

**The Enterprise
IoT platform
for heat networks**

mini bems

**Connected
services**

www.minibems.com

Minibems is a software and service platform for the performance, operational and financial management of heat networks.

A complete digital management solution, allying excellent customer service with back-end enterprise IoT tools for day-to-day operation and reporting. Minibems transforms conventional heat network management into an optimised, data-driven and consolidated service from a single platform.

“In 2021 Minibems has brought to market the most advanced heat network control and management technology based on the latest performance Enterprise IoT know-how, enabling connected services which consolidate, rationalise and professionalise the delivery of heat network administration.

Management of heat delivery, efficiency, emergency repairs, metering and billing is unified into a single platform which reduces costs across the board whilst improving service delivery.

In developing this technology we have placed the resident experience front and centre, now benefiting from remote heating control, friends and family access, a dedicated phone app and 24/7 customer service.

Working with Minibems allows you to leverage digital infrastructure to outsource and de-risk heat network assets as you would with IT services.”



Finian Parrick
CEO & founder

minibems connected services & products



dynamic

Real-time
flow control



telematic

The difference
is the data



minipay

Flexible &
comprehensive
metering & billing

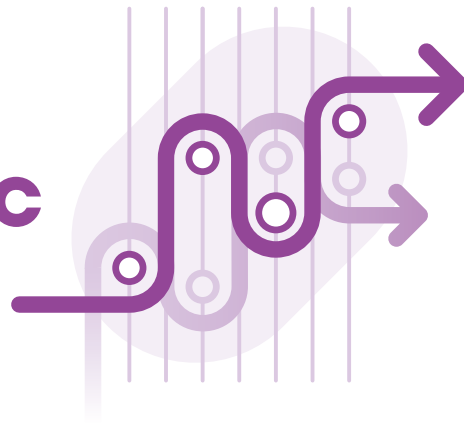


minibems connect



minibems touch

dynamic



Real-time flow control

Dynamic real-time manages the flow rate and temperature of heat networks in order to maximise efficiency and reduce fuel and carbon usage. By software controlling all elements of the network, it is possible to cut flow rates by more than half whilst still delivering comfort levels. Dynamic provides tools for the identification and resolution of poor performing parts of a heat network and individual units are automatically monitored and parameters updated to improve performance.

60%

average flow reduction whilst still providing the same level of heat and comfort to residents.

