

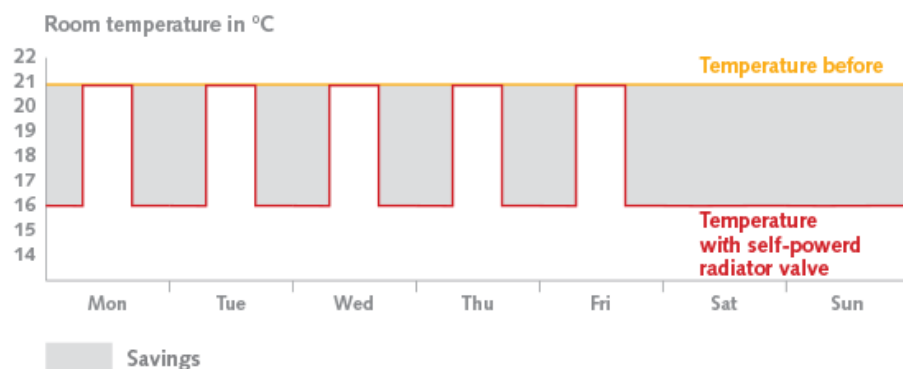
Single room heating radiator control with Micropelt iTRVs An Example

- Status:
- _ Old building with 3 floors plus basement, in total 30 rooms (w/o basement)
 - _ Thereof 19 rooms in second floor (1.OG) and attic (DG)
 - _ **Heating 24 hours on 7 days per week in all floors due to nightshift and weekend standby**
 - _ No central building control system available

- Requirement:
- _ **Heating cost reduction with fixed heating schedule during weekdays and heating off over night and on weekends (setback temperature)**
 - _ Precise temperature control in every room including local setpoint control and presence heating control
 - _ No change to building structure
 - _ No working time limitations during deployment
 - _ Simple use and control on floor level through local technical service team

- Implementation
- _ Floor-level control of battery-free and wireless valve actuators
 - _ STC-MSG heating controller (8 and 16 channel) with week program
 - _ Wireless temp.-sensors per room with setpoint device and presence button
 - _ 31 x Valve actuators; 18 Sensors; 3 x STC-MSG heating controller
 - _ **Expenditure of time to plan and set-up: 1 day**
 - _ **Expenditure of time to install (on-site): 5 hours (10 man hours)**
 - _ **Heating reduction: Two-third (2/3) of the building heated on one-third (1/3) of the previous heating time (>40% reduction)**

Heating schedule previous versus actual



Impressions:



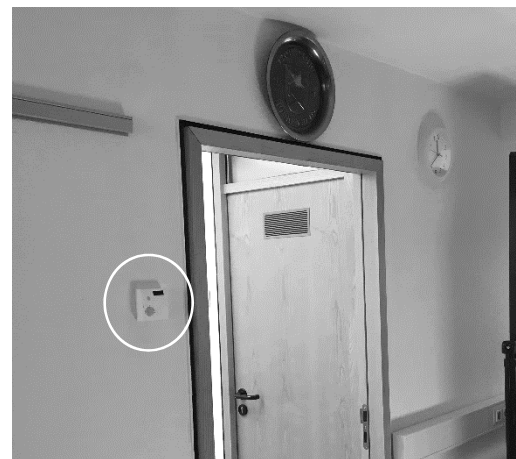
Meeting room: 6 valve actuators, 1 room sensor



Office room



Heating controller (Attic)



Room temperature sensor with setpoint device and presence button

About Micropelt (A brand of EH4 GmbH)

Micropelt started as a joint project between chip-maker Infineon and Fraunhofer Institute IPM. The company was spun-off from Infineon with the goal to develop and manufacture thin-film thermoelectric devices using silicon wafer manufacturing technologies. Further investments in Internet of Things (IoT) development areas such as energy harvesting, power management, low power radio and product design set the ground for endproduct developments such the iTRV family and other self-powered wireless sensors. In 2017, Micropelt became a brand of EH4 GmbH and relocated from Freiburg to Umkirch.

The 2nd generation iTRV (MVA004, right picture) has become an enabling part within ENGIE's Europe-wide smart building program (VERTOUZ by ENGIE). As a first project, the MVA series has been used in 50 out of 140 schools in Paris with the goal to reduce heating cost as well as CO₂ output by 30% per year.



Non-residential buildings benefit in particular from battery- and maintenance free automation using wireless products: Competitive investments and limited installation effort can immediately lead to a significant reduction of heating energy consumption and CO₂ production.