

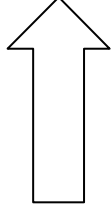
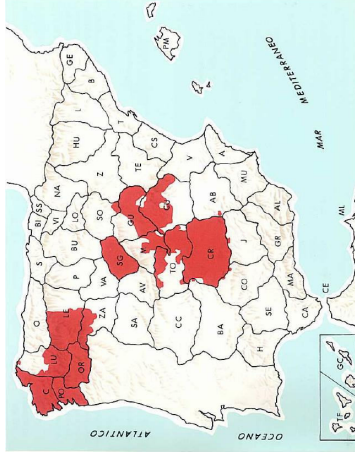
# Union Fenosa Distribucion



The distribution business entails dealing with large magnitudes and small units

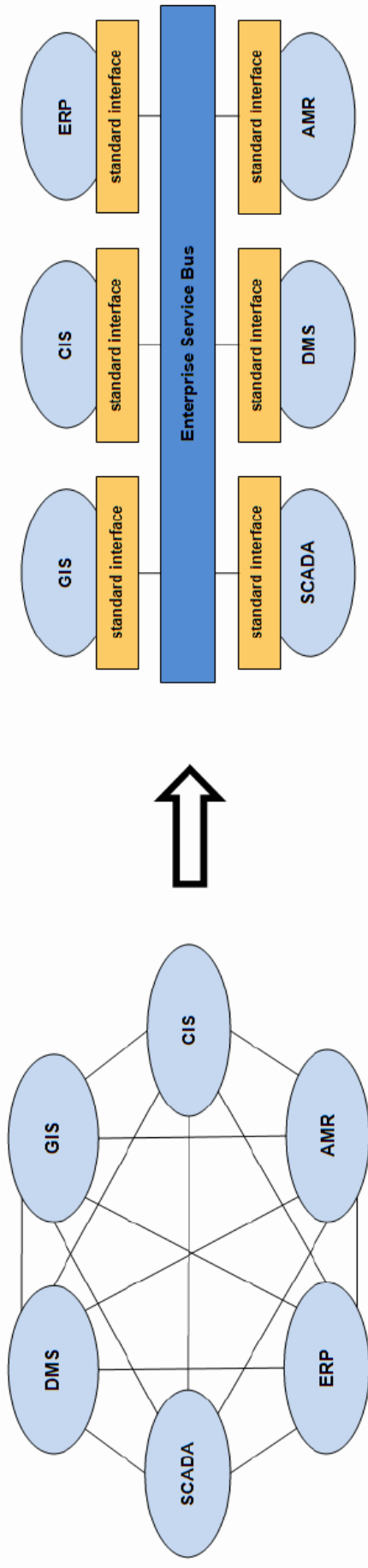
|                                 |                |                                 |                   |
|---------------------------------|----------------|---------------------------------|-------------------|
| <b>Lines</b>                    | <b>125.000</b> | <b>Employees</b>                | <b>1.700</b>      |
| <b>km HV</b>                    | <b>11.000</b>  | <b># Works</b>                  | <b>50.000</b>     |
| <b>km MV &amp; LV</b>           | <b>114.000</b> | <b>Remote controlled points</b> | <b>9.000</b>      |
| <b># Primary SS (HV/MV)</b>     | <b>335</b>     | <b>Maintenance actions</b>      | <b>62.000</b>     |
| <b># Secondary SS (MV/LV)</b>   | <b>37.000</b>  | <b>Readings</b>                 | <b>37.000.000</b> |
| <b>Installed capacity (MVA)</b> | <b>38.000</b>  | <b>Equipments installed</b>     | <b>200.000</b>    |
| <b>Energy delivered (GWh)</b>   | <b>36.000</b>  | <b>Service Orders</b>           | <b>1.200.000</b>  |