This translates into fuel and carbon savings of

25 - 40%*

Energy used for heating & hot water

Current heat networks

30-50% fuel utilised for heat

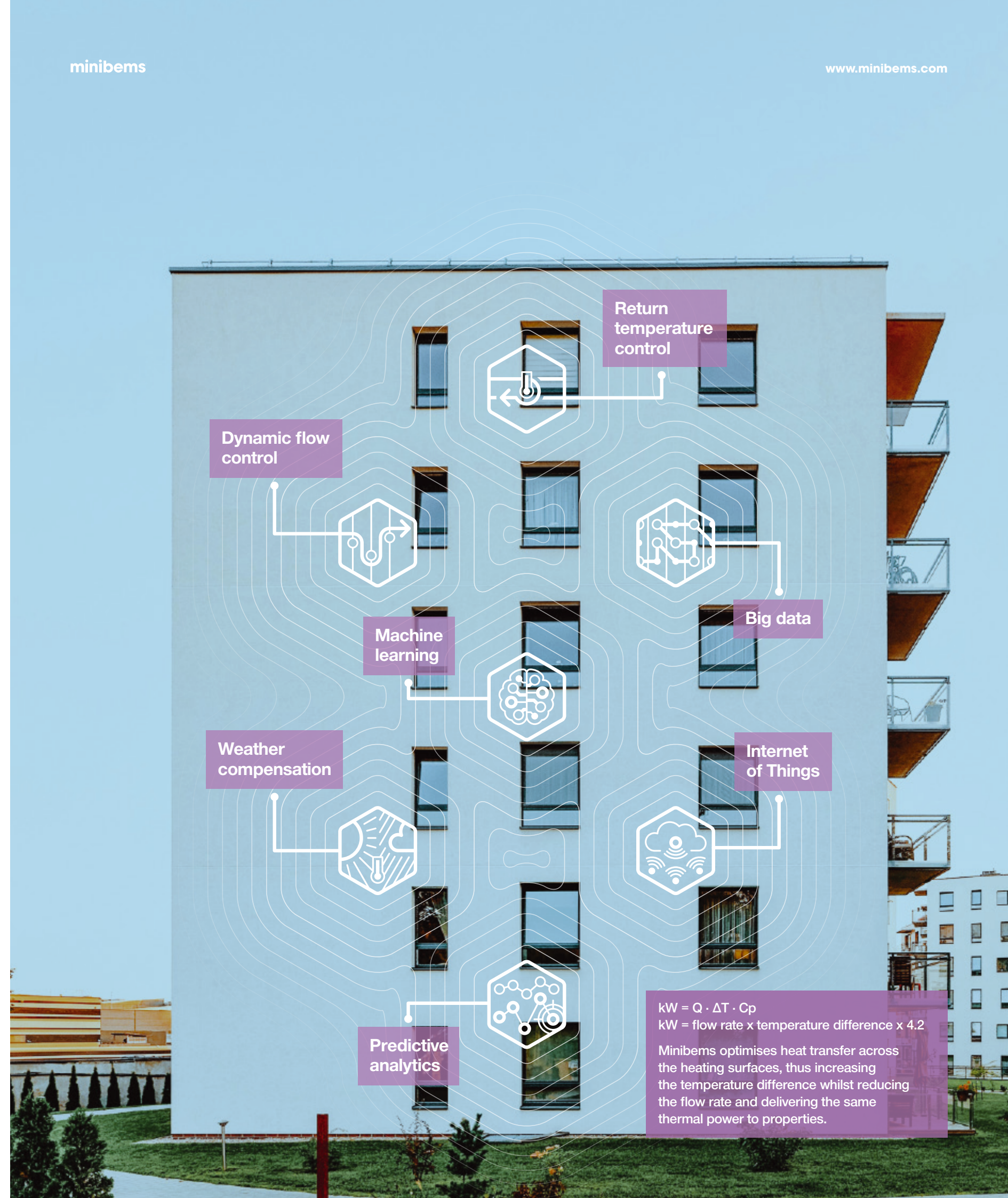
50-70% fuel unutilised for heat

Minibems heat networks

65-85% fuel utilised for heat

15-35% fuel unutilised

* Actual savings are dependent on project specific conditions.



Dynamic flow control

Return temperature control

Machine learning

Big data

Weather compensation

Internet of Things

Predictive analytics

$kW = Q \cdot \Delta T \cdot C_p$
 $kW = \text{flow rate} \times \text{temperature difference} \times 4.2$

Minibems optimises heat transfer across the heating surfaces, thus increasing the temperature difference whilst reducing the flow rate and delivering the same thermal power to properties.

telematic



The difference is the data

Welcome to unparalleled access to data that allows granular remote monitoring, diagnosis and management of heat networks, reducing the time and cost of unplanned maintenance. Telematic is a 24/7/365 platform which leverages unparalleled levels of data to empower specialist heating and hot water advisers to support customers and engineers and provide hassle-free heating.

