

CASE STUDY

metr



Live in **2000+** Buildings

15 Million+ Measurements

Berlin PropTech Startup digitalizes dewego and GBG Mannheim Buildings.

Berlin-based PropTech startup metr aims to make the management of living space more efficient and sustainable. Using big data and AI, metr enables data-driven facility management and makes apartment buildings fit for the future.

metr's solution consists of an intelligent building management platform and the **m-gate**, a multifunctional IoT gateway. In addition to smart submetering, metr's solution offers remote monitoring of heating and drinking water systems.

The collected and processed data is sent to the platform, which integrates metr's solutions as well as third party applications like elevator monitoring into a central system. From there, the data is checked for plausibility and visualized in the customers desired interface.



About:

- Headquarters in Berlin
- 22 Employees (Jan 2021)
- Data-driven IoT PropTech Company



Challenge:

Digitizing apartment buildings



Solution:

Retrofit IoT-Gateway using EMnify technology to send utility readings to a multi-use case platform system



Products in use:

Connect

- **IoT SIM:** Best available cellular connection at device location.

Automate

- **REST API:** Automation of SIM activation

Operate

- **Portal:** Full visibility on SIM connectivity health, data, and costs



"We value our Partnership with EMnify, since we speak a common language and can always rely on their support. On multiple occasions, EMnify helped us with integrating our interfaces and processes."



Yannick Bollhorst
Director Partnerships

About the market

PropTech (short for “Property Technology”) companies are the driving force digitizing the real estate industry with their IoT solutions for efficient building management. Smart Building PropTechs focus on central building technology systems such as heating and drinking water systems. Some PropTechs also offer submetering services, allowing tenants and landlords to monitor the water and heat consumption in real-time.

With the Energy Efficiency Directive, which came into force in 2012, the EU members committed themselves to reducing greenhouse gas emissions and energy consumption. The aim of the directive is to increase energy efficiency by 32.5% (as of 2018). As roughly 40% of European energy is used for heating and water consumption in residential buildings, remotely readable meters are now intended to increase consumer transparency. With the smart meters in place, metering service providers can simplify billing and reading processes while end users profit from detailed insights into their individual consumption. The latter enables cost saving measures and promotes energy conservation.

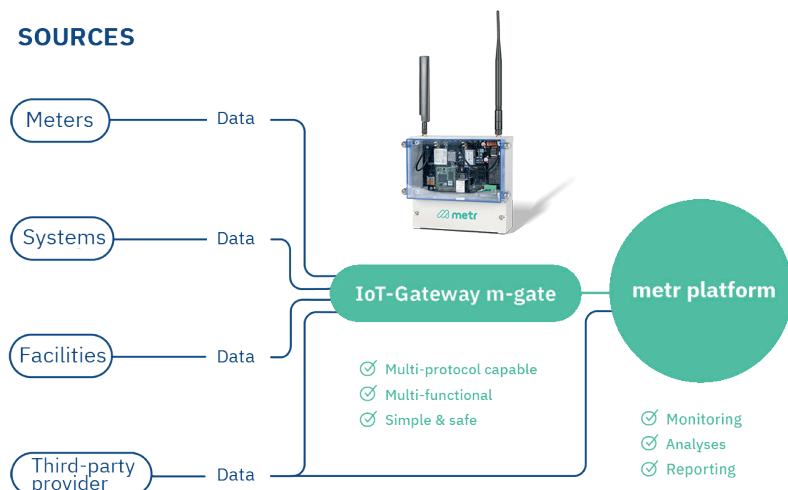
The EU Energy Efficiency Directive (EED) requires the installation of remotely readable water and heat meters and heat cost allocators by October 2020. Monthly consumption data must be provided to the end-user by 2022. By the year 2027, all meters must be remotely readable.

In addition to the regulatory framework around submetering, 60% of buildings in Germany are equipped with outdated drinking water and heating systems and siloed metering devices. Therefore, metr designed the multifunctional m-gate, capable of communicating with all installed meters and sensors to send data to the metr building management platform, which enables smart submetering and remote monitoring of drinking water and heating systems.

