



An Introduction
Updated 2026

National Ops & Technology Conference 2026.

"Technology drives the exceptional customer experience we want to deliver..."

...we want to make the shift to predictive maintenance a reality, extending equipment lifetime & reducing callouts"

Telemetry started testing remote monitoring sensors in McDonald's Restaurants back in 2017 to see if soft drink quality could be improved through the use of better data.

Beverage Quality.

- Rolling 12mth soft drink Quality score across the McDonald's UK estate is currently only **87**
- That's approx. **100m** drinks served poorly every year*
- It's the worst in Western Europe

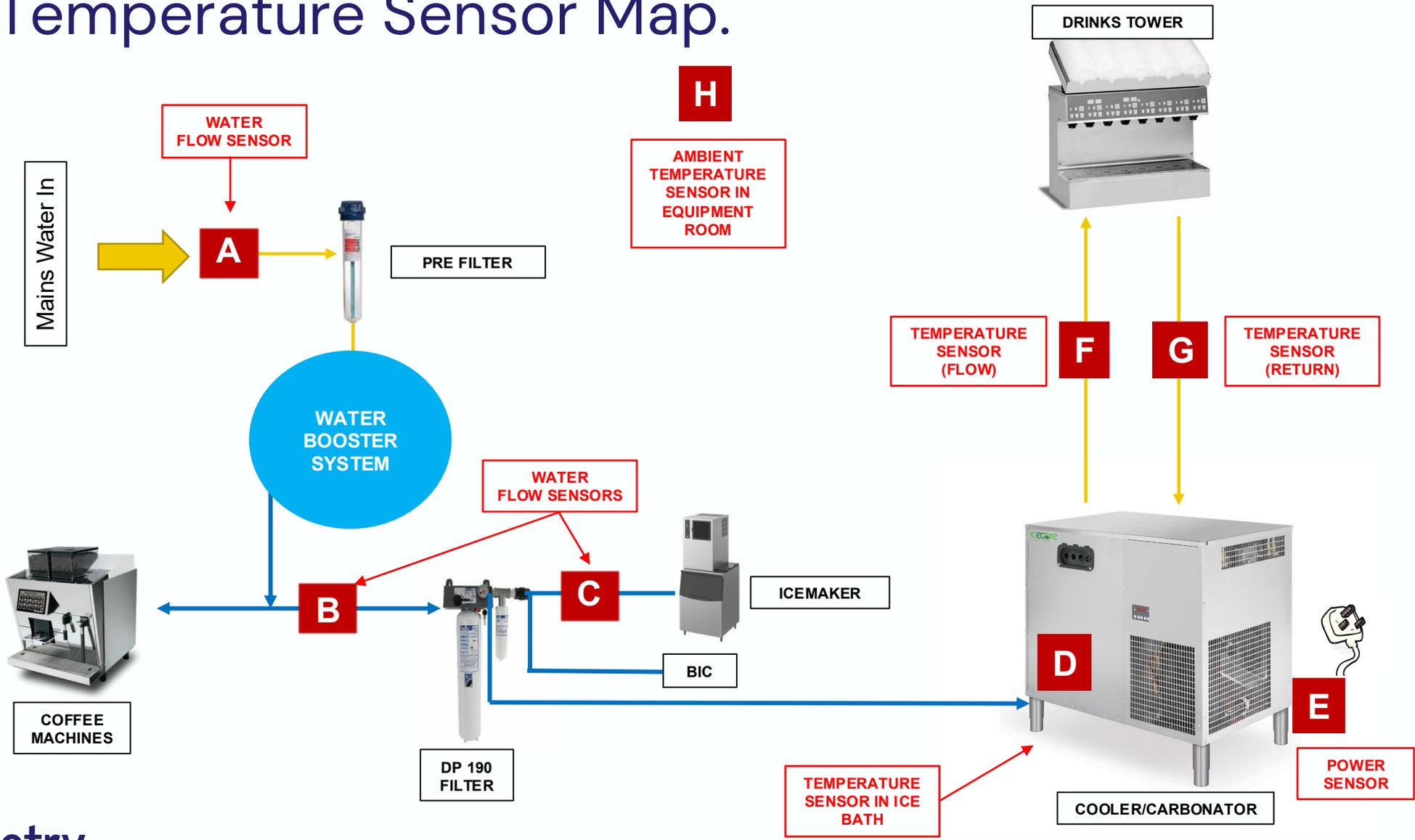
- We've been improving Quality in monitored restaurants by measuring the overall performance of key parts of the soft drink system

- We have 3 key metrics
 - **Ice Bath Efficiency:** this measures what % of time the Ice Bath remains cold (within agreed parameters)
 - **Equipment Performance:** this measures how well the whole system is performing
 - **Power:** we know what a Multiplex should be using & can tell what's wrong when it's using too much/too little

