ADSM in Spain. Results from GAD Project.

Aims, Developments and ongoing results

Gestión Activa de la Demanda

Laura Moreno (ITE)
Isabel Navalón (IBD)
Susana Bañares (REE)
Alfredo Quijano (ITE)

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Aims and Expected Impact

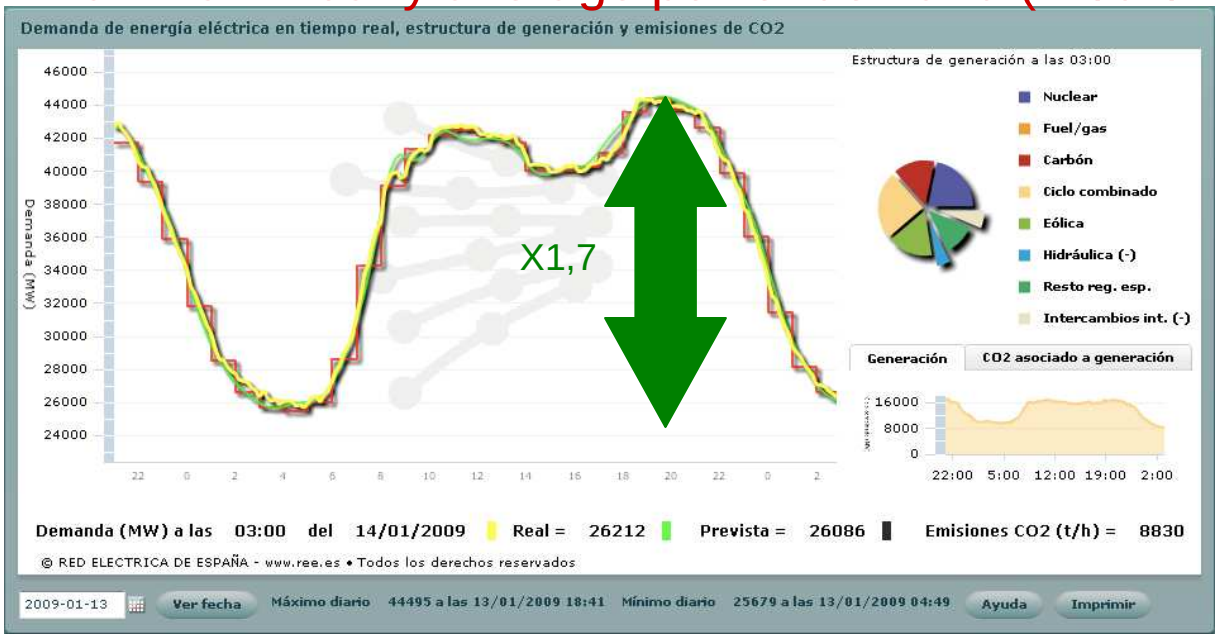
- Aims
  - Active Demand Side management using smart devices with embedded system approach. These devices allow the load curve lamination and the reduction of the electric demand.

- Expected Impact in Electrical System
  - Infrastructures optimization
  - Improvement of security of supply
  - Development of end user awareness on the generation costs on peak demand periods
  - Reduction of Green House Effect gases emissions
  - Development of national industry capacities related to smart grids and smart metering.

- GAD project
  - 23 M€
  - 4 years term(2007 a 2010)
  - Funded by program CENIT 2007 of CDTI

Background

- Load curve of Spanish Electrical System (Source: www.ree.es). Maximum hourly average power demand (14/01/2009)

