Smart power converters and batteries for smarter grids

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Local presence – global reach
Sales in more than 100 countries, offices in 40 countries and 2500 employees
Eltek is a power electronics company, providing: power converters, controllers, systems, solutions

**OUTDOOR**

- Cooling

**POWER CORE**

- Controller
- Distribution
- Rectifiers
- Enclosure
- Backup batteries

**INDOOR**
Case Off-grid village power by SunErgy
Full scale system in Bokosso / Cameroon

Village population is 670
# of household: 153
# of health centers: 1
# of schools: 2

System specification

<table>
<thead>
<tr>
<th>User need</th>
<th>199 kWh/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV capacity</td>
<td>60 kWp</td>
</tr>
<tr>
<td>Battery</td>
<td>10410 Ah – 500kWh, 48V</td>
</tr>
<tr>
<td>Solar converter</td>
<td>40 x 1500 W</td>
</tr>
<tr>
<td>Inverter</td>
<td>40kVA (16 x 2500 VA), 3-phase</td>
</tr>
</tbody>
</table>

Plan: By 2018: power to 92 villages with 600.000 people
«Smart Power»: energy cost saving + new revenues!

Traditional power business model

Energy utility

Tariff ➔ Electricity ➔ Consumer

Smart power business model

Energy utility

Tariff ➔ Electricity ➔ Prosumer

- Tariff optimization
- RE integration
- Demand response
- Grid quality support

Prosumer ➔ Grid quality support ➔ Energy utility ➔ Tariff ➔ Electricity ➔ Aggregator ➔ Ancillary services ➔ TSO

Energy utility

Electricity ➔ Energy utility ➔ Tariff ➔ Electricity ➔ Aggregator ➔ Ancillary services ➔ TSO

Consumer ➔ Tariff ➔ Energy utility ➔ Electricity ➔ Prosumer ➔ Demand response ➔ Grid quality support ➔ Energy utility ➔ Tariff ➔ Electricity ➔ Aggregator ➔ Ancillary services ➔ TSO

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Take-aways

Batteries with smart power converters: a tool for flexibility (temporal, spacial, production, consumption)

Regulators:
• Include Energy Storage as Energy Storage
• Value attractive features of Energy Storage

DSOs, Service providers, solution providers:
• Wow,- ELTEK is a really interesting potential partner!
• Pilot?