**Service Territory:  
Madrid, Central & Northwest Spain**



## Vision of future ICT system for distribution network management

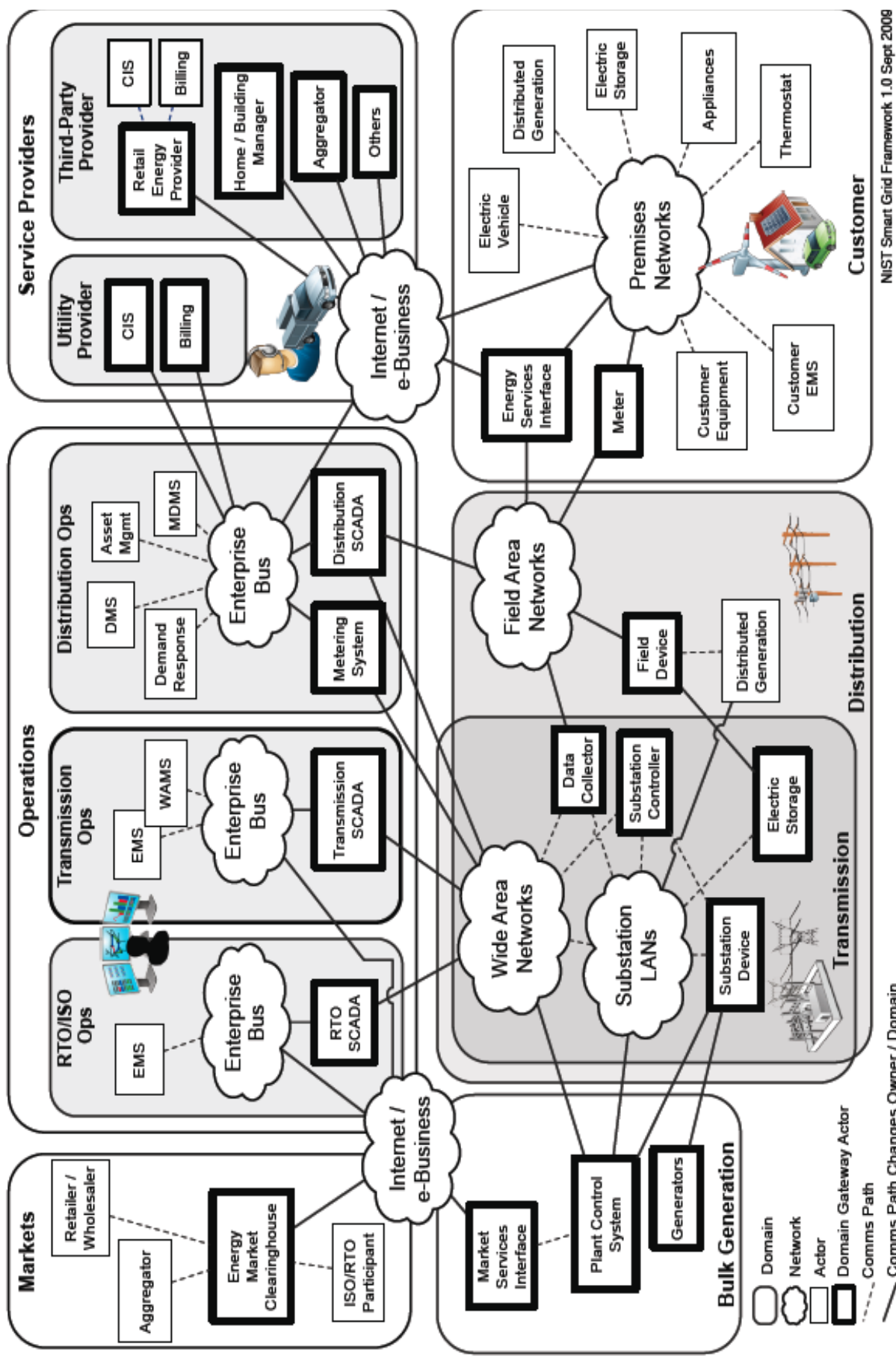
- Service Oriented Architecture (SOA)
- Information system integration through Enterprise Service Bus (ESB)
- Platform-independent Web technologies (e.g. XML, Web Services, ...)
- Standard interfaces (e.g. IEC TC57 Reference Architecture, ...)
- Standard information model (e.g. CIM)



