

Envolve

Information Fusion for Energy Efficiency

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Project Themes

Envolve

Energy involvement and engagement

Enlight

End user awareness of own energy efficiency

Engage

Involve next generation energy users

AMMend

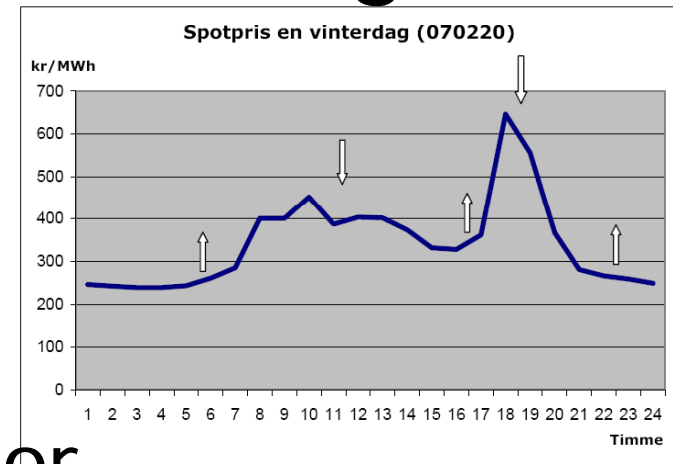
Awareness of the status of the electricity grid

Aware

Situation awareness for societal functions

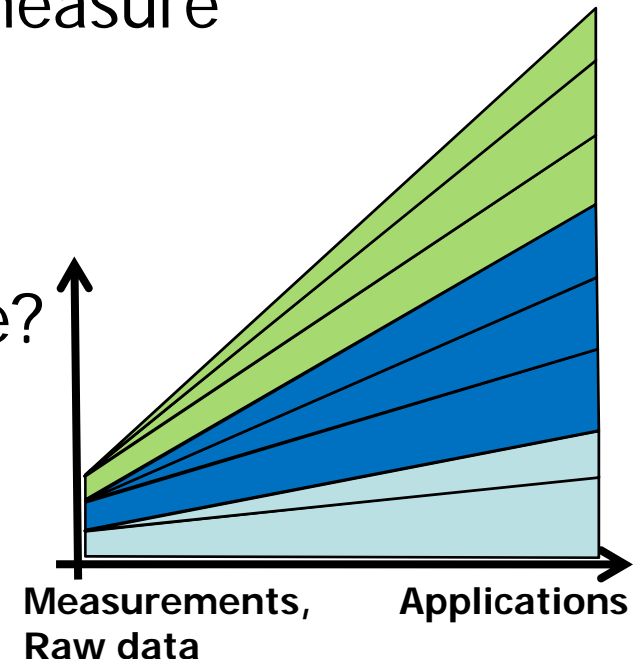
Project: *Max Peak Shifting*

- How far can **Demand-Response** go?
 - Decision support?
 - Behavioral adaptation?
- Active controller for **peak shifting**
 - Policy-based actuation
 - Spot price adaptation
 - Appliances, smart plugs
 - Load groups
- Scale up the demonstrator
 - Simulation of large-scale effect



Project: *Measure for applications*

- Next useful **applications** (“next killer apps”)
 - Find the **very best** possible
 - Applications drive measurement development
 - Applications decide what to measure
- Data is central
 - Data owner?
 - Beneficiary of new knowledge?
 - Need a flexible and open infrastructure for data access



Project: *Trends and Alarms*

- Use **aggregated behavior**
 - Anomalies in time series
 - Individuals, groups
 - **Indicators**
- Users of new knowledge
- Interoperability and architectural needs
- From sector indicators to **overall indicator**
 - Fuse with other data sources: Retail, telephone, SOS Alarm, SMHI, season, ..



Project: *Magic Advisor*

- Utilize model of behavior
 - **Energy advise** based on profiles
 - Compare own **trend** to profile
- Elaborate behavioral models
 - Fuse with additional sources
 - Support real-time and alarms
- Added **services** for Utility companies
 - Better CR by improved understanding
 - Sub-meter installations for refined profiling



Summary

- A Smart Grid needs Information Fusion
- We have the research capabilities
- ***Envolve:***
Understand → Engage → Act