

Düsseldorf-Sonnenblumenfeld: affordable, high-quality sustainable living thanks to digitalisation!

The combination of **Zuhause-Plattform** smart building system & **EnOcean** self-powered wireless technology offers considerably more safety and comfort together with reduced energy consumption through building automation for everyone.

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Early 2023 saw the completion of more than just a new residential estate in Düsseldorf-Lichtenbroich - it marked the birth of a new benchmark in terms of modern living comfort and tangible sustainability, with 96 energy-optimised apartments in keeping with the most up-to-date building criteria. The property developer is the **Düsseldorfer Bau- und Spargenossenschaft e.G. (DüBS)**. Planning and implementation comply with the City of Düsseldorf's Residential Action Plan (*Handlungskonzept Wohnen*) and the apartments are partly publicly subsidised. The average rent* is 30% to 40% lower than for comparable new residential properties in Düsseldorf.

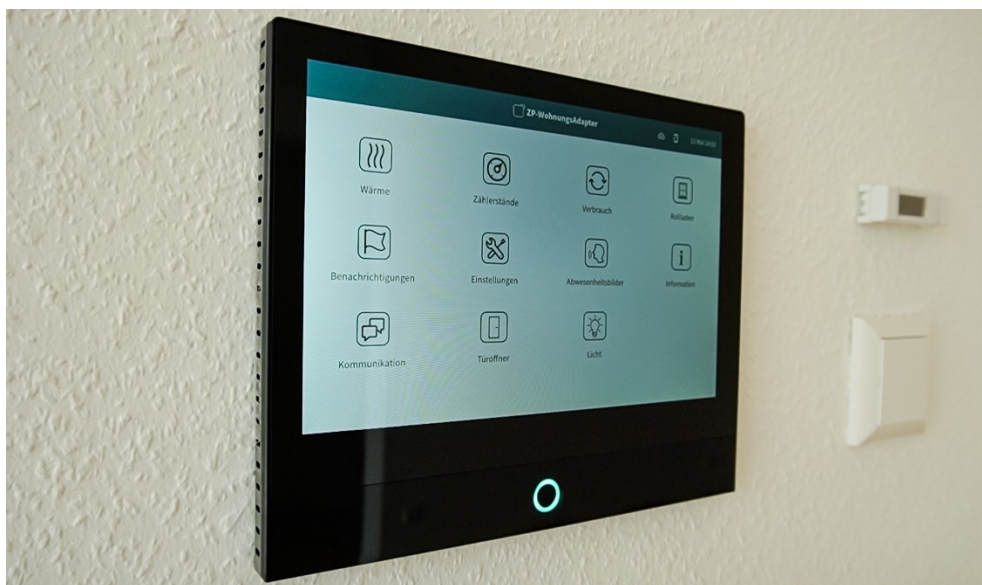
„The Sonnenblumenfeld project shows just how affordable sustainable living and smart-home technology can be. More innovation, comfort and safety with lower rents, energy and associated costs for the tenants.“ says Patrick Weber, Project Leader Digitalisation, DüBS

The attractive residential complex consists of a U-shaped main building featuring 78 apartments and a roof garden, plus a second unit with 18 two-room apartments. Friendly, bright one- to five-room homes for single persons, senior citizens, couples and families; many apartments have a one- or two-room layout and pay tribute to the needs of senior citizens. All units are barrier-free and feature balconies or garden terraces.

The requirements of the latest climate-friendly official policies are taken into account in many ways. Optimal thermal isolation, efficient climate control and ventilation as well as the means to reduce energy consumption (see *Zuhause-Plattform*) are important prerequisites for a sustainable future. The green roof and a flower meadow also contribute towards ecological balance. Solar energy is harvested by the photovoltaic rooftop system, helping to power 30 charging stations for electric bikes, scooters and cars.

The *Sonnenblumenfeld* project is based upon a consistent smart building concept: the innovative building management and control system by the **ZP Zuhause Plattform GmbH** company was selected as the best all-round digital solution for a modern living environment in apartment buildings - with innovative management software facilitating communication between tenants, landlords and property management company.