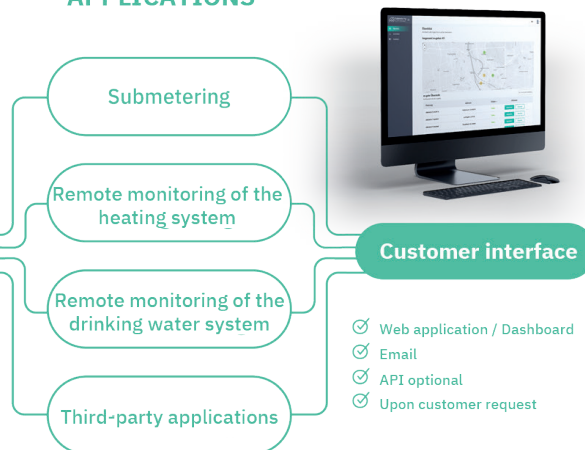


metr’s m-gates are already active all across Germany and connected to the metr platform using EMnify.

SOURCES



APPLICATIONS

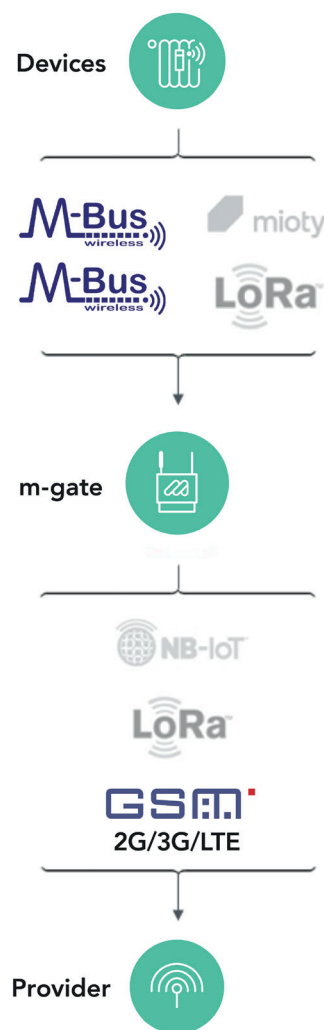


Challenges

metr's **m-gate** is capable of cross-vendor communication with the sensors and systems on site. Common protocols are M-Bus and Wireless M-Bus, a unidirectional communication from sensors to gateway, where the meters constantly send data. metr experiences a maximum reach of 4-5 building storeys with the Wireless M-Bus technology, which requires the installation of repeaters for larger infrastructure. As the **m-gate** is installed in the basement, metr changed from indoor to outdoor antennas to mitigate signal loss due to the concrete walls.

Why Cellular?

To connect the **m-gate** to the platform, metr conducted tests using LTE and LPWAN technologies like NB-IoT and LoRaWAN. NB-IoT proved to have limited coverage, as there is no national roaming. LoRa's duty cycles did not allow for sufficient data volume to be sent by the gateway. That is why metr decided to partner with EMnify and take full advantage of secure, reliable connectivity. The multi-network capability ensures that the **m-gate** is always connected to the platform even if one network in the geographical area is not available.



Solution

With EMnify's network of networks solution, metr deploys their **m-gate** anywhere in Germany. EMnify's **REST API** allows metr to integrate SIM management, activation, and suspension directly into their platform. During the installation process, the technician scans a code on the gateway which sends an API Call to activate the SIM and start the contract. The EMnify **Portal** gives detailed insights and statistic reports on the data consumption of each device, enabling metr to track and manage connectivity costs efficiently.

Results

EMnify's solution significantly reduced metr's network limitations, allowing them to spend more time on optimizing their solutions and less time worrying about connectivity. After developing more processing power in the **m-gate** to send less and more compact data to the platform, metr decided to reduce their monthly data volume by 50%.

Unlike other providers with rigid business models, EMnify was able to offer metr flexible pricing adjustments to suit their exact needs. If the data consumption happens to increase due to the EED regulations regarding provision of consumption data to the tenants, EMnify offers adjustable tariff plans or pay-as-you-go models. metr now partners with well-known housing industry players like dewego AG in Berlin and GBG Mannheim to future-proof German building infrastructure with their IoT solution.