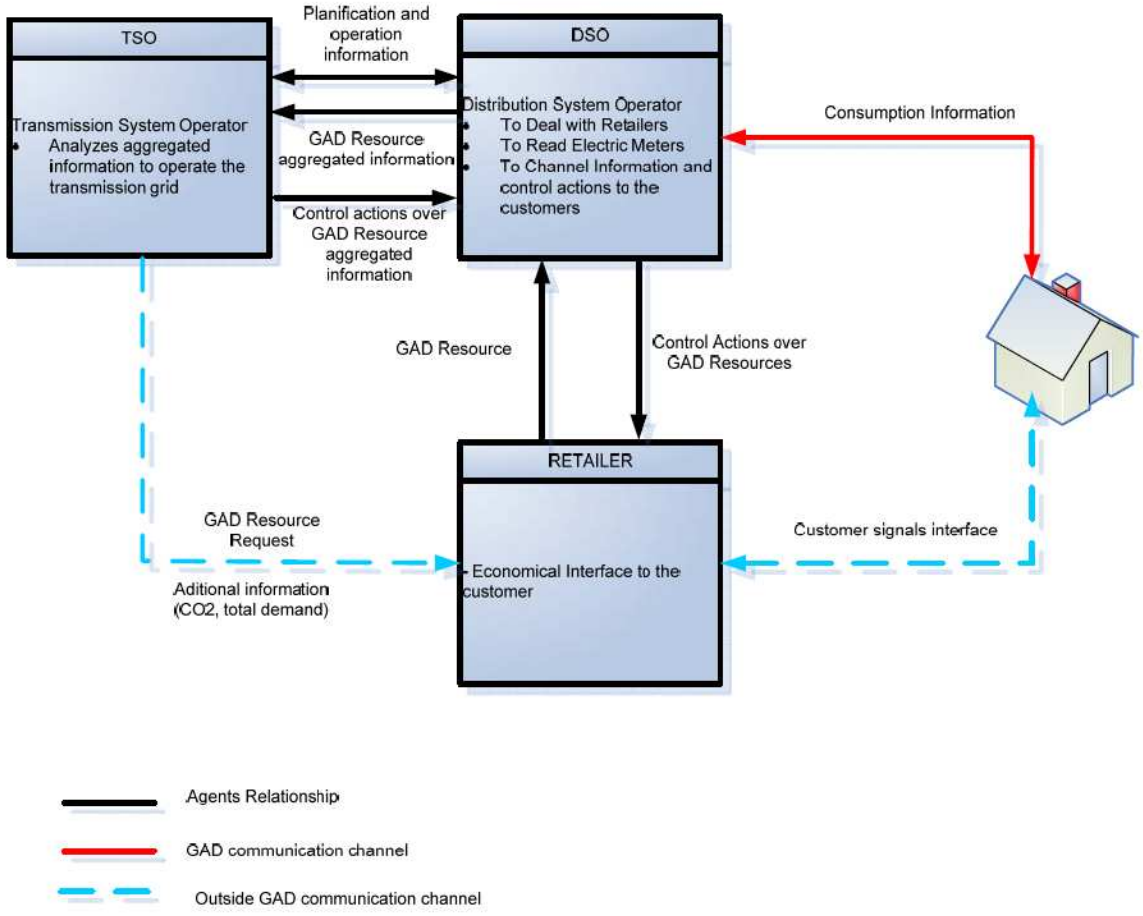


There's a need of optimising the load curve, transfering consumption from peak periods to valley periods

Consortium

- Utilities(2 DSO, 1TSO)
- Control Systems Integrators
- Meter manufacturers
- Appliances manufacturers
- Home automation solutions integrators
- Systems and SW engineering
- Communication equipment manufacturer
- 14 R&D Institutions

Agents Involved



Agents Involved. Benefits

