

Smart Metering in Linz and Austria



GEODE Spring Seminar May 7th, 2015
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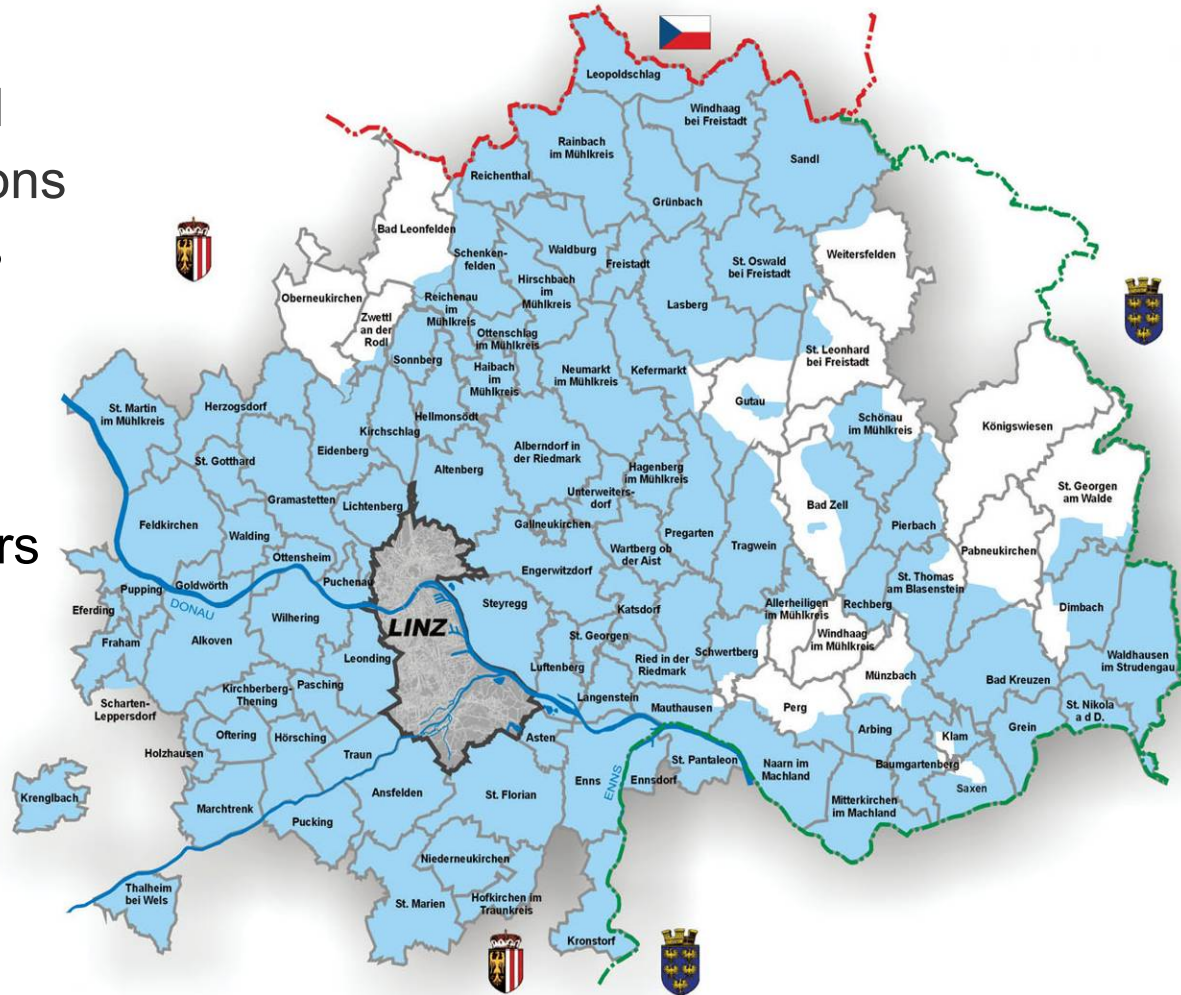
DSO in Linz and 82 communities:

Power Network

- 7,800 km power grid
- 26 transformer stations
- > 3.000 sub-stations

Energy sales

- 275,000 customers
- 131,000 smart meters
- 400 MW Peak load
- 2,100 GWh energy transportation



Smart Meter introduction act (2011, amended 2014):

- 95% of customers to be equipped with a Smart Meter until 2019
- Milestones: 2015: 10% - cancelled, 2017: 70%

