

Using ICT in construction and property management – “Violroten” as a digital pilot project and energy management

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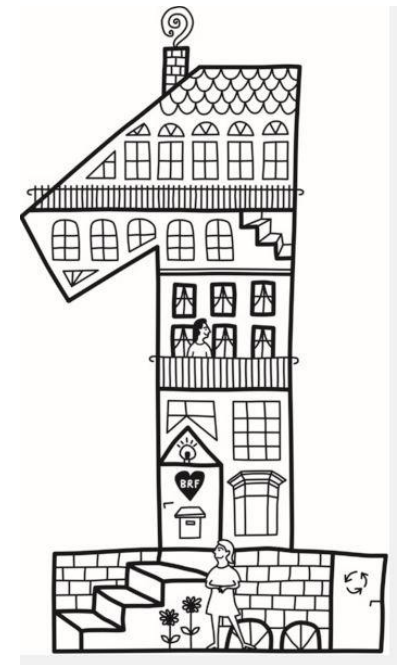
Riksbyggen in brief

- Building new homes for both young and old
 - Cooperatively owned and rented homes
 - StegEtt, Bonum and RKHF
- One of Sweden's largest property managers
 - housing cooperatives
 - commercial and public-sector property owners
- Operations throughout the country
 - We work together with elected representatives, employees and residents
- Riksbyggen Priority



Riksbyggen in figures

- Cooperative company founded in 1940
- 300 offices and operations in more than 400 locations
- Turnover: SEK 9 000 million (2017)
- 2 391 employees
- 2 387 newly built apartments
- We manage 177 000 apartments in 2 841 housing cooperatives, of which 1 700 are Riksbyggen cooperatives (2017)
- We manage 100 000 rented apartments, of which 4 713 are in our own stock and 2 587 are in the Karlstadshus Foundation



Central platform for digitalization in our projects



Tools

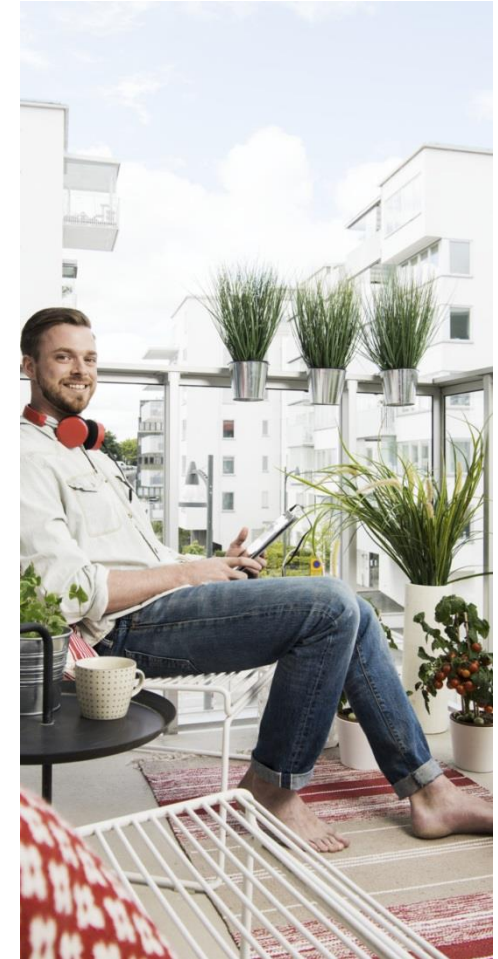
- BIM
- Technical solutions
- Industrial construction
- Smart buildings
- IoT
- Automation
- Visualizations

Methods

- Collaborate and cooperate
- Structure
- Standardize
- Analyse
- Optimize and enhance efficiency

We add value in the construction process

- Benchmark the industry to gain a broad view on new technology and successful outcomes.
- Analysis and insights from prior projects.
- Applying our integrated platform to increase efficiency, add value and collect insights throughout the project life span.
- Assuring a better long-term performance in property management and property maintenance.
- Apply automation and big data insights to reduce energy loss and focus on adding performance.
- Reduced construction cost.



