

# Bringing IoT to Grocery Retailers: A Case Study From the United Kingdom

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Physical & Human  
Resources

IoT

Shift from Reactive to  
Predictive Maintenance

# Macro Trends: Spend & Connected Devices



New devices  
connected to  
the internet,  
per second.

**127**

\$75.44B projected  
by 2025. a fivefold  
increase since '15.

**\$26.7B**

Spending in  
Global IoT  
market in 2019

**\$726B**

**Interoperability**  
**Scalability**  
**Security**







HI, FRIENDS!

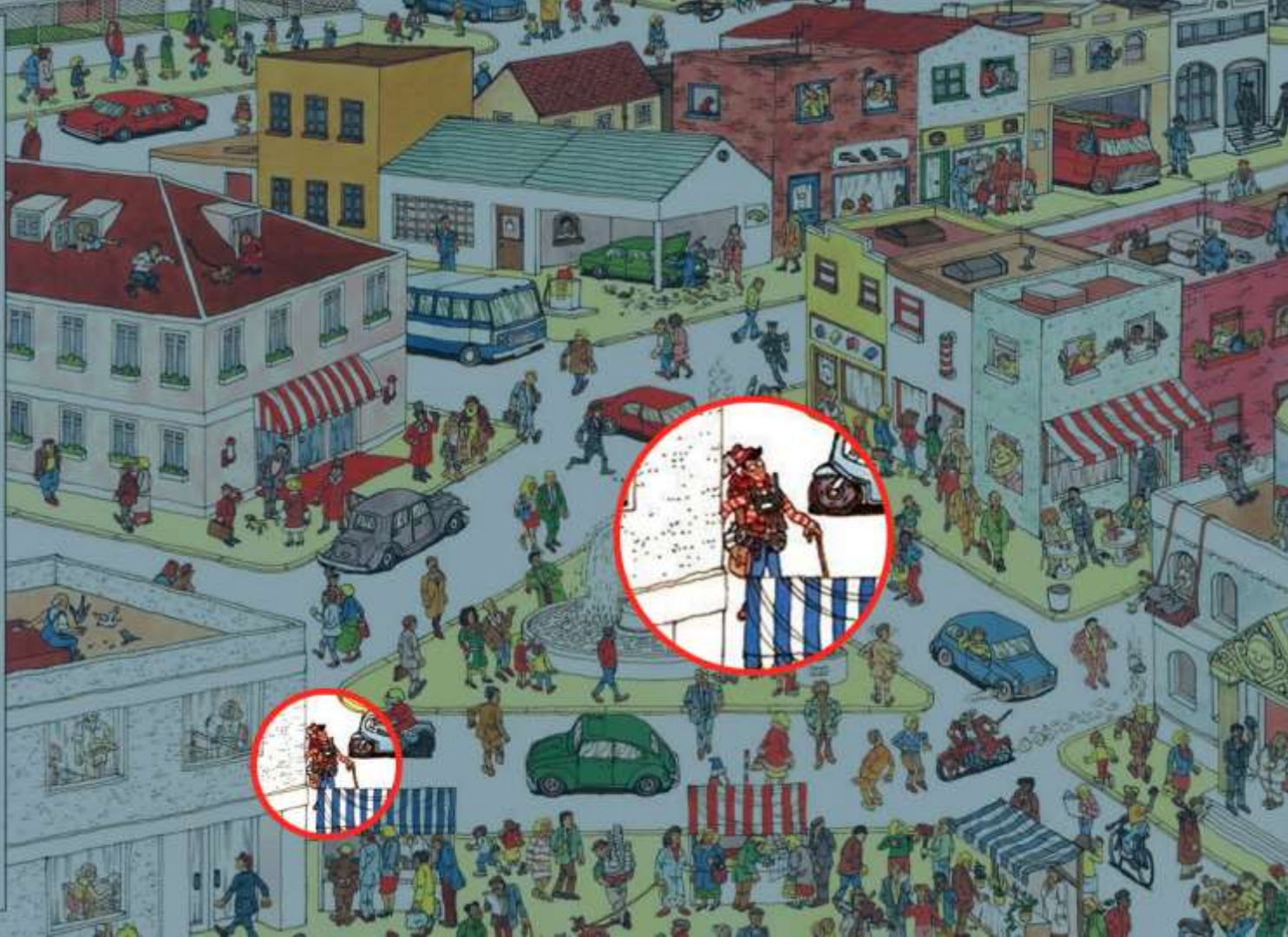
MY NAME IS WALDO. I'M JUST SETTING OFF  
ON A WORLDWIDE HIKE. YOU CAN COME  
TOO. ALL YOU HAVE TO DO IS FIND ME.