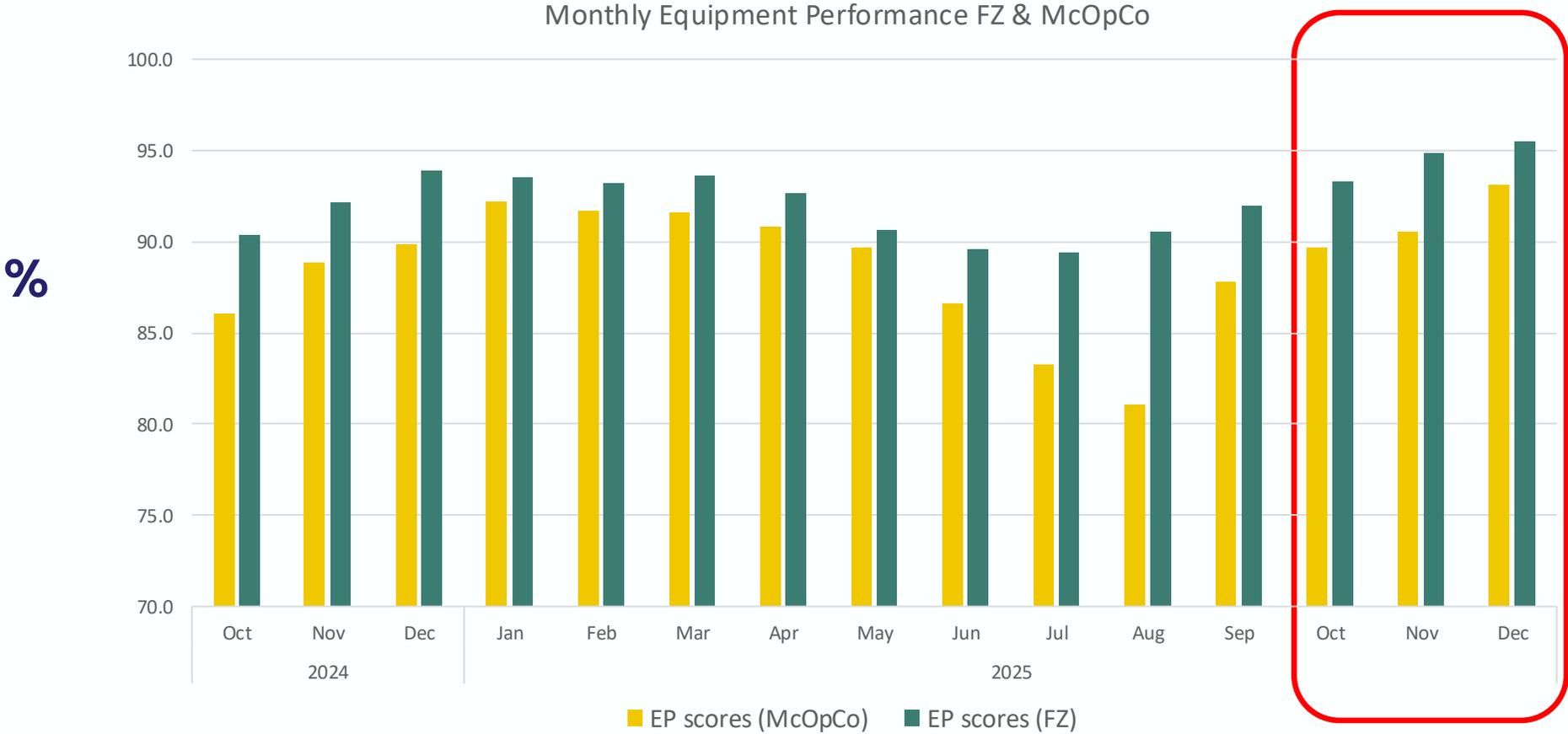
- Approval for adoption was given after long-term oversight by the OST & RSG
- Telemetry is a standard installation in all new restaurants in every McOpCo
- Currently installed in 350+ restaurants and growing

* All EPoS data supplied by McDonald's UK

Water Flow & Temperature Sensor Map.



Equipment Performance. Last 15mths



*Based on average soft drink sales across a 24hr period.

Portal.

Each restaurant gets its own page on our portal.

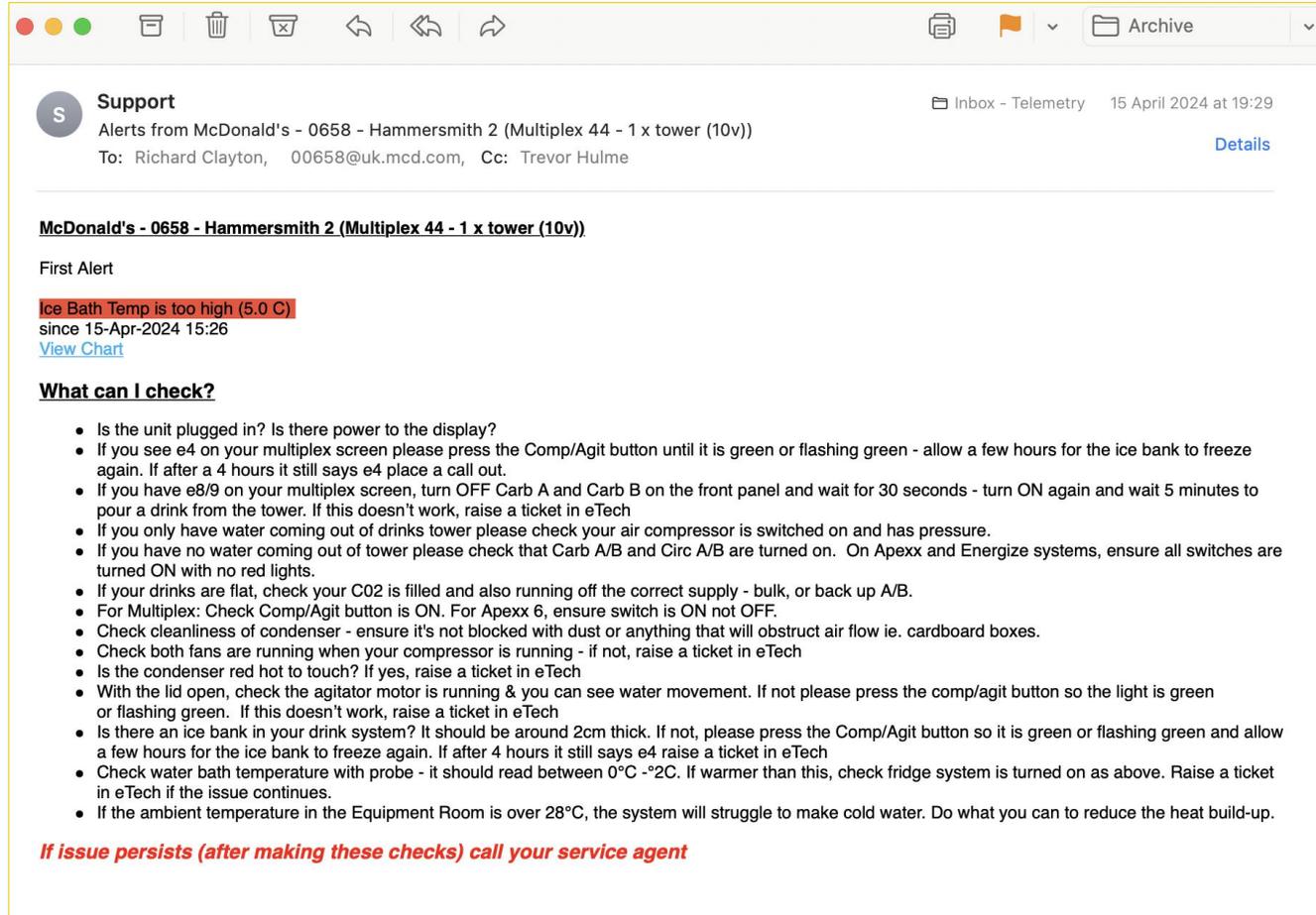
The performance of every sensor can be seen/monitored in graph format with adjustable timeframes & units (minutes/hours/days)

