

# European Energy Service Award 2019

## Mass Rollout Heating Optimisation of Administrative Buildings in Berlin

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Wärme + Hydraulik Management

### Description

#### Background | Initial Situation

Berlin has set itself the strategic goal of becoming a carbon-neutral city by the year 2050. With a stock of 5,000 Buildings, BIM Berliner Immobilienmanagement is supporting the city of Berlin towards fulfilling this ambitious goal. The energy refurbishment of 47 Fire Departments and 18 College Centres aims to reduce about 1,200-1,300 tonnes of CO<sub>2</sub> in a total surface of 300,000 m<sup>2</sup>.

#### Challenge

Besides measures on the building envelope to reduce energy consumption, there are often suboptimal control systems and parameters as well as unfavourable hydraulic paths in the heating systems which contribute to high energy consumption. The project has contributed to further explore and exploit energy efficiency potentials with regard to the building equipment. It is a market innovation which paves the way for low-volume investments with very little technical intervention, but high energy saving results.

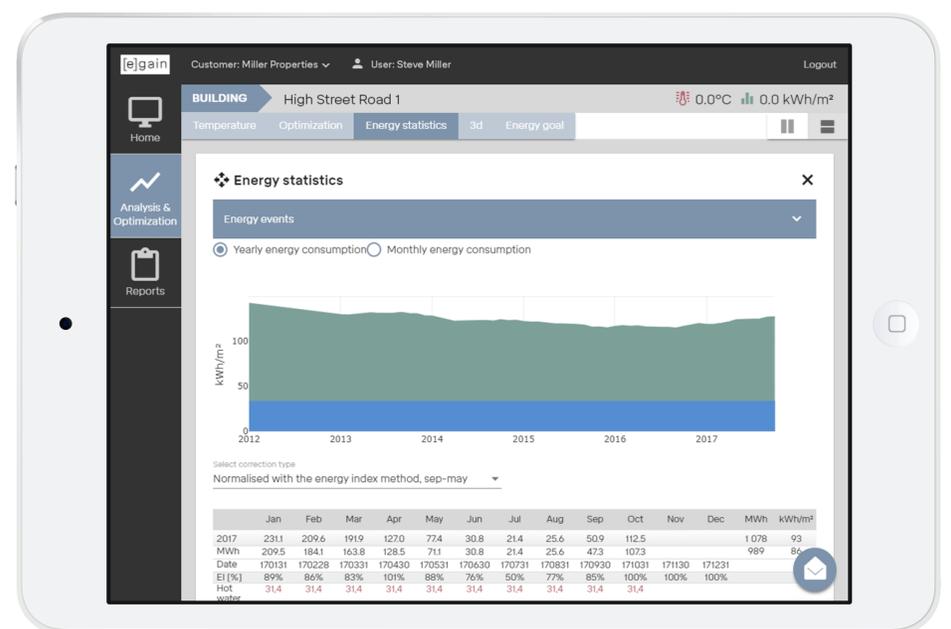
#### Solution | Measures

The bundle consists of three individual improvement measures which if combined, produce interesting results in terms of environmental, energy and cost benefits:

- » Installation of weather forecast control for heating boilers based on IoT
- » Software-based hydraulic balancing
- » Installation of high-efficient heating and circulation pumps

#### Key Results

<b>Reduction of CO<sub>2</sub> emissions:</b>	1,200-1,300 tonnes
<b>Energy savings</b>	7,000,000 kWh / year
<b>Cost savings</b>	340,000 € / year



Visualization of energy consumption / BIM

#### Results

The mass rollout heating optimisation makes possible to improvise a large number of buildings with similar efficiency potentials. It creates a standardised data baseline which could be used for the identification of further improvement measures. Accurately captures the actual energy savings that occur from the implemented measure. The measures can save up to 7,000,000 kWh and up to 340,000 € per year. New tenders are planned for 2019.

#### Contact

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