I'VE GOT ALL I NEED—WALKING STICK,  
KETTLE, Mallet, COP BACKPACK,  
SLEEPING BAG, BINOCULARS, CAMERA,  
SNORKEL, BELT BAG, AND SHOVEL.

BY THE WAY, I'M NOT TRAVELING ON MY  
OWN. WHEREVER I GO THERE ARE LOTS OF  
OTHER CHARACTERS FOR YOU TO SPOT.  
FIRST FIND WOOF (BUT ALL YOU CAN SEE  
IS HIS TAIL). WENDA, WIZARD WHITEBEARD  
AND ODLAW. THERE ARE ALSO 25 WALDO-  
WATCHERS SOMEWHERE. EACH OF WHOM  
APPEARS ONLY ONCE IN MY TRAVELS. CAN  
YOU FIND ONE OTHER CHARACTER WHO  
APPEARS IN EVERY SCENE? ALSO IN EVERY  
SCENE. CAN YOU SPOT MY KEY WOOF'S  
BONE, WENDAS CAMERA, WIZARD  
WHITEBEARDS SCROLL, AND ODLAWS  
BINOCULARS?

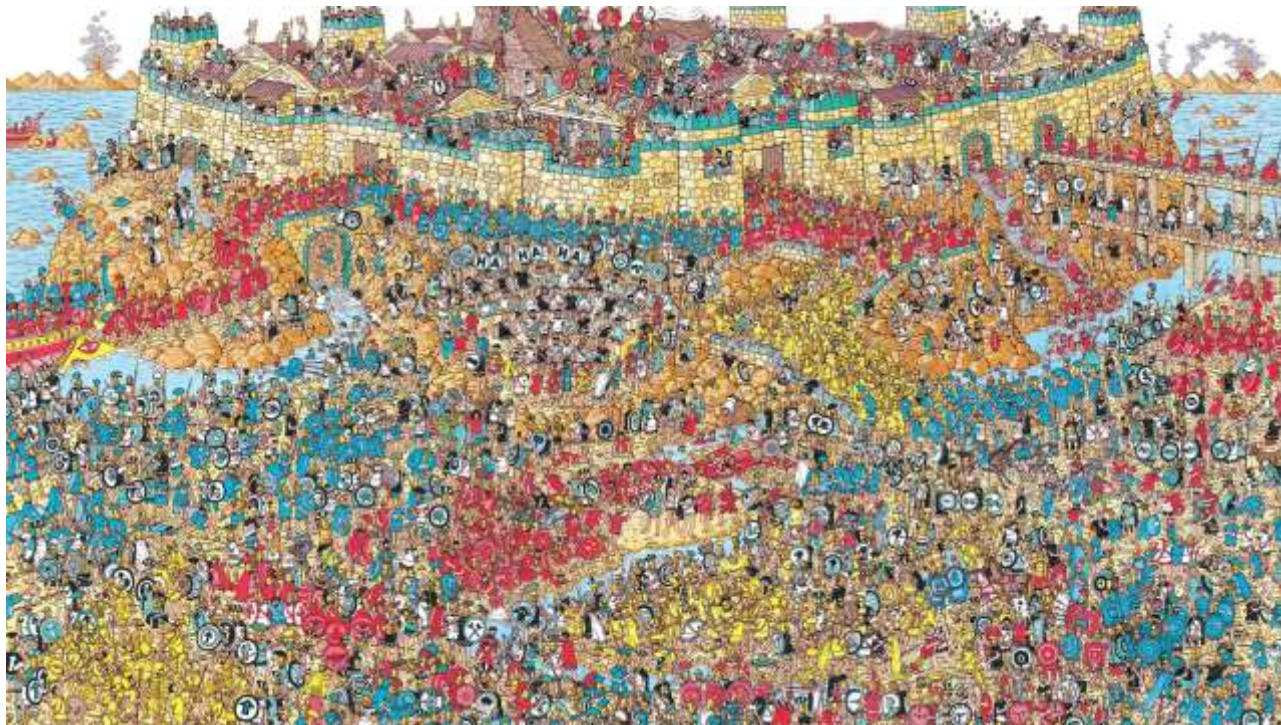
WOW! WHAT A SEARCH!