Alert parameters can be set/alterd whenever necessary

The portal is integrated with eTech & logs all eTech tickets raised against soft drinks



Alerts.



The screenshot shows an email interface with a support ticket. The subject is 'McDonald's - 0658 - Hammersmith 2 (Multiplex 44 - 1 x tower (10v))'. The email body contains a 'First Alert' with the subject 'Ice Bath Temp is too high (5.0 C)' and a timestamp of 'since 15-Apr-2024 15:26'. Below the alert is a section titled 'What can I check?' with a list of 15 troubleshooting steps. At the bottom, there is a red instruction: 'If issue persists (after making these checks) call your service agent'.

Support Inbox - Telemetry 15 April 2024 at 19:29

Alerts from McDonald's - 0658 - Hammersmith 2 (Multiplex 44 - 1 x tower (10v))
To: Richard Clayton, 00658@uk.mcd.com, Cc: Trevor Hulme [Details](#)

McDonald's - 0658 - Hammersmith 2 (Multiplex 44 - 1 x tower (10v))

First Alert

Ice Bath Temp is too high (5.0 C)
since 15-Apr-2024 15:26
[View Chart](#)

What can I check?

- Is the unit plugged in? Is there power to the display?
- If you see e4 on your multiplex screen please press the Comp/Agit button until it is green or flashing green - allow a few hours for the ice bank to freeze again. If after a 4 hours it still says e4 place a call out.
- If you have e8/9 on your multiplex screen, turn OFF Carb A and Carb B on the front panel and wait for 30 seconds - turn ON again and wait 5 minutes to pour a drink from the tower. If this doesn't work, raise a ticket in eTech
- If you only have water coming out of drinks tower please check your air compressor is switched on and has pressure.
- If you have no water coming out of tower please check that Carb A/B and Circ A/B are turned on. On Apexx and Energize systems, ensure all switches are turned ON with no red lights.
- If your drinks are flat, check your CO2 is filled and also running off the correct supply - bulk, or back up A/B.
- For Multiplex: Check Comp/Agit button is ON. For Apexx 6, ensure switch is ON not OFF.
- Check cleanliness of condenser - ensure it's not blocked with dust or anything that will obstruct air flow ie. cardboard boxes.
- Check both fans are running when your compressor is running - if not, raise a ticket in eTech
- Is the condenser red hot to touch? If yes, raise a ticket in eTech
- With the lid open, check the agitator motor is running & you can see water movement. If not please press the comp/agit button so the light is green or flashing green. If this doesn't work, raise a ticket in eTech
- Is there an ice bank in your drink system? It should be around 2cm thick. If not, please press the Comp/Agit button so it is green or flashing green and allow a few hours for the ice bank to freeze again. If after 4 hours it still says e4 raise a ticket in eTech
- Check water bath temperature with probe - it should read between 0°C -2°C. If warmer than this, check fridge system is turned on as above. Raise a ticket in eTech if the issue continues.
- If the ambient temperature in the Equipment Room is over 28°C, the system will struggle to make cold water. Do what you can to reduce the heat build-up.

If issue persists (after making these checks) call your service agent

Restaurants & Service Companies receive 4 major types of alert:

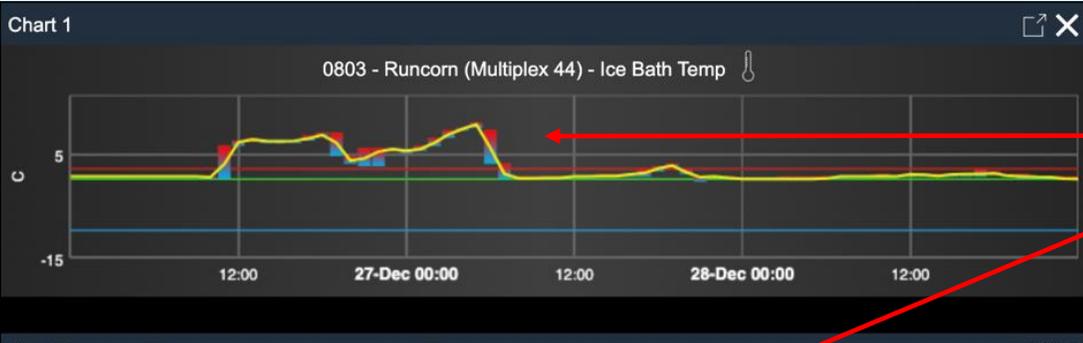
- Ice Bath temp
- Poured Drink temp
- Excessive Power use
- Excessive Water use

