

ELTEL
smart
grid®

ELTEL
Boosting Infranet Quality

Smart Market

Energianmittauspäivä
29. syyskuuta 2011, Helsinki
Juha Luusua

Smart Grid, a holistic approach covers everything in Infranet works



- The energy markets and networks are in a dramatic, positive change. Smart Grid influences to everything
- Both electricity and telecom networks are needed and must be used for benefiting Smart Grid concept

Smart City – Society

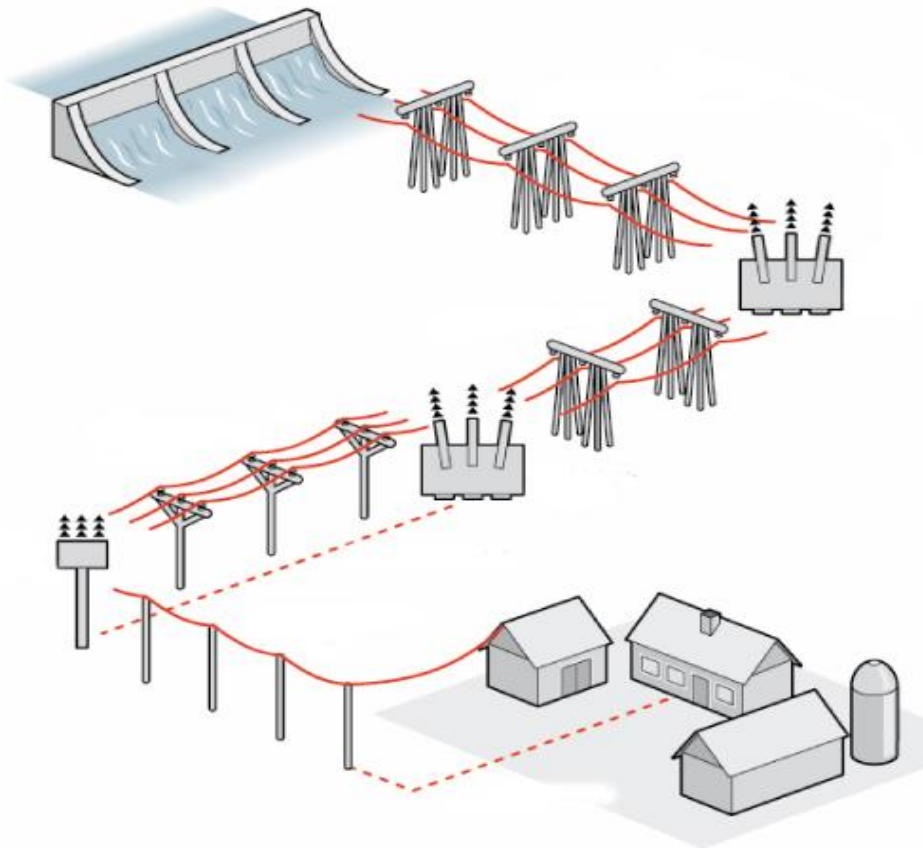
Trends and drivers

- EL demand is growing – dependence from EL is increasing
- EU legislation
 - CO2 - Renewable Energy Sources
 - Energy saving and efficiency
 - AMM-Automated Meter Management
- EI-cars, charging networks
- Security of supply – better network management, aging of networks
- Interconnecting Europe
- Value creation for end customer

Smart City



More energy is saved – more EL is used.
High power density boost the network intelligence.



