



Digital transition in Croatian utility

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Digital transition?!

....obviously yes!

- Not just digitization, but more digital transformation
- Transforming business processes, data, etc.
- External (stakeholders) / Internal





Utility in Croatia - environment

1. Regulated Industry (Croatian Energy Regulatory Agency)
2. Production / Transmission / Distribution / Supply
3. Strong competition
4. Increasingly demanding customers



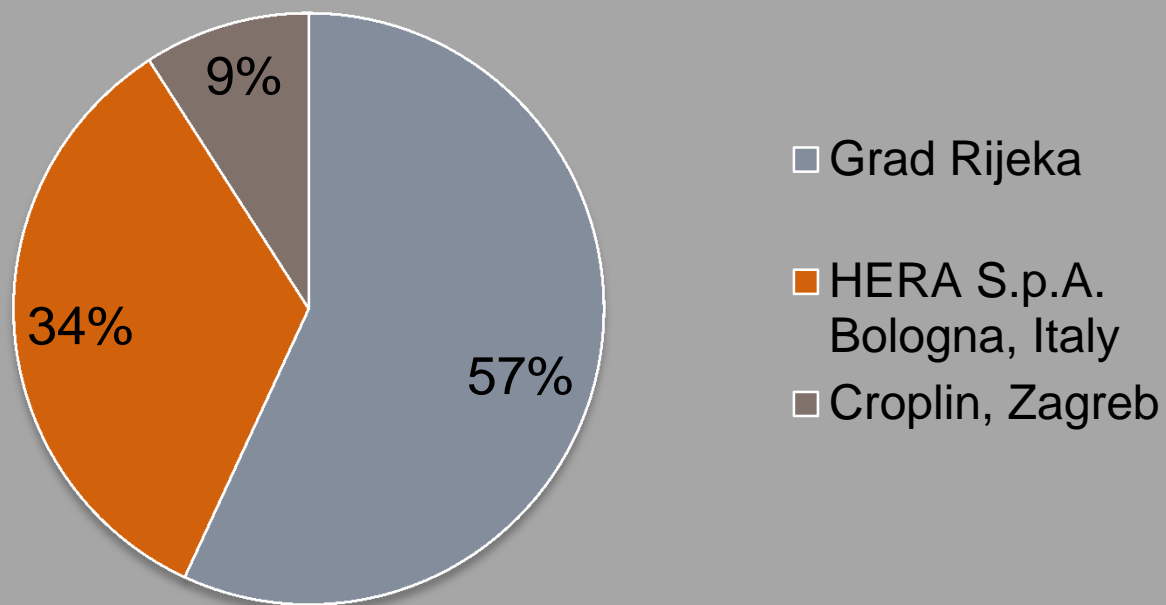


Energo Ltd. (I)

- Basic business activities:
 - Production, distribution and supply of district heating
 - Distribution and supply of natural gas
 - Management of the public lighting system
- More than 30.000 private and public users in Rijeka and Primorje-Gorski Kotar County



Energo Ltd. (II): Ownership structure





Digital transition in Energo

1. External (Government bodies – regulator, HROTE, ...)
2. Internal
3. EU funded project (iUrban)



Digital transition of internal processes/systems (I)

- Prior to implementation of IT systems, complete reorganization of the company was conducted
- Prior to ERP implementation, complete redefinition of accounting principles was done

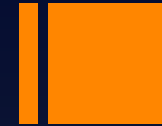


Digital transition of internal processes/systems (II)

- ERP - Enterprise Resource Planning
- DMS – Document Management System
- Billing system
- BI - Business Intelligence
- CRM – Customer Relation Management



Digital transition of internal processes/systems (III): Timing/ Benefits/ Challenges



TIMING

- Implementation started with ERP and DMS
- Billing – strong integration with municipal billing system
- CRM and BI – still ongoing

BENEFITS

- Complete IT – new technologies/ similar concept
- Constant change became normal

CHALLENGES

- Organization under pressure
- Very complex
- Financially demanding



Digital transition: Gas distribution and supply

- Smart metering: remote, real-time reading of meters (larger customers – commercial, industrial)
- SCADA system with forecasting module
- On a national level:
 - Wider deployment of smart metering is considered
 - ISGE: monitors energy consumption in public buildings; Energo digitally uploads gas consumption data into the system



Digital transition: District heating

- Automation of heating plants
- Remote reading of meters
- Automatic allocation of energy consumption (remote reading of heat cost allocators)
- Currently under way: „smart” heat substations
- Fiber optic network deployment



iURBAN (I)

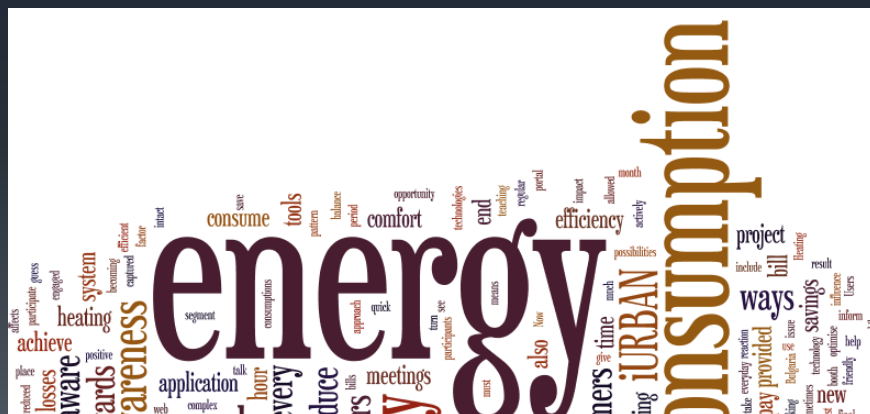
- Innovative, IT-based EU-funded project
- 9 partners from 6 European countries: Spain, Italy, UK, Germany, Bulgaria and Croatia
- Project duration: 36 months
- Rijeka – one of the pilot cities (alongside Plovdiv, Bulgaria)



iURBAN (II)