*Some also receive Chiller/Freezer/Boiler temperature alerts

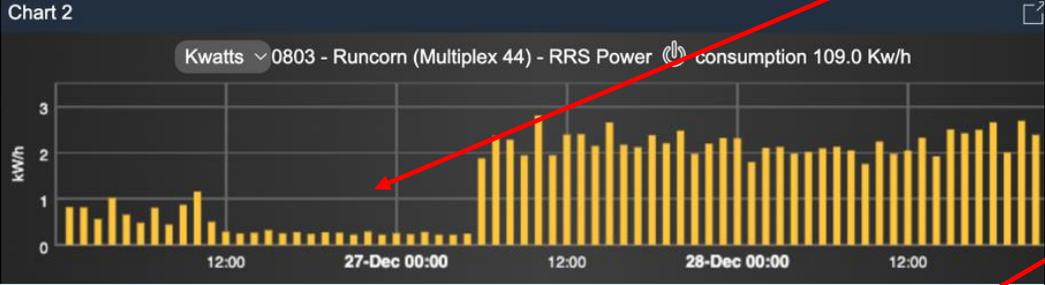
Restaurants have to acknowledge each alert.

Fault Analysis.

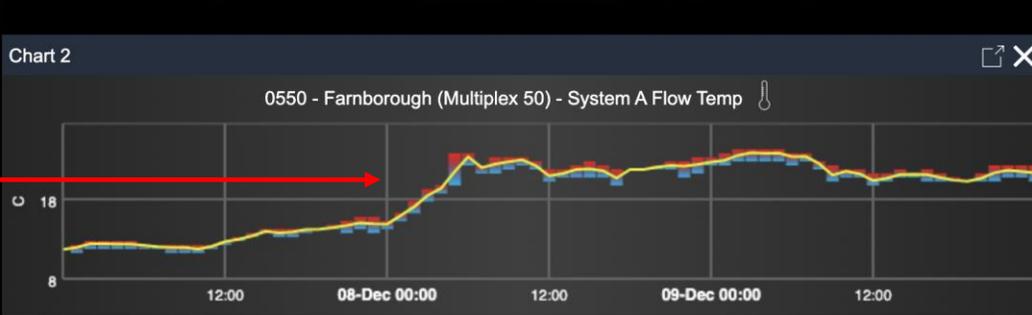
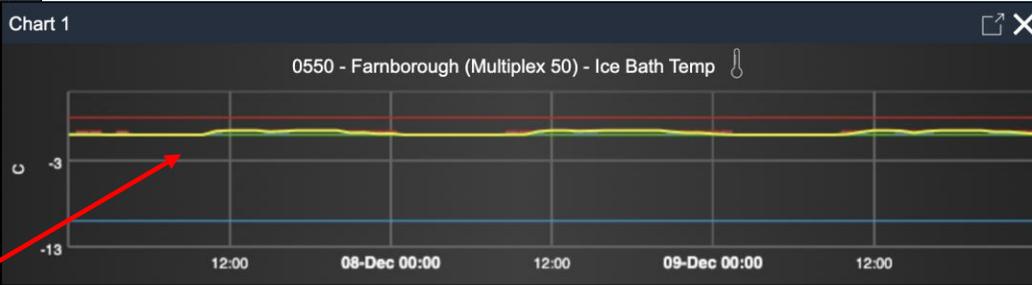
Accurate fault analysis is key to sending the right engineers to the restaurant with the right part to avoid multiple visits



