Smart grid gives new business opportunities and end-user services

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Agenda

› Lyse a multi-utility company
› The importance of innovation & business models
› The Lyse Smartgrid customer-facing part: Automatic Metering System (AMS)
  • The beginning
  • The present
  • The future
› My favourite report – summarized in one page
The Lyse Group – a short intro

The Pulpit Rock
located 30 km from the Lyse’s main office

#1 natural wonder – CNN
#1 most breathtaking viewing platform –
This is where it started…
Diversification has been our strategy since 2001

- Electricity
- Natural gas
- LNG
- District heating and cooling
- Bio gas

- Power distribution grid
- District heating grid
- Gas grid
- Fast charging stations
- Bio gas fuel stations
- Fiber grid

- Internet provider
- TV and entertainment
- Communication services
- Smart home technology
- Welfare technology
Fiber is the backbone of the digital world

We deliver fiber to the whole of Norway together with 30 partners

40 000 new customers each year

400.000 homes connected
An interactive TV-offering that can be accessed across a variety of devices

- Smart TV
- PC
- Mobile phone/tablet
Lyse Group – Figures 2014

Revenue: 764 mil. USD  Investments: 244 mil. USD  Employees: 1073

Energy
Revenue: 288 mil. USD
Investments: 64 mil. USD
Employees: 109

Infra
Revenue: 129 mil. USD
Investments: 41 mil. USD
Employees: 313

Tele
Revenue: 266 mil. USD
Investments: 95 mil. USD
Employees: 286
Business model innovation

– from Internet/Telecom to utility, from service provider model to ecosystems
Lyses innovation model:
- a combo of disruptive and open innovation
The beginning
Proof of Concept-pilot (2011-2013):
“Joint development project within welfare technology”

› Objective: to make it easier and safer to live at home for longer – in your own existing home.
› Greater SECURITY, INDEPENDENCE and SELF-SUFFICIENCY for residents and their next of kin.
› The project group members included:

The entire project was based on three real user stories told by home nurses
The project's 3 service categories:

› **Smart home services**  
  • Automate, simplify and enhance comfort in everyday life

› **Safety and security services**  
  • Greater peace of mind for you and your next of kin

› **Communication services**  
  • Make it easier to keep in touch with, and see friends and family
Security: Fire alarm+

- Integrated service example
- Based on the standard Altibox fire alarm
- Fire alarm+ triggers the following simultaneous actions:
  - Fire alarm with direct connection to the fire services with call-out and user notification (already in existing solution)
  - Alarm sensor takes a photo of the room in question, which is transmitted to the alarm company
  - Front door is automatically unlocked
  - Automatic shut-off of power sources in the event of smoke and fire (e.g. cooker and ventilation systems)
  - All lights in the house are turned on (as long as there is power)
And service innovation can take you to unexpected places…

Confidential
The AMR challenge

Electronic meter reading
› More than 150,000 of Lyse's meters in Rogaland need to be replaced by 2018
› Largest logistics operation in Lyse's history
› The isolated business case for automatic meter reading was indeed negative.
› So the question was asked. How can society benefit from this massive rollout?
Some of the other Energy challenges
The present
The AMR roll-out is a unique opportunity to solve many societal challenges. We are installing a Smart generic Gateway and a “dumb” meter in 160,000 homes.
Smart Gateway enables real-time measurement for the network operator

• Cost reductions due to reduced outage period (KILE/regulated service/)

• Reduction of network loss:
  – Optimized power grid coupling and routing to minimize loss
  – Minimize time of outage due to accurate localisation of error
  – We can now measure reactive effect loss in customer equipment

• Optimized Service and Maintenance:
  – Optimized and automated service processes
  – Optimized processes towards customer, ensuring higher customer satisfaction and information
Active control in the home is important

Fig. 1. Average cumulative savings per customer. Estimations for Norway. Source: VaasaEET - NVE-report 72/2014
Building the smart home

CONSUMPTION DISPLAY
- THE SMART HOME

SENSORS
- Electricity
- Gas
- Water
- Heating

MICROGENERATION
- Solar power
- Wind power
- Co-gen.

ALARM
- Movement
- Door/window
- Fire
- Video

SMART HOMES
- Light/heat control
- Appliances

ELECTRIC VEHICLES

HEALTH CARE
- Health/emergency
- Fire
- Environment
- Video

THE GATEWAY
- IP communication

smartly
Smartly Heating Control

Smartly Heating Control offers:
› Simple remote control of heating cables and more – by mobile phone
› Intelligent timing controls. Energy-savings in your absence.
› Pre-programmed temperature room-by-room

The base package includes:
› 3 thermostats (room/floor)
› Control of 3 heat sources (electric radiators/underfloor heating)
The Welfare and Care service domain

Smart Gateway is fully integrated with Lyses Automated Meter Reading system
Open innovation is an inherent part of ecosystems
The future
More product & service innovation due to combinatorical innovation. CASE: Video For All
Today 50% of the world's population lives in cities. In 2050, 70% of us live in cities. Cities today has 80% of GDP, and 70% of energy and greenhouse gas emissions. 

Source: UN State of World Cities report

For Lyse this equals new needs and business opportunities.
The SCC project Triangulum – some facts
Eurelectric Report: 3 key recommendations (July 2013)
”Power sector participants, including utilities, need to innovate on three fronts:"

1. Master new technology

”Power sector participants will need not only to find the means to finance solutions that require higher capital expenditure upfront, but also to translate technologies into workable end-user offerings in the context of the overall power system.”

2. Get close to customers

”Specifically, more aware and engaged, customers will demand socially and environmentally responsible practices, place a higher value on convenience and experience, and use more complex criteria for their purchasing decisions.”

3. Develop new business models and services

”To judge by other sectors, such as telecommunications, future power sector business models could be based on a range of solutions to meet energy service needs, such as heating or cooling comfort, mobility, or lighting. New end-use technology will help, while smart grids and Big data will be indispensable enablers.”
There is a "new wind blowing" in the US too ...
New competitors – new business models

Avsluttende fagoppgave
ved Handelshøyskolen BI

Business-“wende”

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BI Oslo
Hiem til alle
5000 målere installert
Thank You!

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