- Mutual IT platform for different stakeholders (utilities, public and private users, commercial and industrial users, ESCOs)
- Simulation of the energy market of the future
- Project governed by business and social goals
- Behavior analysis of stakeholders



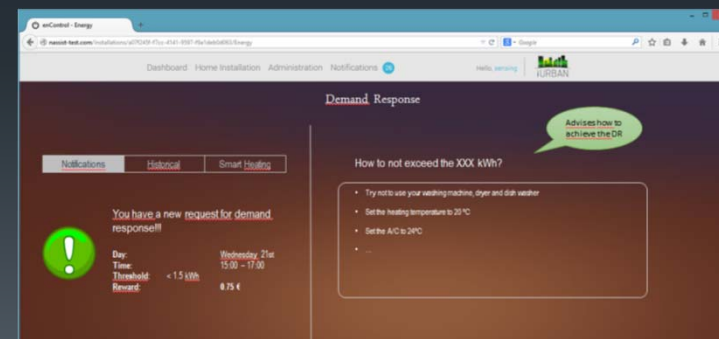
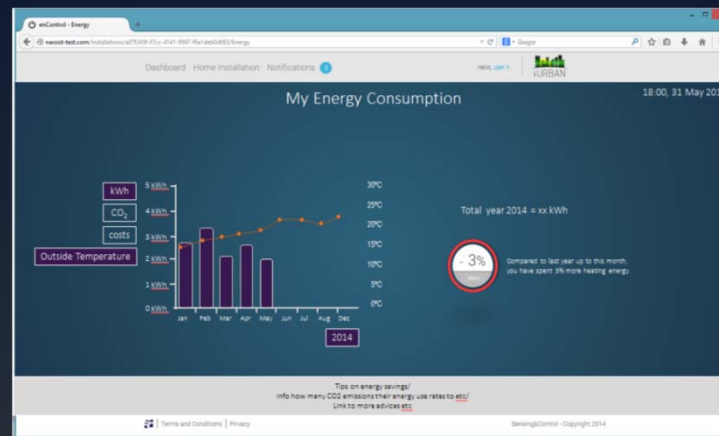


iURBAN (III): Technical details

- Pilot cities: Rijeka (Croatia) and Plovdiv (Bulgaria)
- Public users in Rijeka: 26 buildings (10 buildings owned by Energo and 16 buildings owned by the Municipality of Rijeka)
- Private users in Rijeka: 8 residential customers (installation of Smart Home equipment)
- PC and mobile phone platform

DR: Demand Response (I)

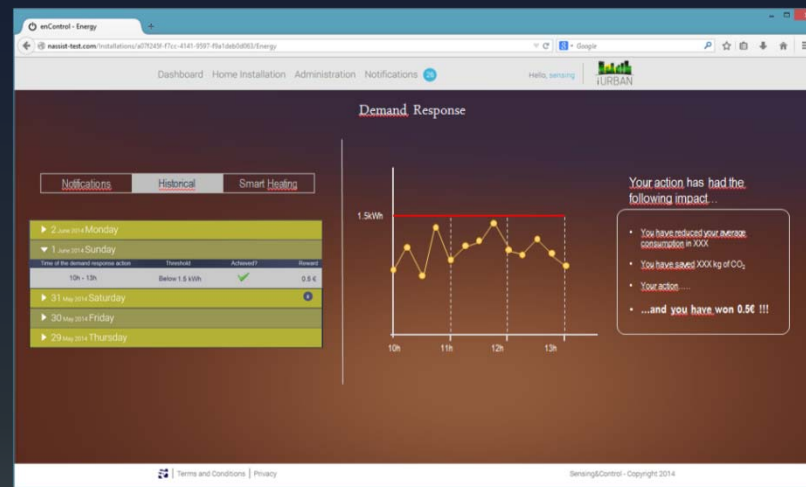
- Model that allows flexible usage of the energy system, with end consumers voluntarily changing their usual consumption patterns in reaction to price signals or specific requests, while at the same time benefiting from doing so



DR: Demand Response (II)

DR – analysis of the program:

1. Means of communication between Energo and the user (push notifications in the mobile app)
2. User action (DR adjustment process through the app)
3. Rewards
4. Dynamics of DR actions (2 – 3 actions per week)
5. DR implementation period: 2 months (8 weeks)





EU is moving towards...?!

1. Microgrids
2. Distributed production (renewables)
3. Prosumers (producer + consumer)
4. Storage (batteries)
5. Electricity as the most significant energy
6. Flexible utilities



Plans for the future...

1. 1 year of fine tuning of existing systems
2. Opening to customers individually
3. Digital telephony (Skype for business or similar)
4. Further integration of technical (SCADA) and business (Billing, ERP, BI) systems
5. Specific apps,...

...

10. „iUrban 2”





Thank you for your
attention