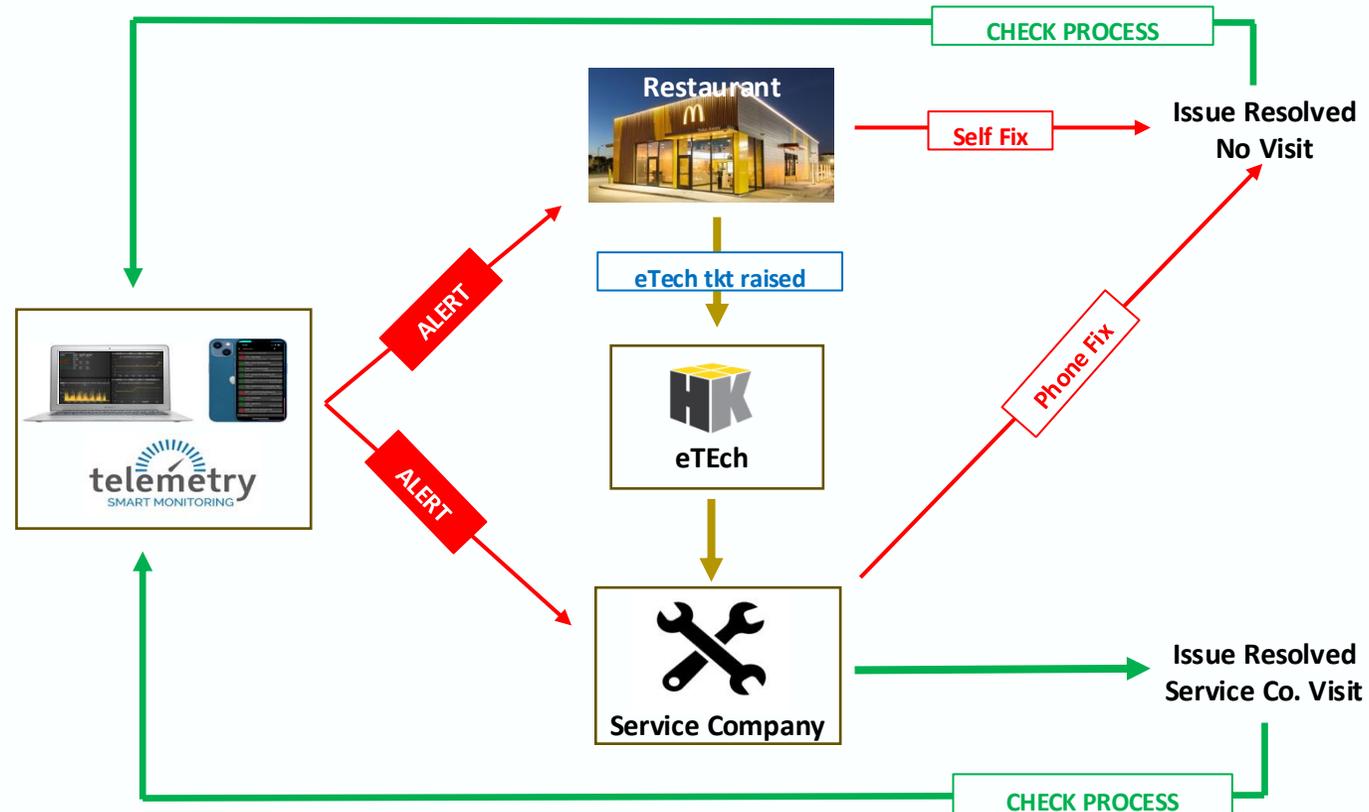
Ice bath temperature rise + power drop in Multiplex = possible accidental mistake **OR** refrigeration issue (thus needs a specialist refrigeration engineer)



Ice bath OK but rise in flow temperature to drinks tower = recirculation or agitator motor fault (parts not normally carried by Service Companies)



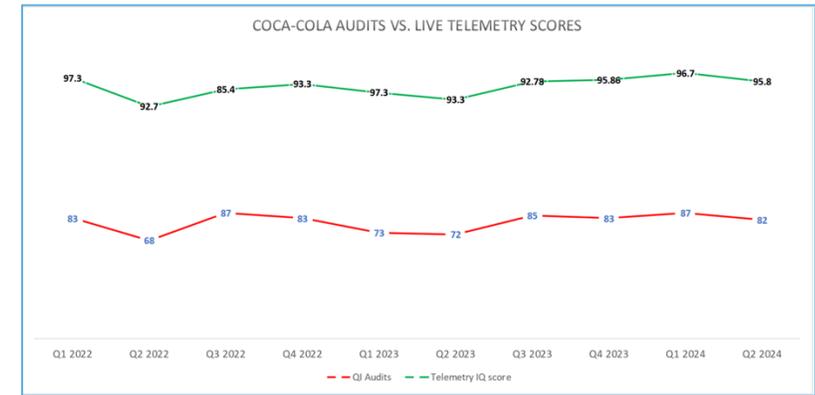
Service Company Integration.



Quality Maintenance Programme 2.0 & Telemetry

We sell almost **800million** carbonated soft drinks every year - they are the highest margin and most sold beverage in restaurants, but we also sell millions of 'warm' or out of specification drinks every year. The health of the soft drink system across restaurants is key to provide a 'Gold Standard' soft drink, which we know improves both brand perception with our customers, and in turn sales.

QMP visits take place twice a year, but QMP 2.0 with Telemetry introduces an 'always on' system, which enables you to monitor soft drinks quality and equipment performance 24 hours a day. **The Telemetry system sends alerts to the restaurant and your Service Company to take action that would otherwise go unnoticed. Often a phone fix is all that is needed.** As a result, Quality in restaurants with Telemetry is substantially higher (see graph).



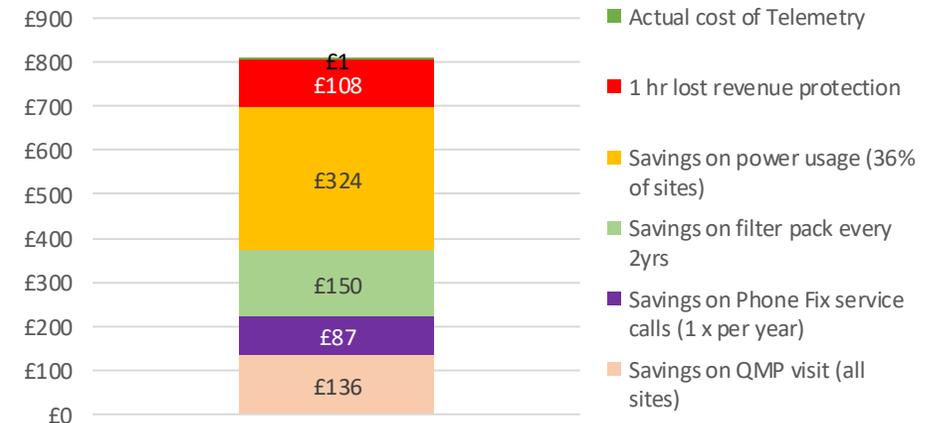
Investment

- The cost of purchasing the standard package of 8 sensors is **£1903 + VAT**.
- The sensors monitor water volumes & temperatures, temperature of the ice bath, ambient temperature in the equipment room, and power usage
- The ongoing monitoring costs **£67pcm**, with most of the cost being offset against savings listed below, making this system almost cost neutral