# Union Fenosa Distribution



NIST Smart Grid Framework<sub>2009</sub>



## ESTADOS UNIDOS:

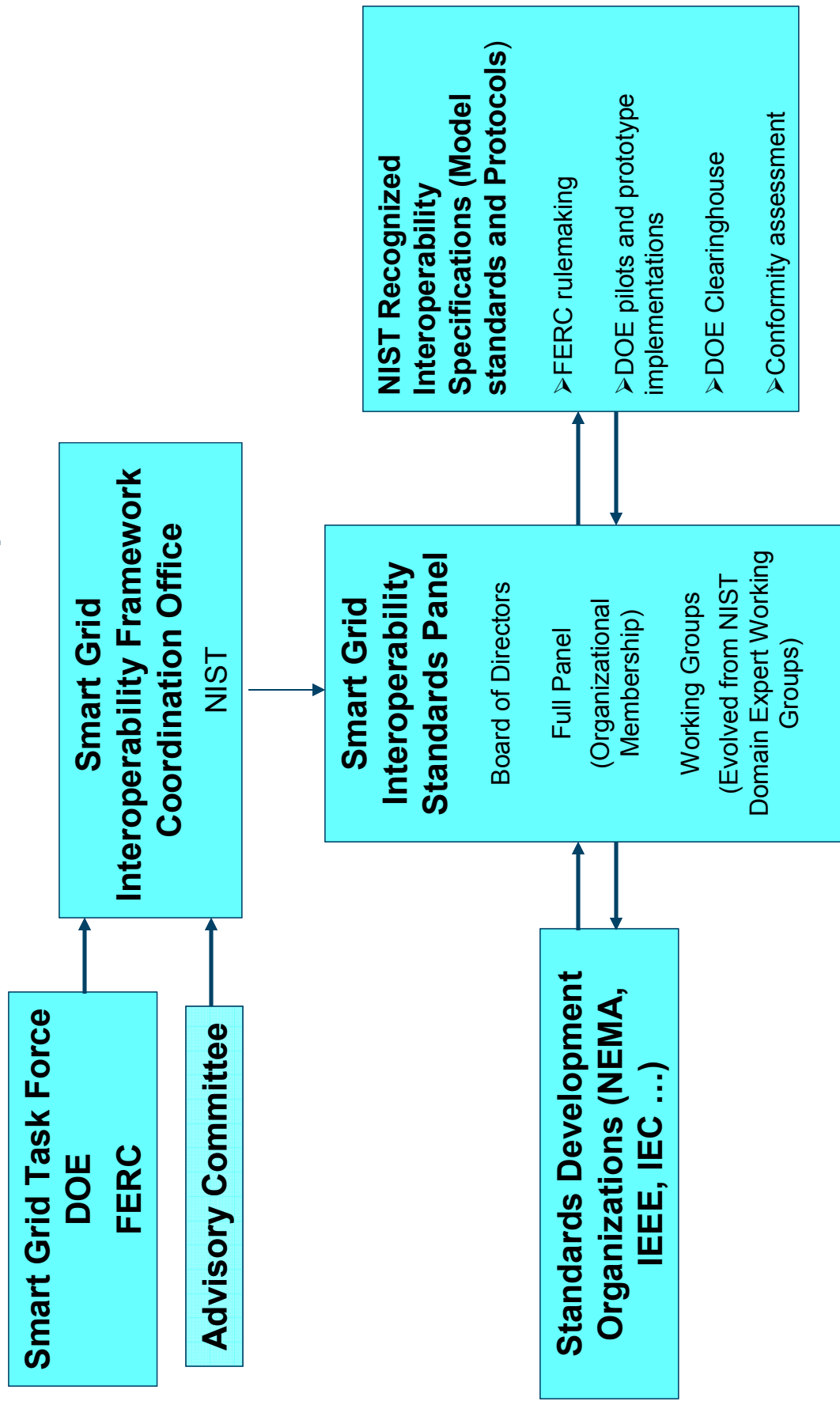
### ENERGY INDEPENDENCE AND SECURITY ACT 2007

#### TITLE XIII – SMART GRID

- Section 1301 – Statement of Policy
- Section 1302 – System Report
- Section 1303 – Advisory Committee and Task Force
- Section 1304 – Technology RD&D
- **Section 1305 – Interoperability Framework**
- Section 1306 – Federal Matching Fund
- Section 1307 – State Consideration
- Section 1308 – Study of Effect of Private Wires Laws on CHP
- Section 1309 – Study of Security Attributes



Organigrama de Coordinación del NIST para  
el Desarrollo del Marco de Interoperabilidad SG



## INTERNET:

### EL PAP 01 DEL “ROADMAP” DEL NIST



## # *Priority Action Plans*

- 1 **Internet Protocol (IP) for the Smart Grid**
- 2 Wireless Communications for the Smart Grid
- 3 Common Pricing Model
- 4 Common Scheduling Mechanism
- 5 Standard Meter Data Profiles
- 6 Common Semantic Model for Meter Data Tables
- 7 Electric Storage Interconnection Guidelines
- 8 CIM for Distribution Grid Management
- 9 Standard Demand Response Signals
- 10 Standard Energy Usage Information
- 11 Common Object Models for Electric Transportation
- 12 IEC 61850 Objects/DNP3 Mapping
- 13 Time Synchronization, IEC 61850 Objects/IEEE C37.118 Harmonization

Los PAP's cubren los Dominios del **Transporte**, la **Distribución**, y la **Clientela**