The digital orchestration of Violroten



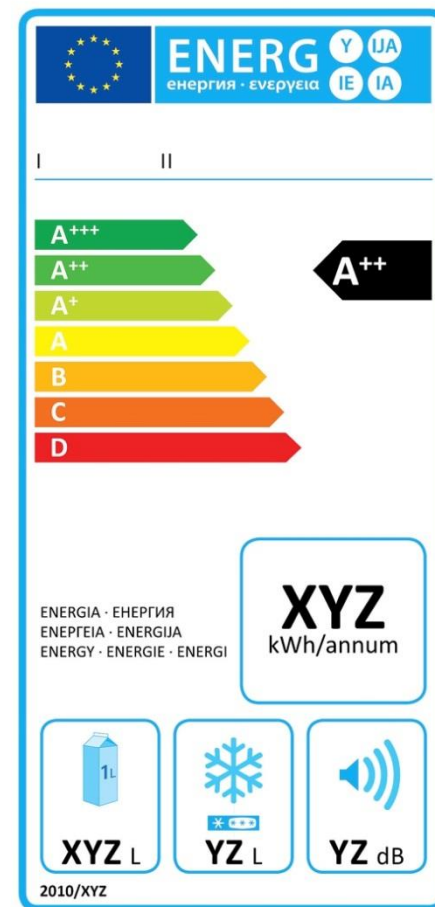
Examples of added value

- Exact estimates and cost efficiency
- Pre-completion visualizations (augmented and virtual reality)
- Optimizing logistics on and off site
- Accurate characteristics of a specific material or structure, throughout its life span
- Reducing environmental footprint
- Data collection and insights for future buildings



Managing valuable energy

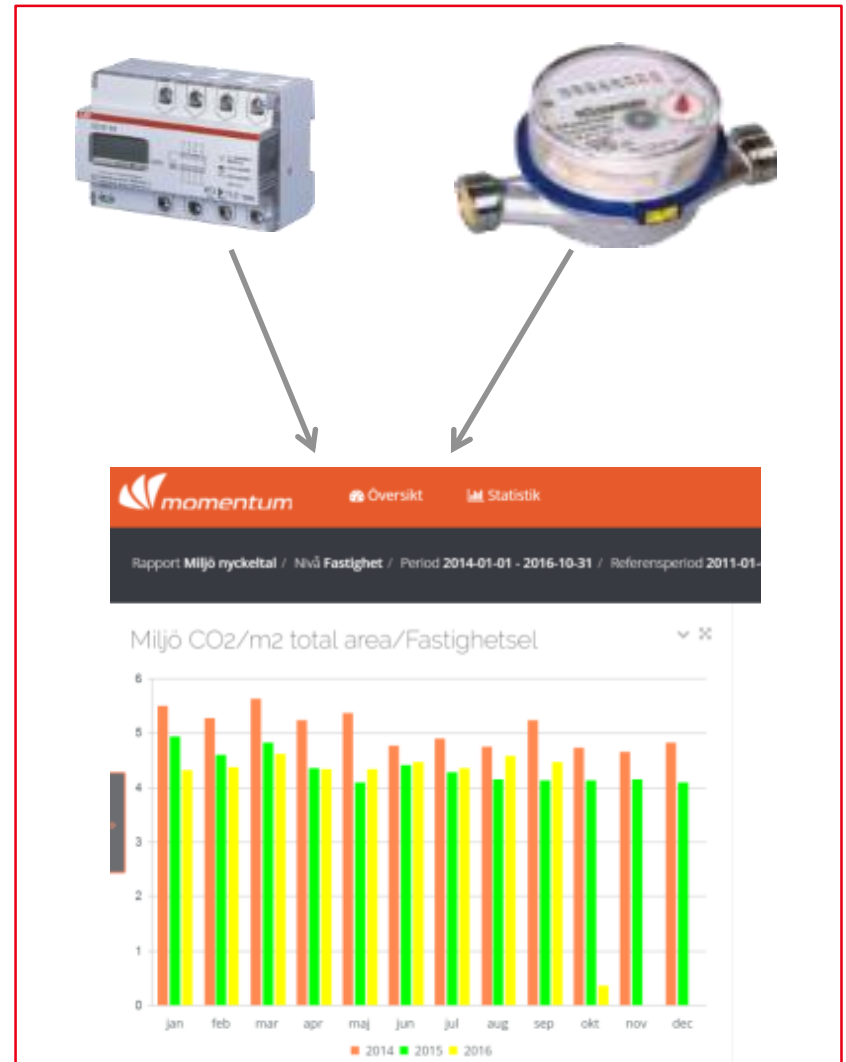
- Improve energy consumption with targeted energy management.
- Collecting energy data
 - Energy plan, energy audit and energy performance studies.
- Improving the use of energy through
 - Continues analysis and optimization. Refineing the action roadmap going forward.
- Added value
 - Improved indoor climate, lower maintenance cost, enhanced energy performance, reduced energy cost and lower environmental impact.