Main Benefits

Issue	Additional Comments	Saving
Reduced QMP Visits	As the system is monitored 24/7 it only requires one full QMP visit and one shorter visit at reduced cost	£136 Annually
Drinks being Unavailable	Daily cost of Soft Drinks being unavailable – average loss of Margin	£674 Daily*
Coke Cans	Additional cost of purchasing Coke Cans due to prolonged downtime of equipment	£385 Daily*
Water usage	The system can identify excessive water usage, which is often due to equipment issues or wrongly plumbed systems	£170 Monthly*
Power usage/efficiency	As drinks systems get older, they become less efficient and use more energy to run. Telemetry monitors energy usage and can show when older systems become less economic to run (currently 36% of FZ restaurants)	£972 Annually*
Filter pack changes	The life of a Filter Packs is measured by volume. Until telemetry was introduced, no volume measurement was ever possible. Most sites have filter packs that need changing every 2yrs, not every year	£300.90 every 2yrs*
Phone Fix	Service companies can review alerts and provide a phone fix instead of a reactive call	£87 per call*

Annual Cost of Telemetry



*Figures based on average volume restaurant and data from restaurants currently on Telemetry, and margin/sales data from BSI

Cost/Benefit

Average soft drink sales across UK restaurants in 2025 were approx.**1027*** per restaurant per day.

89.2% of these drinks are sold between 9am-9pm

That's **76** per hour (not adjusted for peaks within that time period)

Average size is 0.4L (Medium) @ £1.89

Assumed blended margin: 84.6% - £1.59

$76 \times £1.43 = £120.84$ per hour

Lost revenue from soft drinks sales:
1hr = cost of Telemetry for **2mths**
3hrs = cost of Telemetry for **6mths**
9hrs = cost of Telemetry for **18mths**

*All EPoS data supplied by McDonald's UK



Power savings.

Back in 2021, Telemetry identified 9 x McOpCo restaurants where the power usage was substantially higher than the benchmark.

Each restaurant was using older model Apexx 6 equipment which in every case was struggling to perform properly, affecting not only the power usage, but also delivering sub-par drinks quality.

By demonstrating the ROI on replacing the key equipment, McDonald's replaced the cooler-carbonator in every restaurant.

The cost-savings to date (data is up to end 2025) in just **9** restaurants is over **£150,000**

Additionally, the quality of the soft drinks in every restaurant has markedly improved

	2021/2	Annual Cost	2024/5 Avg	Annual Cost	4yr Saving
Restaurant	Previous power use (Kw/h p/d)		Current power use (Kw/h p/d)		
0300 Dagenham FS*	110	£11,041.25	24.47	£2,456.18	£34,340.30
0370 Stonedale Lane	62	£6,223.25	22.3	£2,238.36	£15,939.55
0969 Crayford	59	£5,922.13	21.9	£2,198.21	£14,895.65
0970 Stairfoot	72	£7,227.00	29.5	£2,961.06	£17,063.75
0268 Leytonstone DT	54	£5,420.25	23.9	£2,398.96	£12,085.15
0441 Wigan	48	£4,818.00	22.7	£2,278.51	£10,157.95
0332 Swansea	58	£5,821.75	26.4	£2,649.90	£12,687.40
0336 Llanelli	62	£6,223.25	31.8	£3,191.93	£12,125.30
0682 Odbury*	96	£9,636.00	40.1	£4,025.04	£22,443.85
				Total	£151,738.90
*Now Franchised					

A typical month.

This is the log of emergency breakdown alerts* from across the McDonald's estate (318 restaurants monitored) over a 30day period from 15/8/25 – 14/9/25

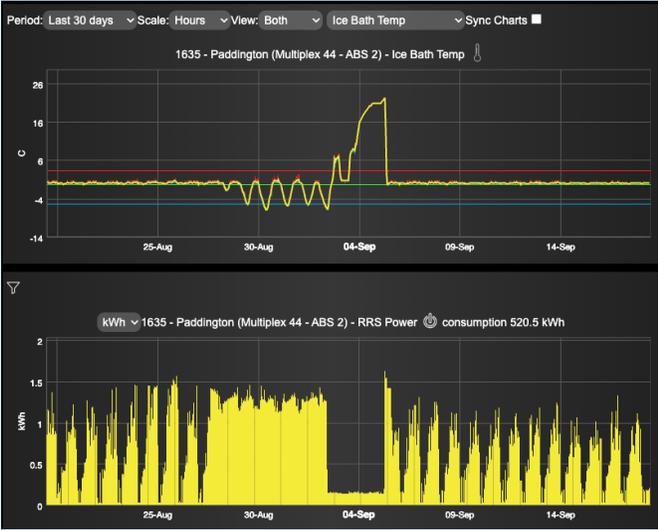
0542 Newcastle – recirculation pump failure
2145 Hailsham – accidental motor switch-off
1635 Paddington – PCB relay failure
1164 New Denham – accidental drain valve left open
1681 Bermondsey – recirculation pump failure
0011 Shepherd's Bush – agitator motor failure
1712 Bury St Edmunds – accidental motor switch-off
2474 Brentwood High St – Ice bath overheating
0455 Ealing – recirculation pump failure
0421 Chelmsford – Power fluctuation affecting ice bath temperature
0326 Carlisle – accidental motor switch-off
0658 Hammersmith 2 – ice bath overheating & power surge
1396 Greenford 2 – Boiler temperature sub-50°C
0484 Target – Walk-in freezer high temp alert
0500 Notting Hill Gate – Low boiler temperature
0367 Dagenham 2 – accidental motor switch-off

Over the same period, the system detected 1876 issues in 165 restaurants

This triggered 231 different alert emails

*Not including repeat alerts from sites with issues before 15/8/25

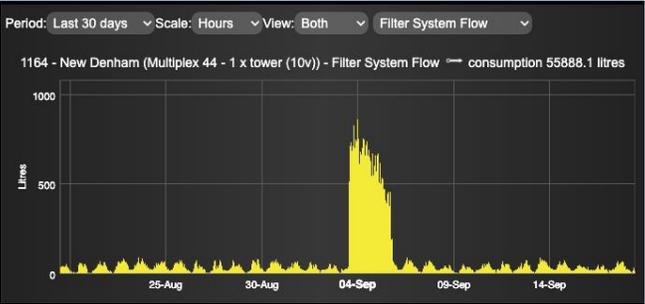
A typical month (examples).