- TSO Benefits
  - Quality and reliability improvement
  - Reducing and postponing the need of new generation and grid infrastructures
  - Integration of an increasing amount of non manageable renewable generation
  - Technical losses reduction
  - Contribution to the climate change mitigation

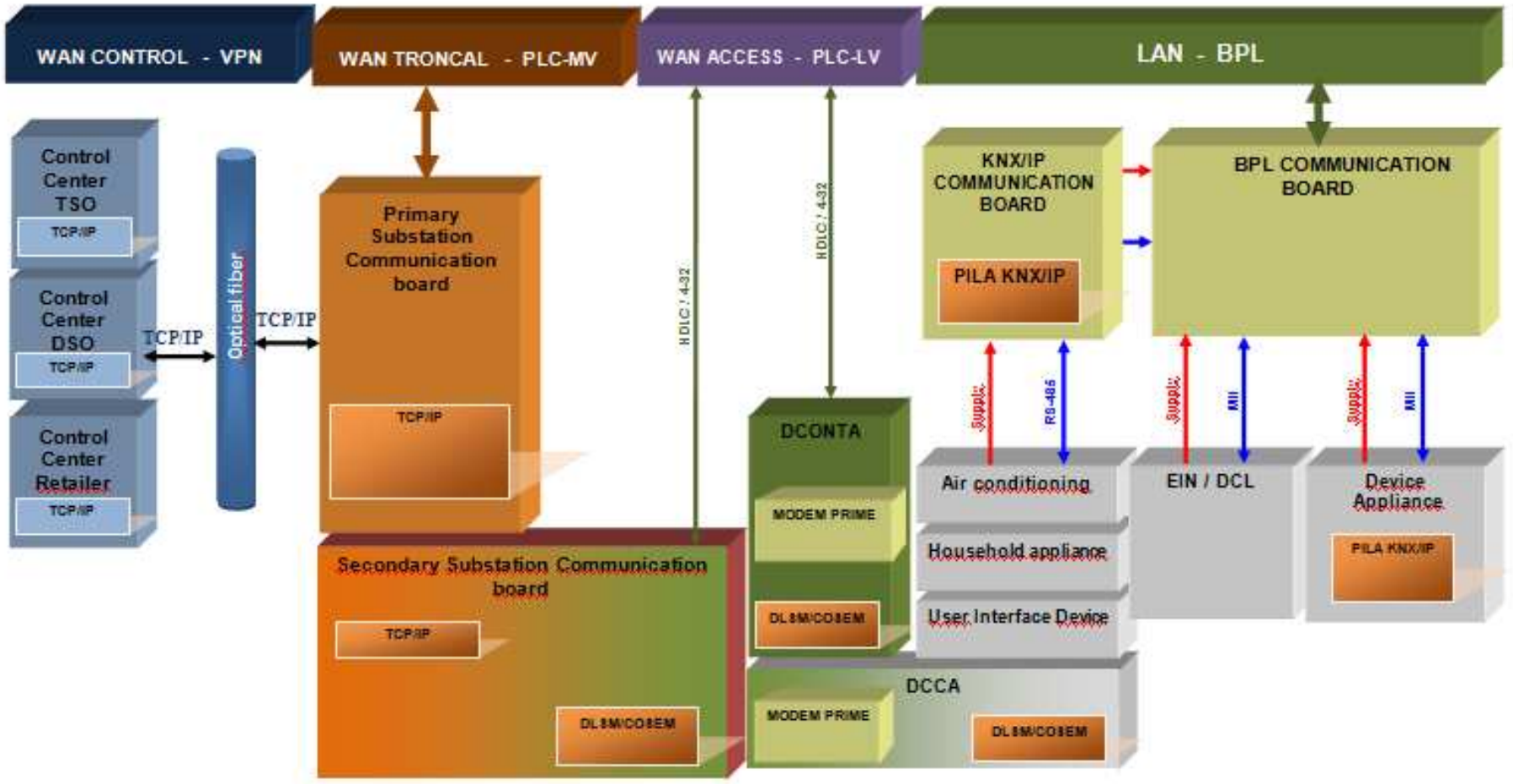
- DSO Benefits
  - Same as TSO +
  - More visibility at low voltage grid
  - Increase the quality of supply