Useful smart functions such as climate control, light control, shading control, access control, intercom system, smoke and leakage alarms, administrator & facility management contact, energy consumption data and many more features can be governed via a simple central display and control unit within the apartment („**WohnungsAdapter**“). Everything is intuitively structured and simple to use, requiring no technical skills whatsoever.



Easy-to-use interface for tenants and property management services alike.

The *WohnungsAdapter* is the heart of the *Zuhause Plattform*. It's wirelessly connected with various self-powered switches and sensors throughout the apartment. This advanced wireless **EnOcean** technology uses energy harvesting to generate power from the environment: movement, sunlight, temperature variations or magnetic fields supply enough energy to power a sensor, operate a switch or send a radio signal. Such wireless devices are completely maintenance-free, require neither batteries nor AC mains power and can be installed on any surface - even on glass - in a matter of minutes. The

WohnungsAdapter can receive EnOcean signals as well as wireless M-Bus signals from the water, electricity and heating counters within the apartment in order to enable intelligent consumption analysis. The administrator can access mid-month and end-of-month consumption data as required.

„Approximately 400 manufacturers currently supply the market with over 5.000 devices employing the EnOcean (ISO/IEC 14543-3-1X) wireless standard. They are built into more than 2 million buildings throughout the World. The Sonnenblumenfeld complex employs approx. 2.000 EnOcean switches and sensors, and more devices can be selectively added according to the individual needs of each tenant - e.g. should a senior citizen require additional assistance.“ says Graham Martin, CEO of EnOcean Alliance.

Comfort, safety and energy efficiency.

Here are some examples of *Zuhause-Plattform* functions and features:

- Wireless sensors in all rooms monitor room temperature and humidity,
- Temperature sensors and actuators for underfloor heating enable demand-based warming of living spaces,
- The *WohnungsAdapter* can memorise time-based heating profiles that take individual weekdays, weekends and vacation-related absences into account,
- The *WohnungsAdapter* can govern all lighting appliances individually,
- Sunblinds can also be governed via time-based profiles, individually or collectively - with the possibility of varying the degree of aperture for each sunblind,
- Additional wireless switches and sensors can be easily retrofitted in minutes - without the need for disruptive masonry work in order to lay power cables or without the need for batteries as a power source,
- Door and window sensors monitor whether they are open and prevent lock-outs in the event of automatic timer-governed sunblind operation,
- Sensors register smoke and humidity (e.g. in case of water leaks due to defective washing machine plumbing) and send appropriate alarms to the *WohnungsAdapter* – as well as warning messages via an app and to the administrator via the facility management portal.

Further smart-home functions

- When the doorbell button is pressed by a visitor, the *WohnungsAdapter* displays the notification „doorbell ringing“ and an acoustic signal sounds,
- With the intercom button, the tenant can trigger an audiovisual alarm to attract attention and summon help from next of kin or friends as required,
- The tenant can monitor his water, electricity and heating consumption - and pre-warm the bathroom for the morning shower,
- App and voice control via Amazon Alexa or Apple HomeKit is possible using the additional *OPUS Dot* gateway solution (available from *JÄGER DIREKT*).

Building automation delivers significantly more safety and comfort with greatly reduced energy consumption. The residents can govern lighting and shading via dedicated switches or using the central *WohnungsAdapter* unit. Digital operation is not a „must“ - only the heating and the intercom are always operated via the display unit.

The EnOcean Alliance

As creator and promoter of this global standard, the EnOcean Alliance features an interoperable ecosystem based on the open EnOcean wireless standard encompassing more than 5,000 products on offer from over 400 vendor members worldwide. Founded in 2008, the EnOcean Alliance is an international association of leading companies in the building and IT industries, with global headquarters in California. This open, non-profit organization is committed to enabling and promoting interoperable eco-systems for Smart Homes, Smart Buildings and Smart Spaces based on the maintenance-free radio standard (ISO/IEC 14543-3-10/11).

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