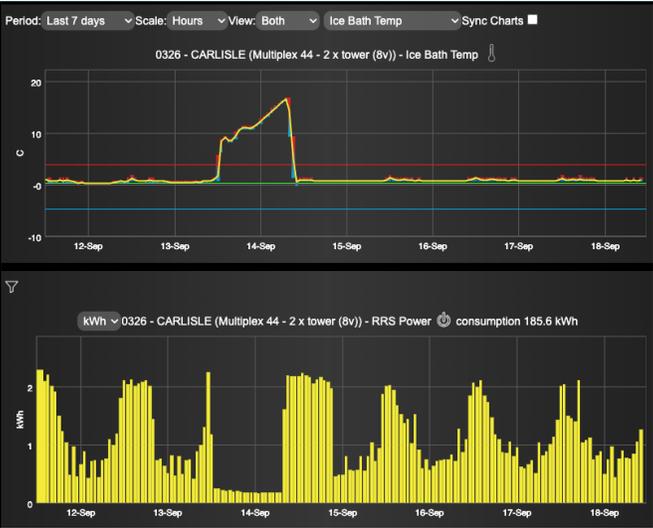
1635 Paddington – PCB relay failure



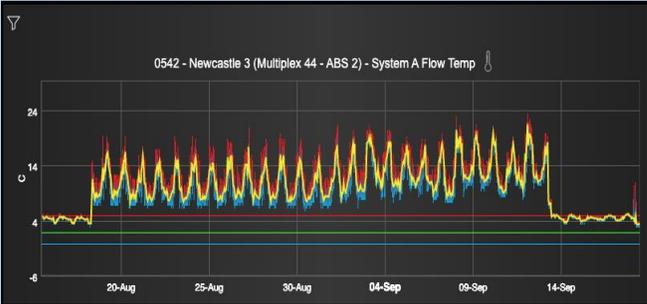
0484 Target – Walk-in freezer high temp alert



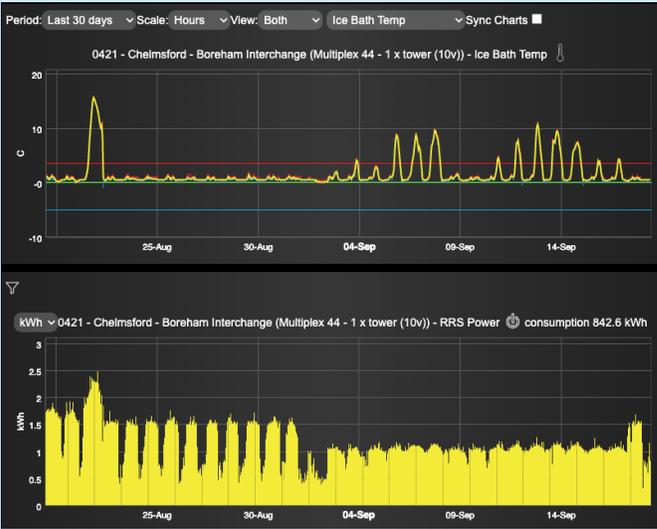
1164 New Denham – accidental drain valve left open



0326 Carlisle - accidental motor switch-off



0542 Newcastle – recirculation pump failure



0421 Chelmsford – Power fluctuation affecting ice bath temperature

Filter Pack Replacements.

The current replacement schedule of the DP filter packs is currently based on restaurant revenue.

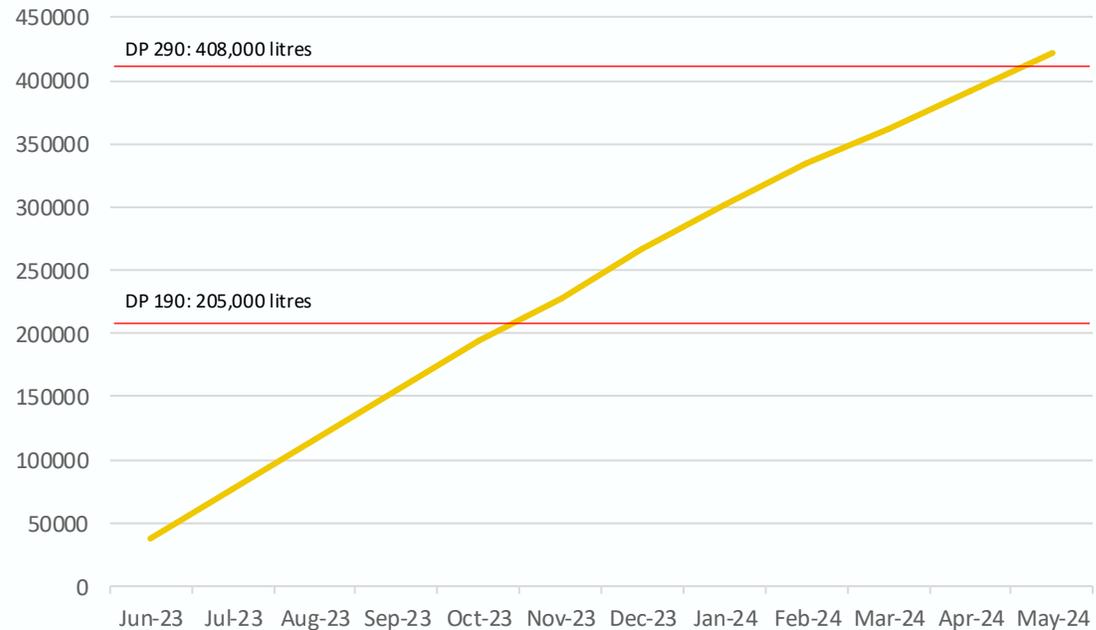
The useable life of the DP Filter pack is actually determined by volume of water NOT time or revenue.