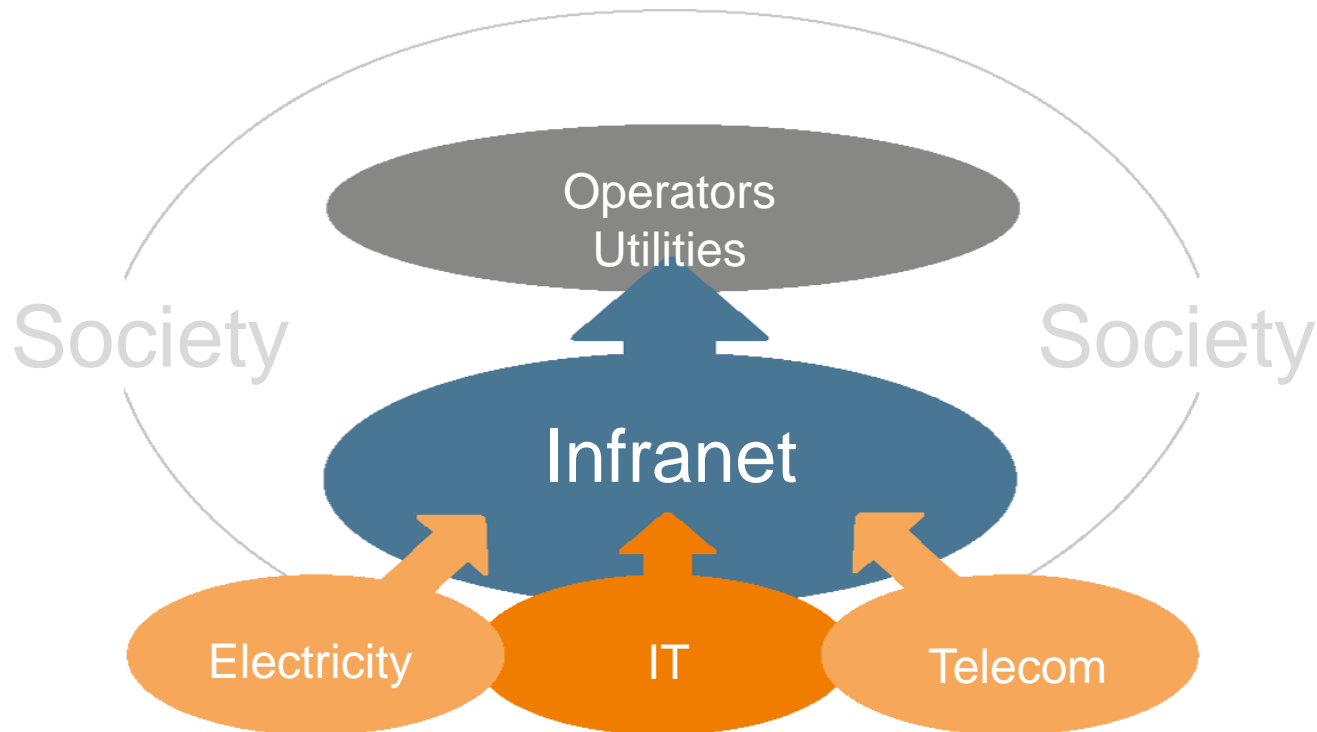
Smart Grid is the biggest evolution step in power networks, since they were invented

Smart Grid vision and services



Number of sensors will increase dramatically –
More sensors, more data to be transferred and managed

System-of-Systems - Infranet



We need to optimise the system, not individual issues.
Smart Grids are one solution.

Smart Grids in reality...



Wind turbines, intelligent traffic, industry sensor and control over IP & M2M, electric driving and charging, measurements and steering



Typical customer segments in SG

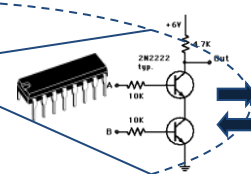
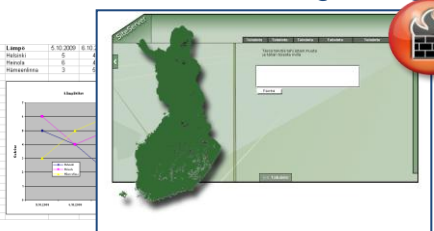
- Network owners
- Wind Power investors
- Industry
- Consumers
- Cities and communes
- Facility owners
- Parking houses



End – to – end measurements and control

- The basic challenge is convert physical phenomena to meaningful information
- That implies a wide understanding of e.g. electricity, telecom and ICT

2) Data pre-processing and basic categorizing

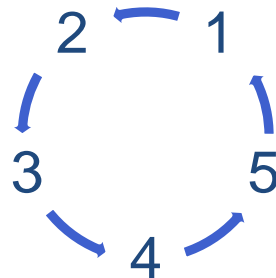


Physical interface

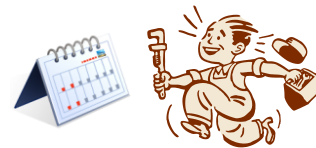
1) Objects to be measured and controlled



3) Data to info post processing



4) Conclusions, consulting, tasks e.g. to field forces



5) Field services or remote management

Smart Grid means new opportunities and offerings



•Eltel build, connect and care:

- meter installations
- EL – car charge systems
- sensors and servos
- backbone datacom system(s)
- power stations
- SCADA (IP)
- wind / solar / water system
- Design and documentation

•Power company processes

- transmission
- CRM management
- network management
- fault management

•Network equipment vendors

- system development
- intelligent SmartGrid devices
- AMR meters, sensors and servos
- firm ware and native control SW

•Teleoperators

- datacom services
- system operations
- network availability
- network addressability

•IT – systems and software

- communication systems
- raw data & application systems
- business SW mainframes
- commercial applications

•Equipment manufactures

- water, wind turbine
- solar cell plants
- gas systems and lines
- electricity power stations
- Vehicles & charging systems

New business concepts – networking !

Smart Grid boosts Infra networks

- Additional information:
 - www.eltelnetworks.com
 - juha.luusua@eltelnetworks.com
 - +358 40 311 3005



ELTEL
smart
grid®

Let's be connected – "smartly"!