUNTIME TOOLS

Using **energyFactorySuite** communication according to IEC 61850 standard is as easy as it should be:



Use **operationFactory** to communicate and control any IEC 61850 server. Connect to the device using its configuration file or even build a complete configuration file using self description services of the server.



Use **emulationFactory** to emulate the behavior of any IEC 61850 server loading its configuration file.

INGESYS



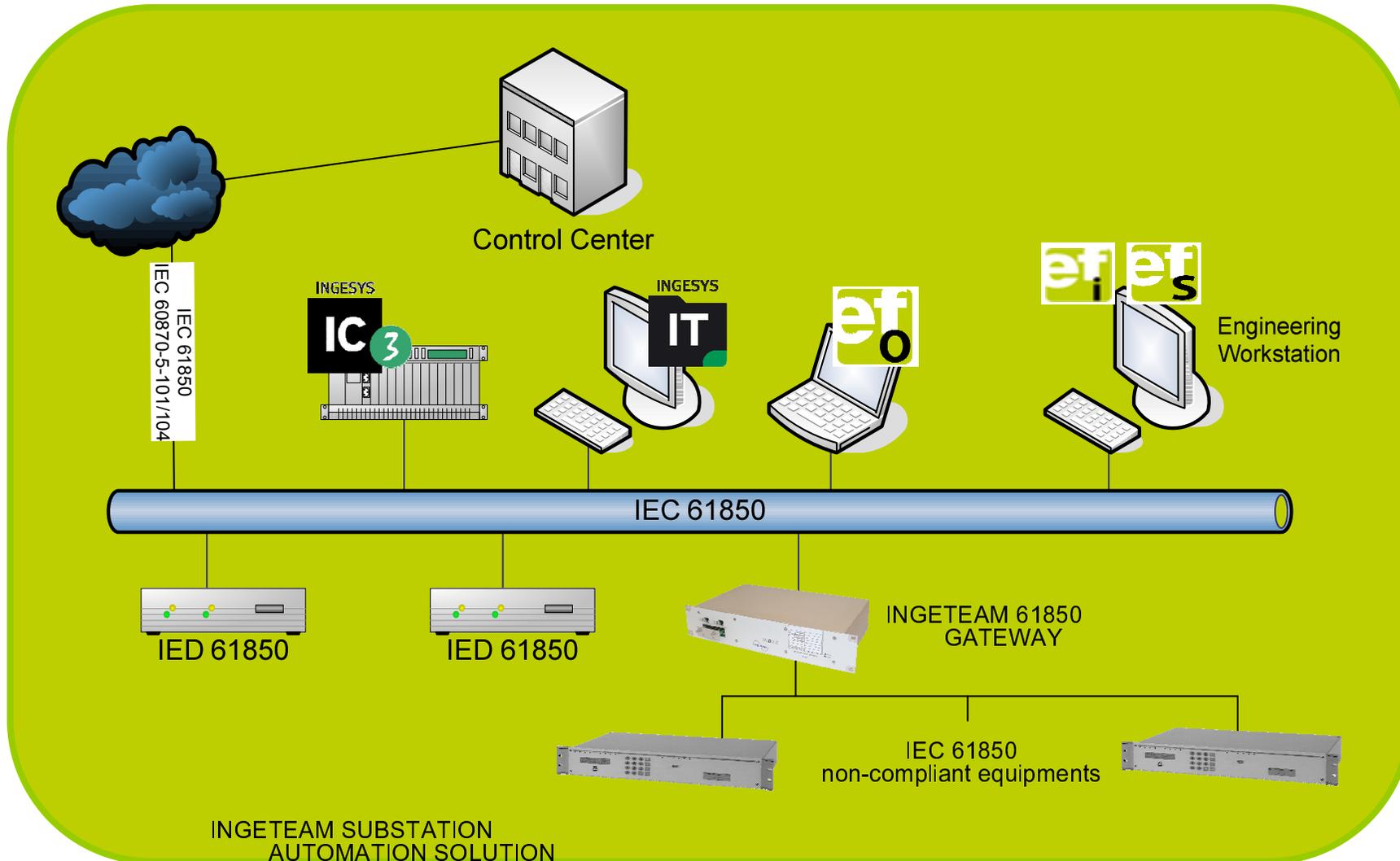
Ingesys® IC3 is a powerful PLC that integrates both an IEC 61850 client and server. Communicate with multiple IEC 61850 servers, apply all kind of programmable logics and publish the results in its IEC 61850 server and also in its IEC 60870-5-101/104 communication server.

INGESYS



Ingesys® IT includes an IEC 61850 client (OPC Server). Information modeled with **substationFactory** is directly available in the SCADA.

Integrated HW&SW INGETEAM IEC61850 solution



Working group

- **INGETEAM Technology** has a dedicated working group focused on developing all the HW & SW modules that integrates our IEC 61850 comprehensive solution.
- Working group members are active participants in different international standardisation groups, ensuring the latest trends and innovations:



- **INGETEAM Technology** is also constantly collaborating within a wide technological knowledge network:
 - Technological centres
 - Universities
 - Suppliers
 - Clusters

REFERENCES



INGETEAM Technology has supplied to REE (Red Electrica de España) more than 300 units of IEC61850 compliant equipments

- '2009-2010 agreed supplies for projects in Brasil , Bolivia, Mexico, Iran, ...

More information

and

tools demo available:

<http://ingesysefs.blogspot.com/>

ingesysefs.support@ingeteam.com