

minibems®

Outsourced heating performance management

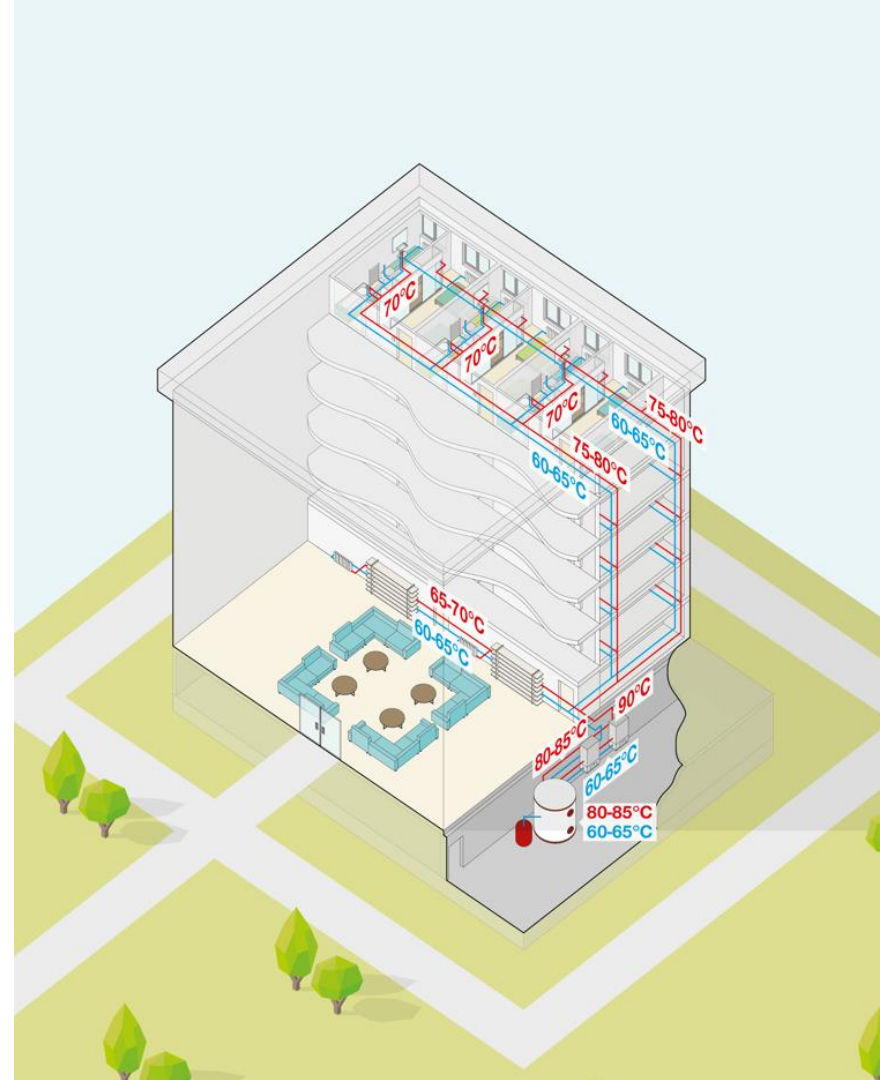
Finian Parrick, CEO

07942 211 012



The problems

- District and communal heating systems are only 50% efficient – limited flow & heat transfer optimisation
- Heat network operators are unable to monitor, diagnose and fix issues remotely across the network
- Lack of integrated billing and customer interfaces



The problems

Reactive repairs

- Heat network operators unable to monitor and diagnose issues remotely
- Higher costs for engineer call outs and lost heating days

Revenue loss

- Lack integrated billing and customer interfaces
- No accuracy and enforceability of bills
- Higher levels of debt and write-offs