Waldo





Sainsbury's





## Industry Trends

1

A transition to “Workplace Management”: creating vibrant experiences at stores for customers **AND** associates

2

Increased demand for AI technology and automation

3

Adoption of connected FM; the digital capacity to manage and monitor FM services using connected technology

4

Increasing options for solutions and pressure to an outsourced energy and FM model

5

Professionally qualified building services & facilities managers will be in high demand due to increasing talent gap

6

Organizations that treat CAPEX, property, FM, and energy as a holistic endeavor will outperform siloed organizations

7

Omnichannel is forcing traditional retailers to adapt their store footprints and sell in multiple ways



“Help us meet the needs of our customers by making sure that the food displayed in our refrigerated and frozen sections could be purchased safely by the customer when they need to purchase it.”

- Danny Malyon, Sainsbury's Head of FM

*For Accruent, this meant working with Sainsbury's Service Contractor and TSB, Arcus FM, to minimize risk in refrigerated and frozen cases, where more than 40% of Sainsbury's revenue is generated, by reducing stock loss due to a failure or malfunction, thereby increasing their case trading time.*

**Sainsbury's** *live well for less*

**Sainsbury's Mission** is to be the consumer's first choice for food, delivering products of outstanding quality and great service at a competitive cost through working 'faster, simpler and together'.

**Sainsbury's**





**172K Work Orders**

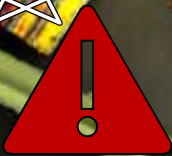
**502K Insights**

**118M Annual Alarms**

**330B Datapoints**

**92K Digital Twins**

**1,891 Locations**



**Sainsbury's**





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# Creating New Value

## Improving Operations

- Leverage store associates only when necessary
- Preventing catastrophic failures and damage of secondary asset componentry
- Remote monitoring and notification of site cooling problems
- Minimizing temperature variability
- Improving compliance and reporting

THE  
**Sainsbury's**  
CONNECTED BUILDING  
CHALLENGE

|           |  |
|-----------|--|
| Create    | Create lean building operations across the portfolio...remove silos,       |
| Eliminate | Eliminate risk of food-borne illness, ensure food quality, reduce shrink,  |
| Drive     | Drive performance, efficiency, and availability from all monitored assets, |
| Optimize  | Optimize energy efficiency across the enterprise...to build value,         |
| Preserve  | Preserve existing investments in hardware and sensors.                     |

## Creating New Value With Anomaly Detection

Using telematics and performance data to improve decision making and planning

### *Contextual Data*



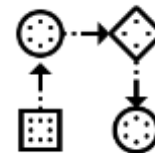
- *location*
- *weather,*
- *traffic*
- *macroeconomy*
- *industry & social trends*
- *personal preferences*

### *Advanced Algorithms*



- *predicting failures*
- *classifying problems*
- *detection anomalous behavior*
- *prescribed actions*

### *Workflow*



- *streamlined maintenance*
- *just-in-time replacements*
- *forecasting demand*



## Predictive Maintenance: 2014

Reduce short SLA work orders and smooth contractor workload



### Opportunity

**Equipment downtime for critical assets impacting sales, customer service, and profits**



### Solution

**Predict critical equipment failure**



### Benefit

**Predictive events drive operational efficiency**

**Ice Log Failure predicted 10-14 days in advance  
>99.99% Equipment Availability**

# Creating New Value

Streamlining Maintenance / Commercial Advantage

- Identify failure modes before they occur to save time troubleshooting equipment
- Deploy technicians at the right time with the right parts to address a known problem
- Ensure technicians are treating the cause and not the symptom
- Optimize availability of equipment to ensure customer satisfaction
- Competitive advantage in summer season