Telematic support services

Remote heat network monitoring, diagnosis, triage and management

24/7 heating and hot water help-desk

Remote HIU control

Energy centre support and management

Network administration and reporting

Reduced call-out rates

Call outs resulting in an actual repair, rather than used for diagnosis or troubleshooting:

Current heat networks

3 out of 10

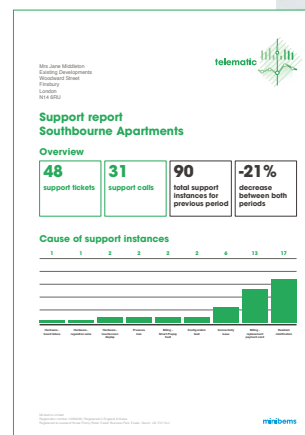
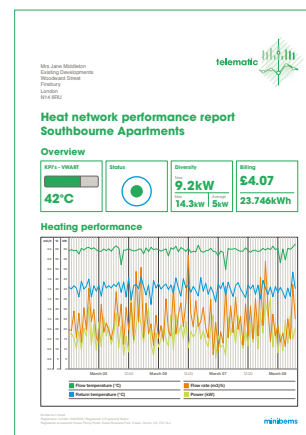
3 out of 10 call-outs result in effective repair

Minibems heat networks

9 out of 10

9 out of 10 call-outs result in effective repair

Heat network reports



minibems

www.minibems.com



Minibems connects and controls your heat network. Our online dashboard leverages this unparalleled level of data to empower our specialist heating and hot water help-desk to support your customers and provide hassle-free heating.

minipay



Flexible & comprehensive metering & billing




Minipay is a credit and prepayment, metering and billing service for heat networks. Providing multiple payment methods, Minipay makes it easy for residents to make payments and keep their heating on, meaning customer satisfaction is high and ongoing management is hassle-free for building operators. Minipay provides revenue assurance to network owners, with payment reconciliation and profit and loss accounting made easy.

Minipay support services

- Credit billing
- Prepayment billing
- Emergency and friendly credit
- Payment reconciliation
- Regulation compliant
- Residents help-desk

Payment methods

Minibems operates a real-time payments system whereby payments made are applied to the Minibems controller instantly.

- Pingit payments 
- ePay cash or card payments 
- Standing order 

Payment methods are dependent on selected metering and billing package.

Residents bill



minibems

www.minibems.com



Available on
 App Store  Google Play

We provide credit and pre-payment billing options that can be switched remotely depending on building requirements and residents' circumstances. The system can also be set so that vulnerable residents are never left without heating or hot water.

Residents comfort

Minibems Touch

Via the in-home 5" colour touchscreen display, residents can access their billing system, control their heating and change system settings.

Minibems App

The Minibems App puts residents heating and billing system into their pockets, providing remote heating control and allowing them to manage energy payments.

Easy top-up

Residents can make payments via their phone, at a local retailer with cash or card and via standing order.

Friends & family access

Vulnerable users can provide access to friends and family who can check their system and make top-ups on their behalf.

Resident help desk

Our specialist customer service advisers are on hand to support residents with any heating, hot water, billing or payment enquiries.

Emergency & friendly credit

When in prepayment, residents are not shut-off outside of office hours and are also provided a small emergency balance in case they run out of credit temporarily.

Heating & hot water control

Residents can control their heating and hot water via their smartphone app or in-home display. They can schedule their heating using the 7-day programmer or run the system in a simple on/off mode. They can put their system into holiday mode and change any system settings through either device.*

Energy usage

Heat energy usage is reported to residents via their Touch, App and bills, over 7-day and 12-month formats. The usage is divided into heating and hot water usage so that they can see what proportion of heat is being used where.

minibems app

Minibems App and Touch work in conjunction

Available for Apple iOS and Android

Remote heating control with programming*

On-screen consumption, savings and notifications

Simple installation and remote configuration

Built-in savings through Minibems Dynamic

End-to-end encryption security

Available on



minibems touch

5" capacitive touchscreen colour LCD display

Brightness adjustment

Low-power consumption

Secure over-the-air (OTA) firmware updates

Heating programmer*

In-built room temperature sensing and control

Designed for use with radiators, underfloor heating, HIUs and hot water tanks

Multi-zone heating control*

Switch between credit and prepayment billing



*Depends on system actually installed.

minibems[®]

connected services

Outsourced heat network management

Minibems connected services enable the outsourcing of day-to-day management of the entire heat network, including the management of repairs and maintenance, resident customer service, financial performance, efficiency management and reporting.