Gas summary

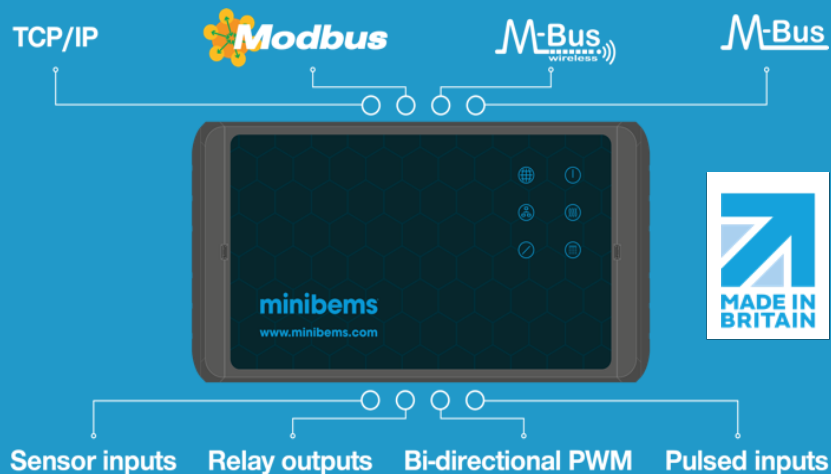
Last reading	This reading	Gas used	Cost split	Charges
Tariff - Standard Gas / Monthly Direct Debit				Meter Number: 950005184
11/01/10 9211 Estimate	25/03/10 9403 Estimate	Calorific Value 39,200 197 (100s cubic feet) = 6208 kWh	first 1671 at 7.201p next 4537 at 2.488p	£120.33 £112.88
PC * 25/03/10 9408 Estimate	02/07/10 9540 Actual	Calorific Value 39,200 132 (100s cubic feet) = 4160 kWh		£31.18 £92.03
02/07/10 9540 Estimate	12/07/10 9544 Estimate	Calorific Value 39,400 4 (100s cubic feet) = 127 kWh	first 433 at 7.201p next 3854 at 2.388p	£356.42

Cost of gas used this period
VAT at 5% on £356.42
charges this period

Your meter reading
• Price Change
Please note - there
has been a price change
affecting this bill period
We will split your
charges over the
next 12 months

The Minibems solution

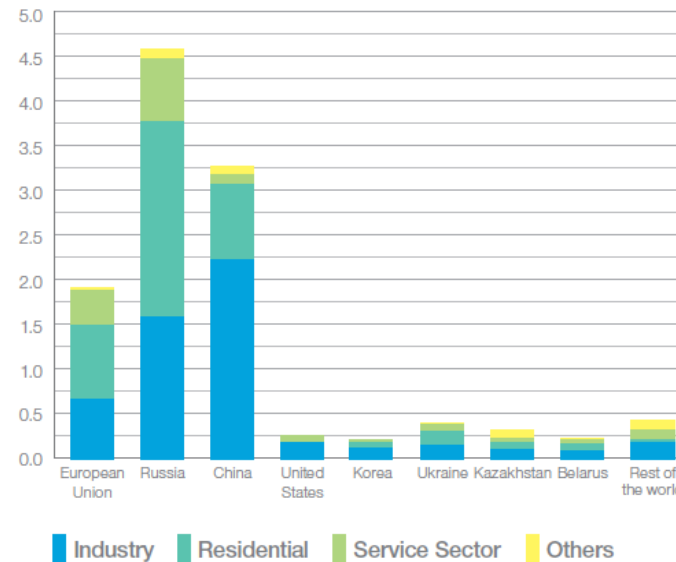
- Heat Network Management Service, saving 25-40% of fuel
- Sophisticated smart IoT devices control the temperature and flow of the heating fluid
- E-IoT infrastructure enables remote diagnosis and data analysis - reduced engineer call-outs and operating costs
- Software with remote metering and billing functionality – better customer interface and revenue recovery rates



Growing heat network markets

- Market driven by new build requirements and building retrofits – growth at 8%pa
- Focus on social and student housing first, followed by private rental and commercial
- Strategic partnerships with established OEM's – strong indirect channel partners
- Initial focus is UK then EU & Russia – 500+ connections in 2018; forecast 17,750 2021
- Wider market focus on networked, smarter cities – connected home platforms

International markets - annual heating demand



European Heat Interface Unit market

Country	2019 forecast	2020 forecast	2021 forecast	CAGR (2017-2022)
UK	70,000	75,000	77,000	8.3%
Minibems sales forecast (connections)	1,326	5,275	10,350	
UK penetration figures	2%	7%	13%	
Germany	64,000	68,000	71,000	4.0%
Netherlands	37,000	39,000	41,000	3.6%
France	16,000	18,000	21,000	15.0%
Austria	15,400	15,500	15,600	0.7%
Poland	11,500	12,000	12,500	5.8%
Turkey	11,500	12,000	12,800	3.6%
Romania	8,300	8,600	8,800	2.5%
Italy	5,800	6,000	6,100	1.5%
Belgium	5,500	6,100	7,000	13.9%
Czech Republic	3,600	3,700	3,800	3.8%
Switzerland	2,400	2,450	2,500	1.4%
Slovakia	1,200	1,250	1,300	1.8%
Europe total HIUs	252,200	267,600	280,400	(5.1% average)

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