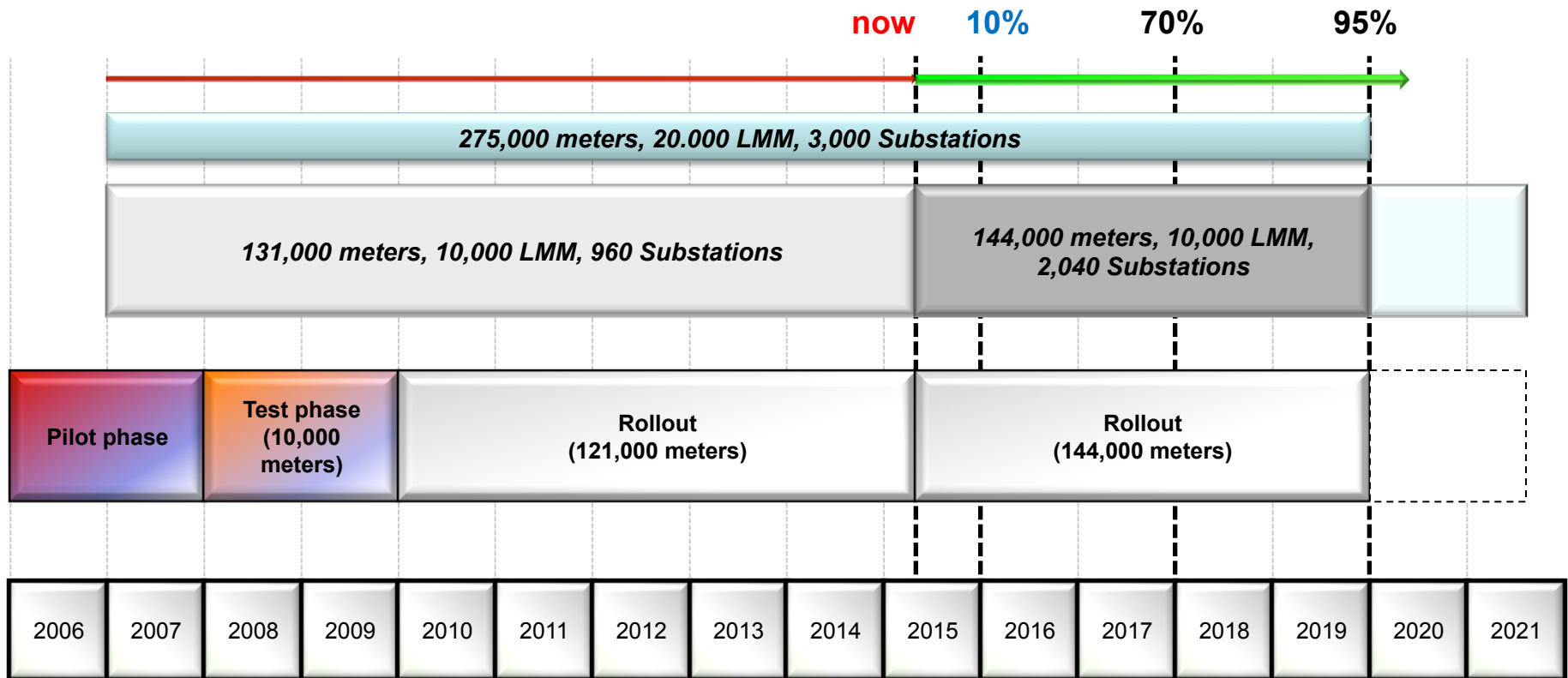
Smart Meter specification act (2011):

- Bidirectional communication
- Capture and storage of consumption (15 min values for 60 days) in meter
- Remote controlled breaker
- Up to 4 auxiliary devices (e.g. Gas Meter) to be connected
- Customer interface (unidirectional)
- Remote firmware update

Smart Metering in Austrian Electricity act (2013):

- Monthly electronic information about consumption and costs, free hardcopy on demand (by supplier and DSO)
- Daily updated web portal with historical consumption (1/4-h or daily values)
- Customer's right to refuse the installation of a Smart Meter (opt out)
- Reading out of 1/4-h values only on customer approval
 - when existing contract requires time of use capture of consumption customer has to be informed before installation of a Smart Meter
 - Time of use contracts suspend, when customer only wants daily capture of data

Smart Metering in Linz (1)



	Total	Actual state	%
Substations	3,000	960	31.4
Meters	275,000	131,000	47.6
Load Management modules (LMM)	20,000	10,000	50.0

Handling of data

Strict separation

DSO, Supplier



DSO:
Capture of billing and technical data (e.g. Voltage)

Supplier:
Billing data from DSO

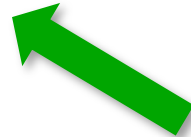
Customer:

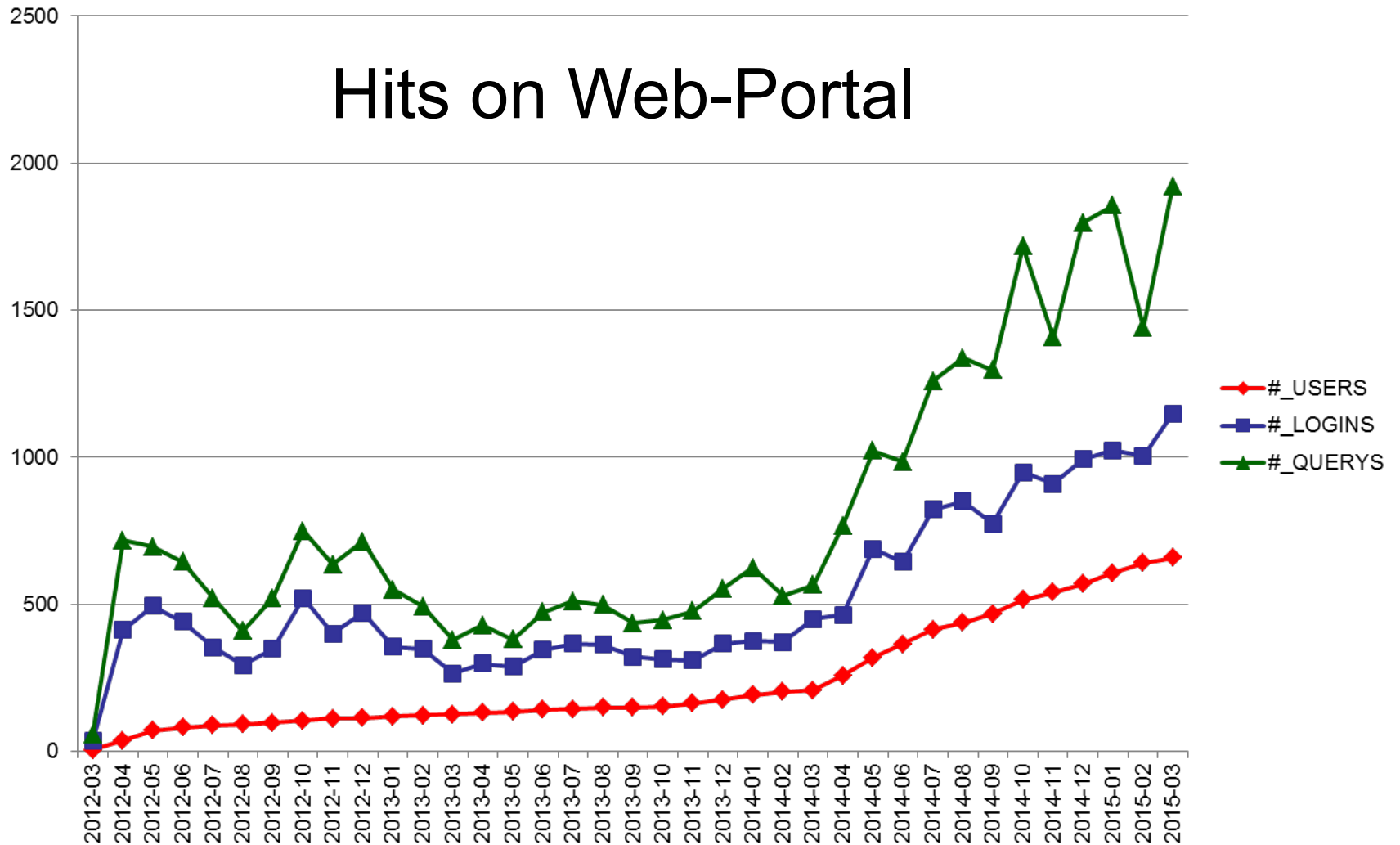
Privacy:
Customer is owner of individual data



Additional data only on demand (interface):

- Visualization of consumption
- Energy-Consulting
- Home Automation





➔ ~1% of customers use the Web-Portal

Opt out:

- In case of opt out Linz Strom Netz installs an electronic meter that doesn't capture 1/4-h values of consumption – finally accepted by all customers
- Remote reading and remote controlled breaker still possible
- 57 customers requested opt out, when Smart Meter was installed
- ~100 customers requested opt out in advance, consideration only at installation

➔ will If customer is well informed in advance, Smart Metering be accepted in general.
But rules for opt out have to be defined clearly.

Time of use Tariffs:

- 42,000 (~15%) customers have existing contracts with time variable tariffs (time variable energy price between 22:00 and 6:00, continuous grid tariff)
 - In the early phase of Smart Meter rollout, this tariffs have been figured out by registers in meter → have to be shifted to 1/4-h measuring period
 - Request of 2,400 customers for “new” time of use tariffs (1/4-h measuring period)
- Rules for data exchange have to be defined clearly
Time of use tariffs seem to be feasible only for suppliers

Thank you for attention!
Questions?