Decarbonisation roadmap

Minibems facilitates the installation of low carbon heat generation onto new and existing heat networks. By operating the heat network at the lowest possible temperatures, the use of renewable heat is maximised and existing emitter and pipework systems can be leveraged by lower grade heat sources, such as heat pumps and solar thermal.

Financial heat network management

With Minipay, managing the financial position of the heat network is made easy. Network efficiency, heat margins and debt positions are tracked and reported. Tariffs can be reviewed and updated to ensure the network is not loss making.

Regulatory compliance

Minibems ensures your developments meet with the requirements of the metering and billing regulations, as enforced by the Department for BEIS and Safety & Standards through Heat Network (Metering and Billing) Regulations. Minibems network performance is in-line with ADE/CIBSE Heat Networks Code of Practice 2020.



dynamic

Real-time flow control

Real-time flow control
Weather compensation
Optimisation
Parametrisation
Energy efficiency targeting
HIU efficiency reporting
Real-time dashboard
Remote commissioning
Smartphone app with energy usage diagnostics*
Heating machine learning*
Hot water machine learning*
Demand side response*

Freephone 0800 number

Secure Web Portal Access



telematic

The difference is the data

Real-time remote management
Remote emergency breakdown triage
Automated fault identification
Specialist diagnosis and troubleshooting
Remote HIU control
Full maintenance reporting
Performance targeting with data science
24/7/365 resident help desk for heating and hot water support
Fault and warning dashboard
Smartphone app for remote heating control*
Predictive analytics*
Resident remote heating control app*



minipay

Flexible and comprehensive metering & billing

Credit and prepayment billing services
Payment reconciliation and reporting
Remote heat meter fault identification
Real-time payment transacting
Revenue assurance for heat suppliers
Tariff advice for heat suppliers
Remote heating and hot water turn-off
Resident help desk for metering, billing and payment support
Emergency and friendly credit for residents
Family and friends access for vulnerable users
Smartphone app for billing and payments
Regulation compliant

*New feature coming 2021

minibems products

Easy to integrate for new build & retrofit

Mini in size, big in features, the new Minibems controllers pack state of the art processing power for real-time control, monitoring and metering requirements. These are the devices that bring commercial grade Building and Energy Management System (BEMS) capability into the residential home, continuously optimising heating and hot water systems, they harvest data back to the Minibems cloud for analysis and management whilst providing feature-rich in-home user control.



minibems connect

Energy controller

Connects HIU's, valves, pumps, sensors and meters

Dynamic and Telematic service integration

Simple installation, set-up and configuration

Remote configuration

Control and feedback of hardware and devices

Designed for use with radiators, underfloor heating, wall heating, HIUs, hot water tanks, heat pumps, gas boilers CHP, chillers