Agents Involved. Benefits

- Retailer Benefits
  - Product differentiation
  - Quality of service

GAD IMPLEMENTATION PROPOSAL

Gestión Activa de la Demanda



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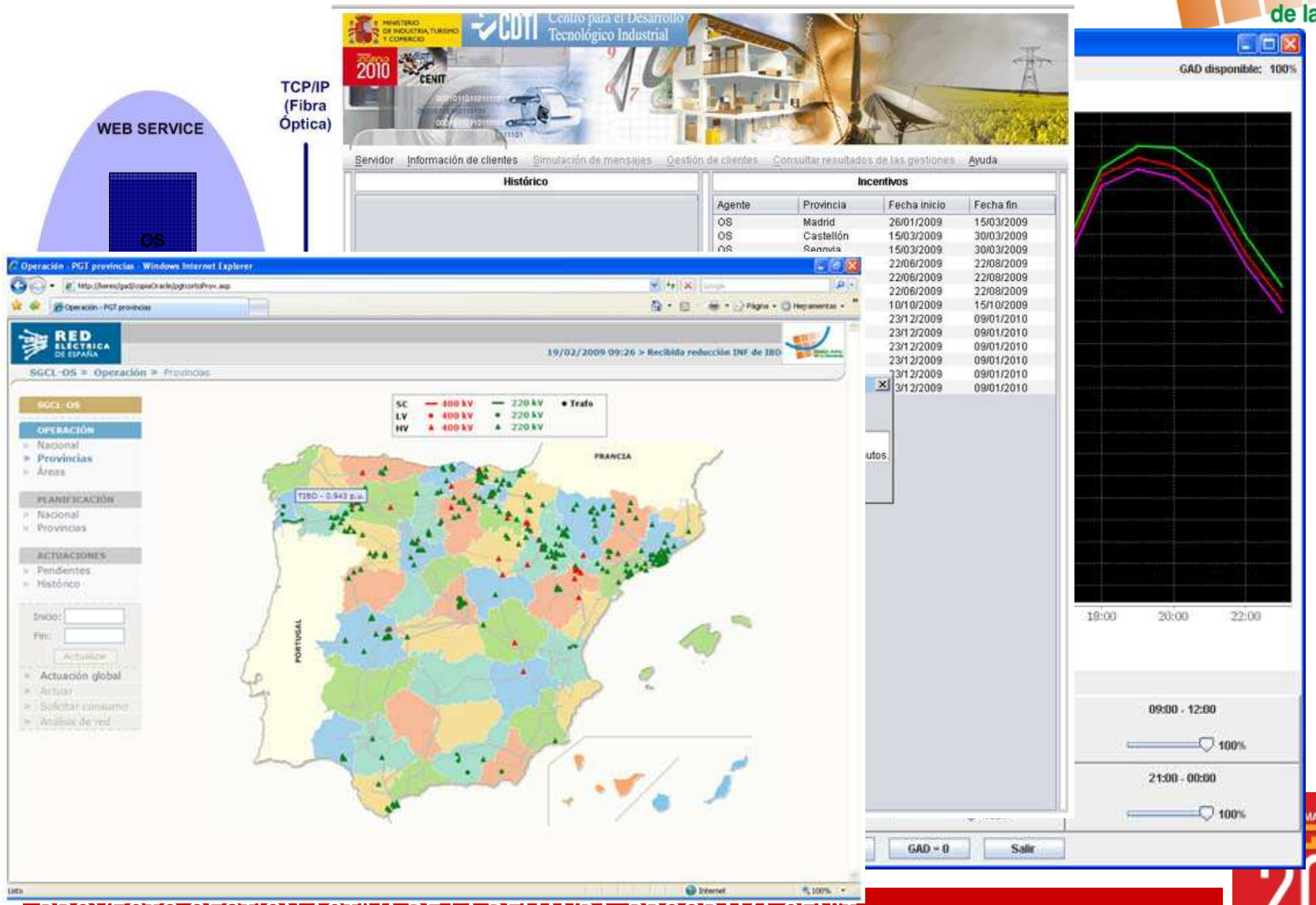
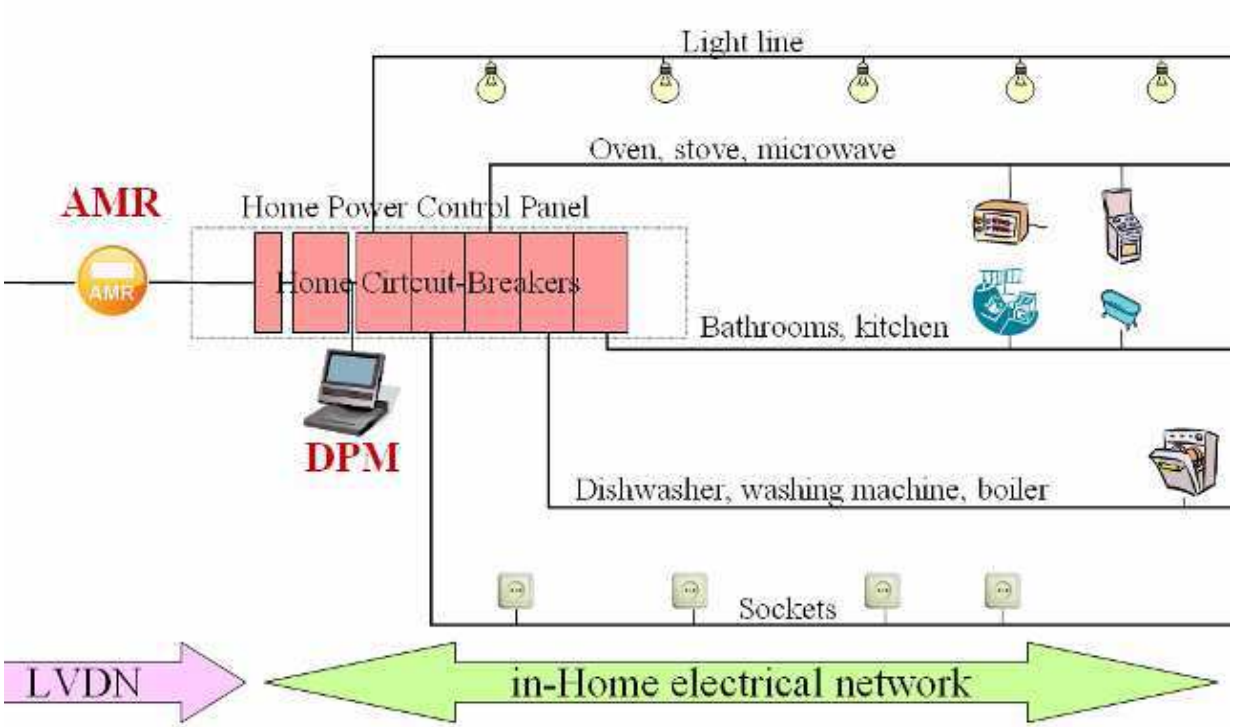
GAD IMPLEMENTATION PROPOSAL



GAD IMPLEMENTATION PROPOSAL

- Arquitecture of devices at customer home



GAD IMPLEMENTATION PROPOSAL

- Pilot for technological test. Location: ITE

-ECST
-ECCT
-DCONTA
-DPM(DCCA)
-DIFU
-Smart Appliances
-Smart Plugs

NEXT STEPS

Gestión Activa de la Demanda

- Standardization of protocols
- Evaluation of Demand side management resource
- New legislation to promote demand side management.
- New tariffs.
- Customer awareness.

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Questions?

Laura Moreno Sarrión
ITE
GAD Secretaría Técnica
secretaria.gad@ite.es

www.gadproject.com