## Enterprise Control: 2017

Enable enterprise-wide set-point changes without impacting food safety



### Opportunity

**Maintain engineering standards on refrigerated systems while optimizing energy efficiency**



### Solution

**Continuous commissioning and global commands**

**20,000 commands issues and verified within 5 minutes**



### Benefits

**Annualised £1m energy cost avoided:  
2.4 million tonnes CO<sub>2</sub>e  
8.6 Million Kwh**





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# Creating New Value

## Optimizing Energy Spend

- Balancing energy loads based on demand and system performance
- Responding to fluctuations in price and Triad events
- Responding to capacity issues, channeling cooling where most needed
- Finetuning schedules based on performance
- Global schedule changes

# Accruent's Physical Resource Management

## Man-Made Structures

The buildings themselves

## Non-Building Infrastructure

Public spaces and walkways  
Parking, transportation

## Human Support Infrastructure

People who work to support resources (maintenance, administrative, security, facilities)

## Intelligence for the Built Environment.

## Embedded Building Technology

Building systems (HVAC, electric, refrigeration, lighting, reservation system)

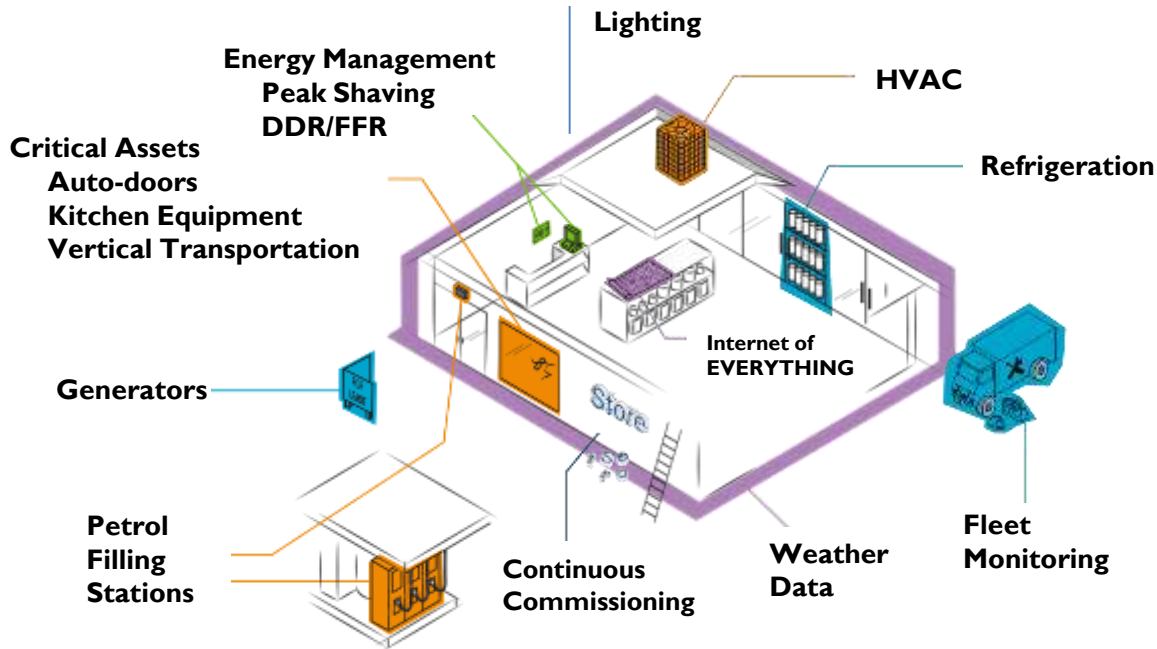
## Industry-Specific Support Infrastructure

Corporate (IT systems, copiers)  
Commercial (Ventilation, cranes)  
Healthcare (Radiology, MRIs)  
Education (Desks, classrooms)

## Functional Assets

Heavy Machinery  
Medical Devices  
Lab Equipment

The potential use cases for managing strategic assets and physical resources through IoT



> 24K sites monitored

193M alarms annually

362B telemetry points

> 490K digital twins

20K controls actions  
in 5 minutes

**vx Observe**  
**Key Statistics**



# Tips to Get Started

## Prioritise

your critical assets,  
smart and dumb alike

## Invest

in your platform

## Identify

critical equipment  
categories that matter

## Create

a flow of information that informs  
your facilities, energy, and capital  
planning teams



**IOT** *is only*  
*the*  
beginning



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SAVE THE DATE  
29 - 31 October 2019



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