

Building Controls and Smart Grid

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Smart Grid-challenges & Building Controls



Challenges

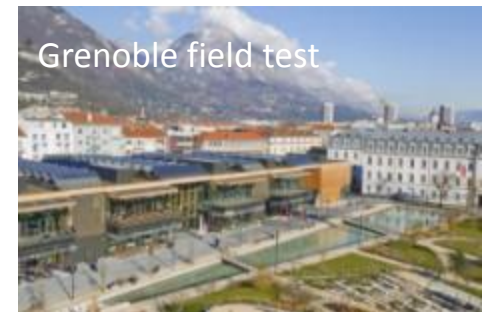
- Match consumption with decentralized renewable production
- Reduce energy & limit CO² emission
- Reduce infrastructure investments
- Improve grid reliability



Lyon field test



Grenoble field test



- A real smart grid show case on a large scale (2012 – 2016)
- 1 000 residential customers & 40 tertiary sites involved
- 40 M€ global investment



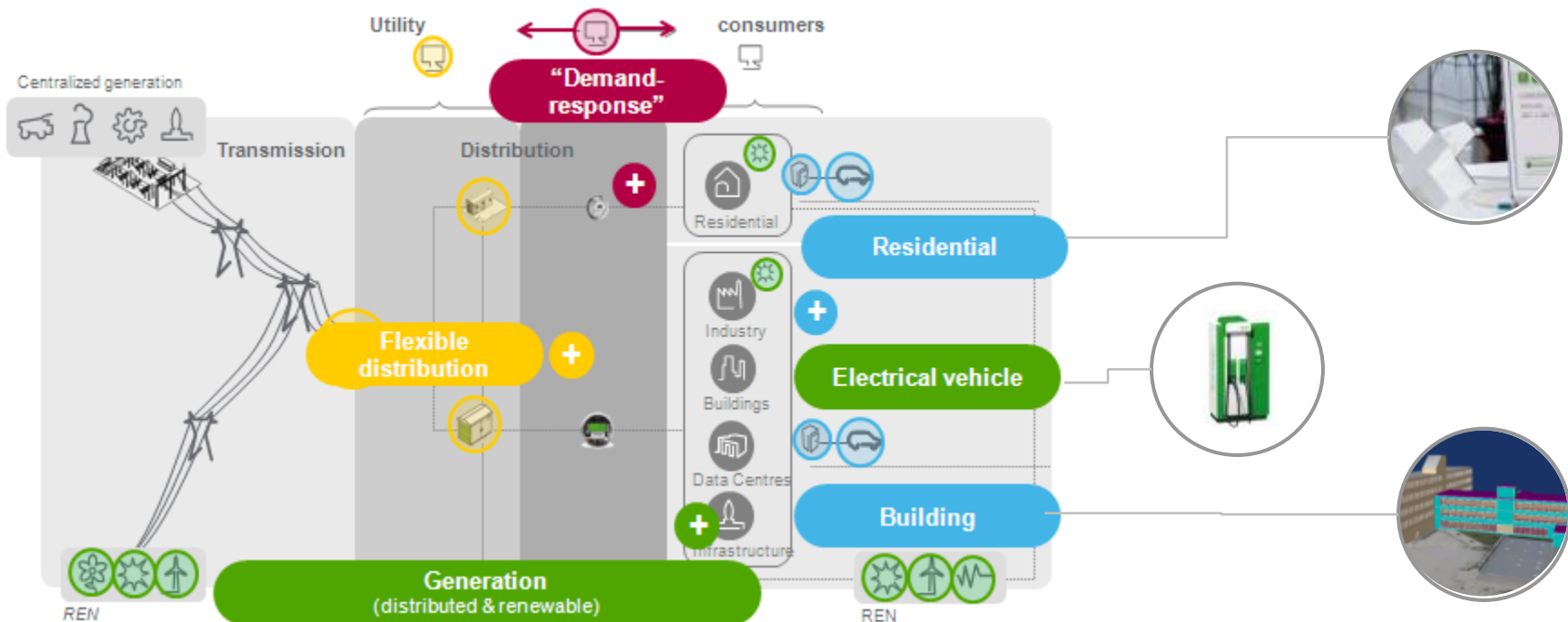
GreenLys solutions



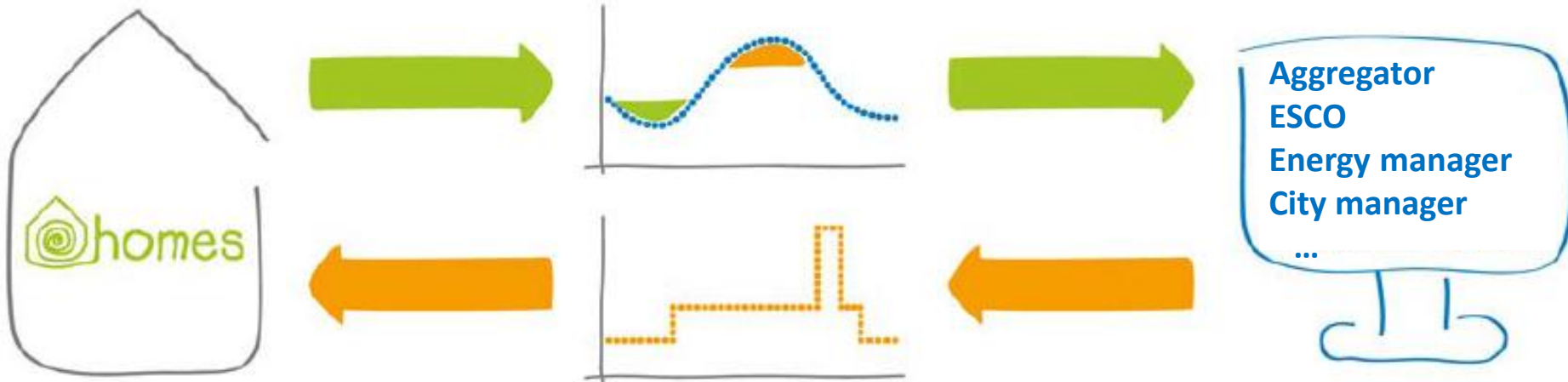
GreenLys Pilot Project

- Peak Curtailment
- Demand Flexibility
- Home and Building controls
- End-users engagement

GreenLys 1st rank partners



Making the building smart grid active



Building & Home Controls

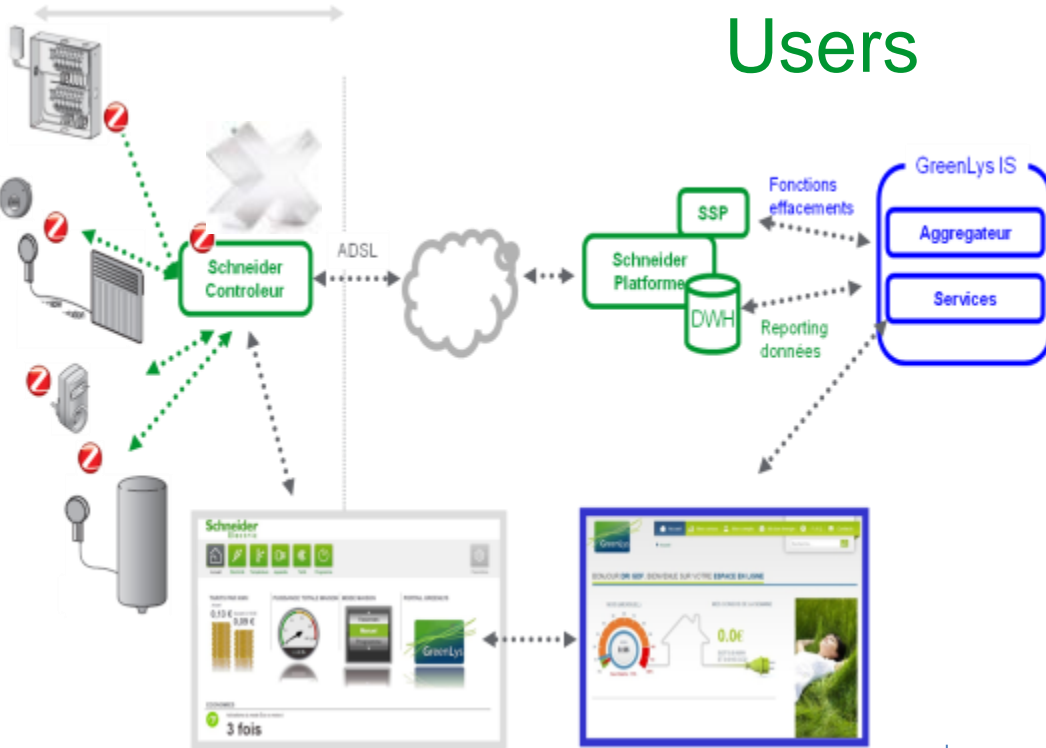
- Reduce needs in each room
- Optimise supply from different energy sources
- Involve people for each persona