Reduction in energy consumption

Live benchmarking

End-to-end encryption

Always on, always working

Battery back up for loss of mains power



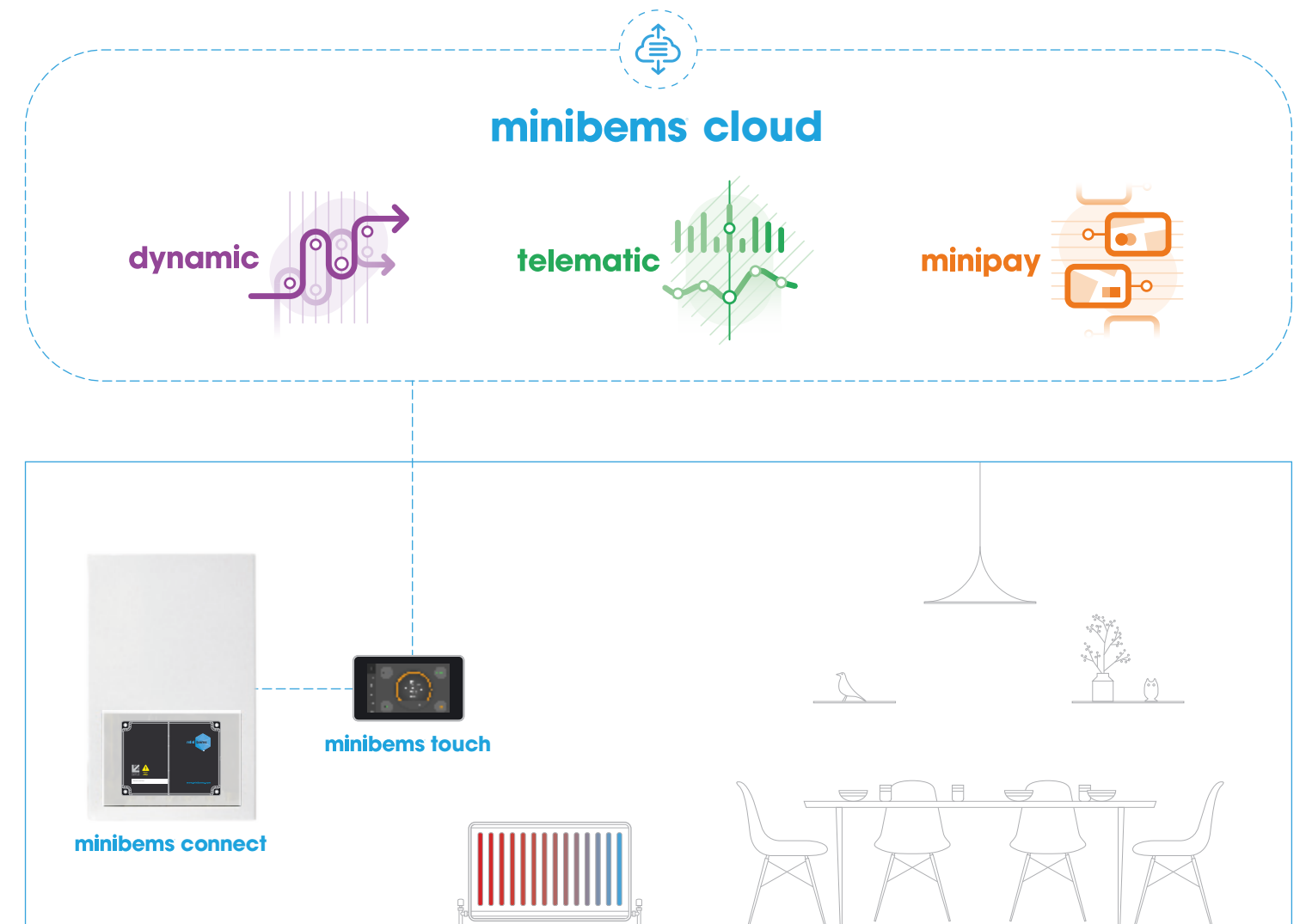
minibems touch

Residents controller



minibems app

Residents app



Minibems controllers connect using the following communication protocols:

M-Bus



M-Bus wireless



4G wireless



Modbus



BACnet



Ethernet IP



The Enterprise IoT platform for heat networks

Enterprise IoT platform with dynamic control of flow rates

Leveraging data science to improve heat network performance

Telematic dashboard and reporting of all metrics

Providing in-depth and up-to-the minute reporting

Comprehensive metering and billing options

Offering 24/7 heating and hot water technical support & insight

Unified, consolidated heat network portfolio to enable comprehensive strategic planning

Easily integrated into new build and existing heat networks

Get in touch

Call 0800 520 0135

Email sales@minibems.com

Visit www.minibems.com