CASE STUDY

metr

Live in **2000+** Buildings **15 Million+** Measurements

Berlin IoT PropTech Startup digitalizing 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
- 20-30 Employees
- 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."

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.

The EU Energy Efficiency Directive (EED) requires the installation and remote reading of heat cost allocators by October 2020. Monthly consumption data must be provided to the end-user by 2022.

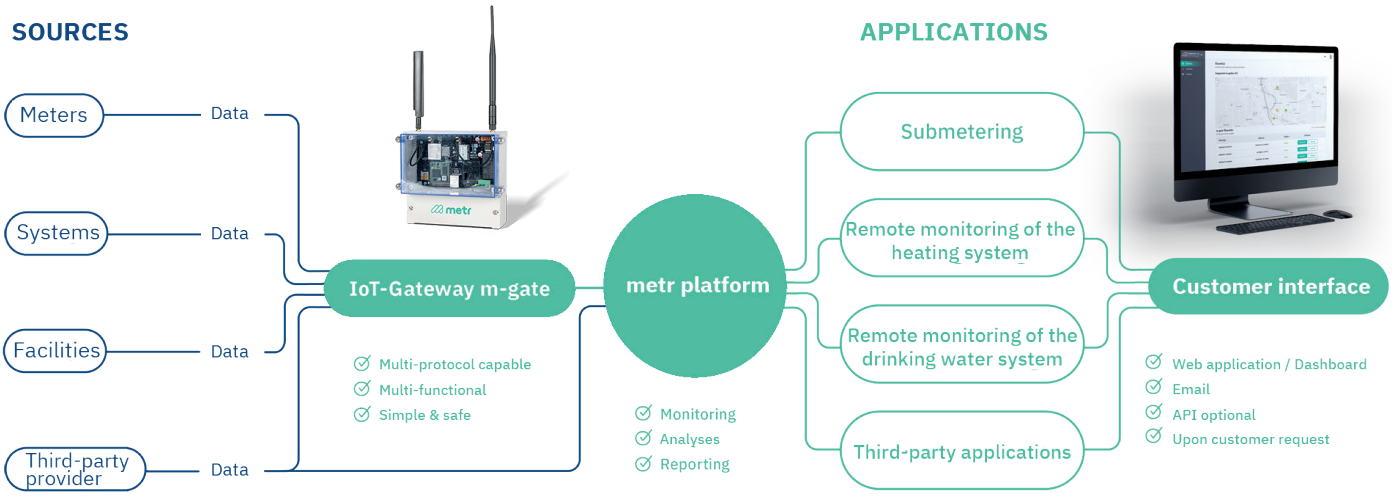
In the past, the submetering market was not consumer-friendly, as contracts were concluded between the service provider and the landlord, while all reading and operating costs were passed on to the tenants. A report submitted by the Federal Cartel office in 2017 regarding these circumstances revealed that tenants pay an excess of 195 Million Euros annually to metering service providers, which made up 13% of the entire estimated market volume.

According to the German regulation on metering point operations ("Messstellenbetriebsgesetz"), tenants are free to choose their measuring point operator until the end of 2020. This right will be restricted in 2021, due to the landlord's choice being prioritized, though his choice may not incur any additional costs for the tenant compared to the previous measuring point operator.

With 60% of German buildings being more than 30 years old with outdated water and heating systems as well as siloed metering solutions, there is no visibility on utility consumption, causing inefficiency and low sustainability.

Therefore, metr designed the **m-gate**, a multi-functional and retrofit gateway capable of communicating with all installed meters and sensors within a building. In response to the new regulations, metr's platform integrates submetering as one of metr's own solutions together with third party solutions into one central system.

With EMnify, metr has already connected over **800 m-gates** in the DACH region.

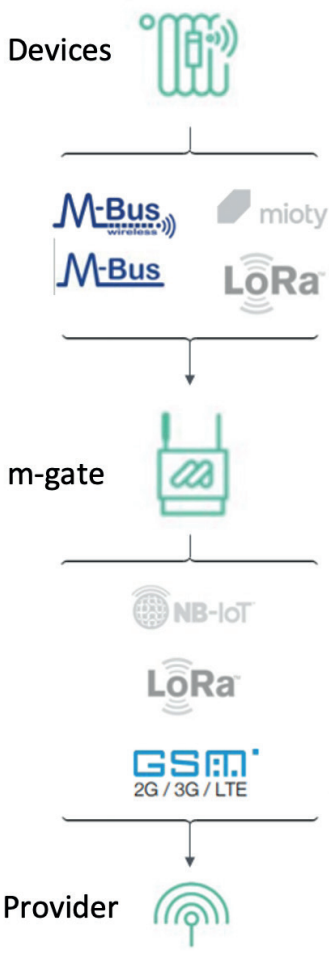


Challenges

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 and 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 the DACH region. 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. 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. metr now partners with well-known housing industry players like dewego in Berlin and GBG Mannheim to future-proof German building infrastructure with their IoT solution.