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Communication

- Consumption forecast
- Generation and consumption adaptability
- Tariff and CO2 time profile
- Load shedding control
- Load shifting control

GreenLys – since end 2012. Integrated in Home Controls and well accepted by End-Users



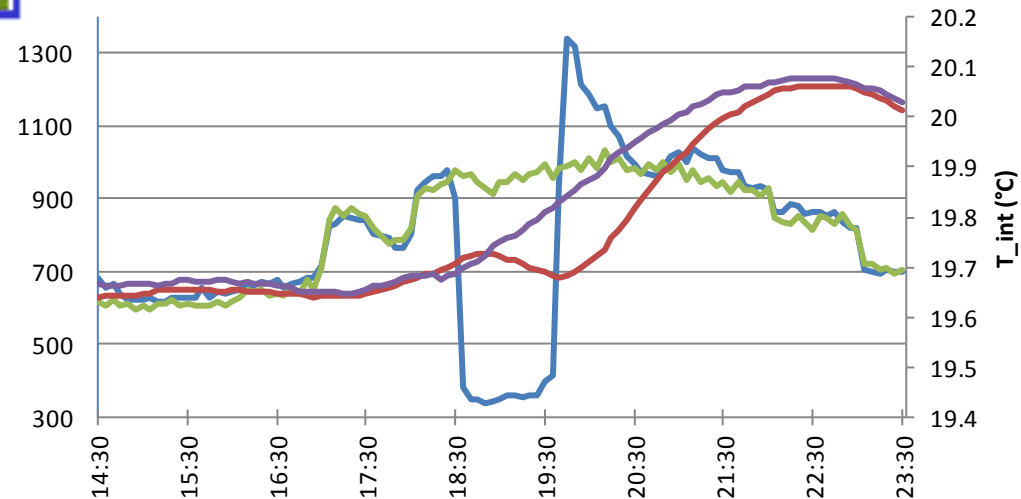
Key Figures:

- 20'000 curtailments over 2 heating seasons
- Average 1 kW shed per home
- Only 5% overrides (mostly not for comfort reasons)
- Only 0.1 °C drop over 1 hour in average

End-Users Satisfaction:

- 90% satisfaction rate
- No Claims
- Tariff acceptance Peak / Off-peak + mobile peak

Effacements chauffage – rebond, report, T_int



Moving Forward



- Further promote **active energy efficiency**
 - Eco-design control and future EPBD recast
 - Standardized interoperability
 - Encourage whole house upgrades including energy monitoring
- Link **demand response readiness** and **home performance programs**
- Develop measurement standards to increase the quality of **savings estimates**