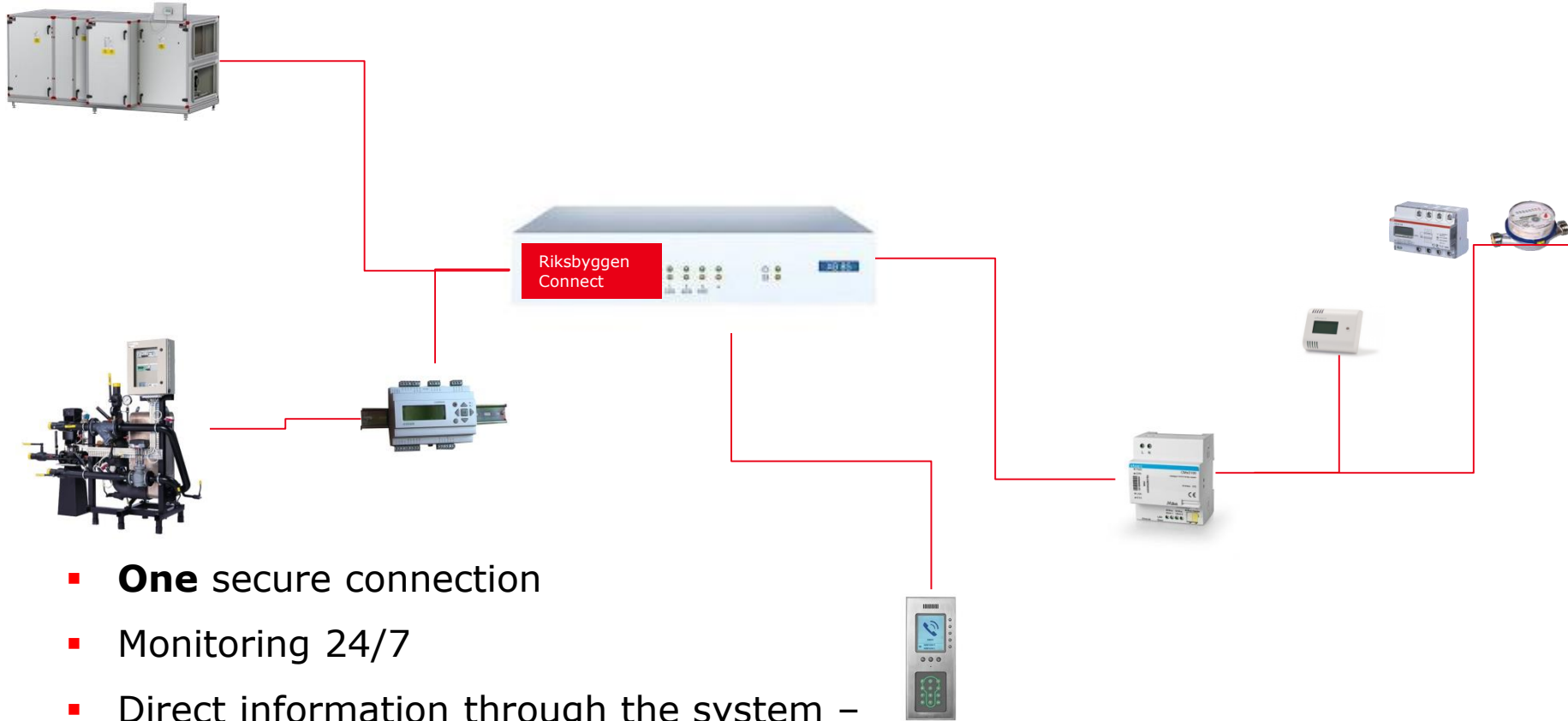
Riksbyggen energy management

Automated data gathering

- Enshored data flow from hardware units
- Precise and continues readings
- Realtime energy analysis
- Open for external suppliers
- Easy access for customers while insuring privacy and security

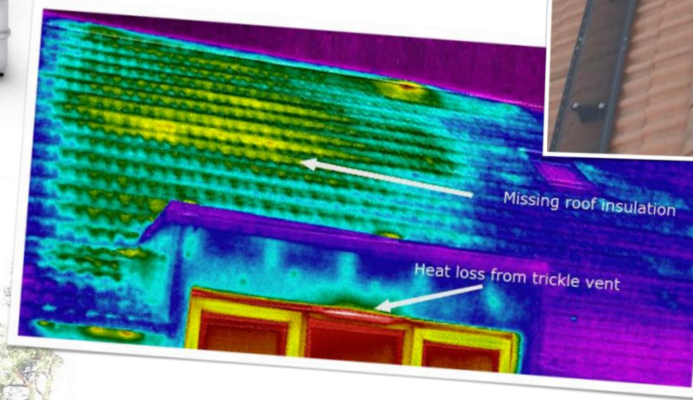


Riksbyggen Connect



- **One** secure connection
- Monitoring 24/7
- Direct information through the system – no need for manual inspection
- Reliable insights and adjustments through data analysis

Inspect and photograph the property with the help of drones



- Precision and quality
- Increased security for employees
- New occupational categories

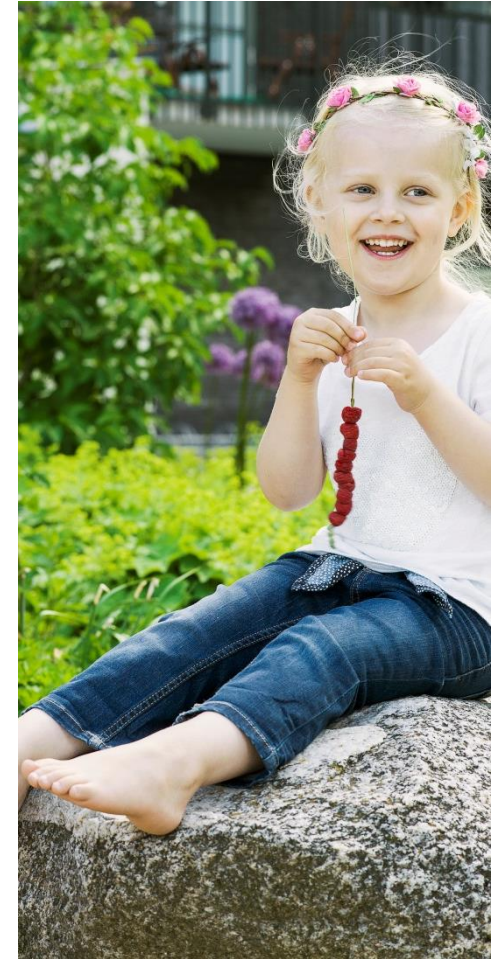
Example: the system enable us to offer our housing cooperatives solar panels.

Drones collect millions of images that stitches into a full 3D rendering of the site. Giving you the tool to alter, test and edit the site in virtual visualization.



The future is bright

- We harness the possibilities of Internet of things – allowing systems to speak to each other.
- We interact with the building components and control the process.
- We adjust and optimize the use of energy sources to improve efficiency.
- We develop new business models to enhance quality and secure sustainability.
- We engage the management and the residents through new solutions in property management.



Riksbyggen develops,
manages and improves
the spaces in which
you live and work.

Contact information

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