The flow meters we install accurately assess exactly how often they need replacing (this no longer needs to be once a year) & whether an upgrade is justified

Latest volume data:

	2023	2024	2025
Avg Litres p/d used by a restaurant	879.6	661.8	651.3
Estimated DP190 Filter life (days)	232	308	313
Estimated DP290 Filter life (days)	464	617	626

Filter Pack: Cumulative Litres



Example

This restaurant has a DP190 which can be replaced twice a year (£165 each) rather than upgrading to a DP290 (which requires installing a new head: £276.71 + labour) costing £300.90 per annual replacement.

Sustainability.

Summer 2025 was substantially warmer than in 2024

The average temperature increase in the Equipment Room was **+4° C** vs 2024

The hotter the Equipment Room, the harder the Multiplex has to work to produce cold, carbonated water.

Despite this, the average daily power usage by the McOpCo estate through upgrading machinery and faster, more proactive maintenance was 2.45 Kw/H (8.7%) per day **LESS** than Q2 2024.

As a result, running the McDonald's estate in 2025 was 8.5% cheaper overall

As a byproduct, this reduced the CO2e output in 139 x McOpCo sites by **31.6 tonnes**

Average power usage by the soft drinks machinery in the last 2yrs:

	McOpCo	FZ
	Kw/h per day	
Q4 2023	29.41	22.64
Q1 2024	25.36	19.86
Q2 2024	28.3	25.11
Q3 2024	29.51	27.53
Q4 2024	23.91	20.92
Q1 2025	21.86	18.32
Q2 2025	25.77	22.76
Q3 2025	28.21	24.43
Q4 2025	22.27	19.79
Avg	25.65	22.34

	McOpCo	FZ
	Kw/H	Kw/H
Avg	24.53	21.33
Last 12mths	26.77	23.36
Prior 12mths	26.77	23.36
Saving	2.24	2.03

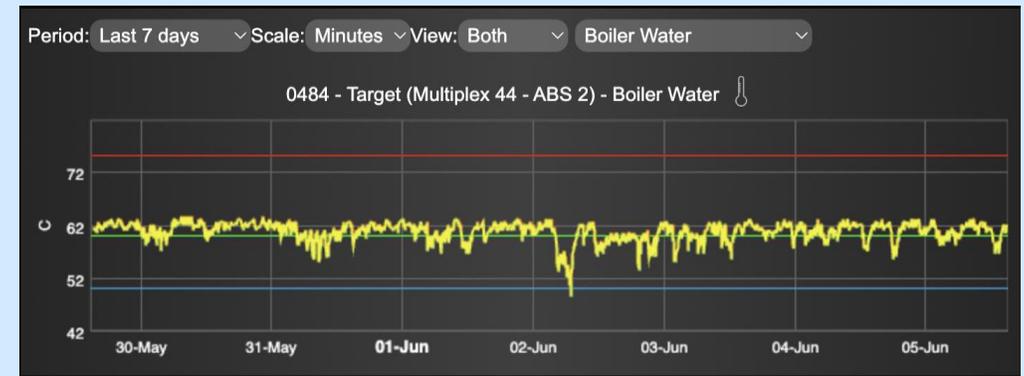
Freezers, Chillers & Boilers.

We can also put temperature monitors into the walk-in Chiller & Freezer. Parameters are set to alert far more quickly (1-2hrs)

Raw data can be used for HACCP reporting
(we have an FSA Feasibility Study that supports this)



We've also been tasked by some Franchisees to supply a temperature sensor on the Boiler outflow pipe to ensure that water stays above 50°C as part of HSE regulations re. Legionella



Cheaper QMP.

- The 2 annual engineer visits that check soft drink quality are part of the Quality Maintenance Programme (QMP) introduced by Coca-Cola in the UK in 2004
- The engineers go through a 400 point check across all parts of the soft drinks system
- The QMP programme is funded 50/50 by Coca-Cola.

- Telemetry facilitates a move to QMP 2.0 (in installed restaurants)
- Remote monitoring cannot completely replace engineer visits – various checks have to be done manually for Health & Safety reasons, or simply cannot be done remotely.
- As such, one full QMP visit is still required annually. This cost is shared 50/50 between Coca-Cola and McDonald's
- However, the introduction of remote monitoring allows the engineers to look at historical patterns of performance before they visit, so the 2nd visit can be much shorter.
- Coca-Cola fully fund the 2nd visit.
- Immediately saves **£145** when adopting Telemetry

Visibility

We work in the background.

It's not always obvious that we're there, but the sensors don't sleep and send their data every minute.

If there's a problem, it will be reported to the restaurant and your nominated Service Company, all of whom have access and are experienced in using the data to spot faults & fix things quicker

We won't bombard you with facts & figures, but all the data is there for you to access if you want it.





For any additional insights, please contact us.

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Call Piers on: +44 (0)7973 383 705