

# Advanced Occupancy Sensing for *Retail & Hospitality*

Proprietary **mmWave** sensors to measure space, people & **performance**.

- **Occupancy & Flow**
- **Queue & Service Metrics**
- **Space Utilisation**
- **Engagement Measurement**

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about **pemberton.digital**

## Built for retail & *hospitality*.

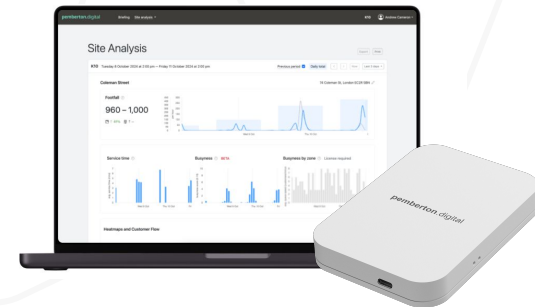
**pemberton.digital** is the complete occupancy sensing solution for *retail & hospitality*.

Offering a **100% private** and **cost-effective** alternative to video technologies, our proprietary sensor-to-dashboard solution is the right fit for trading floor applications.

Beyond footfall, **pemberton.digital** provides new visibility into service performance and site potential, identifying better **conversion opportunities** and **operational efficiencies**.

The multi-functional device can be configured to perform a range of tasks, transforming spatial occupancy data into actionable business intelligence.

- **Footfall & Occupancy Tracking**
- **Queue & Service Metrics**
- **Customer Flow & Zone Utilisation**
- **Digital Floor Plan & Heatmapping**



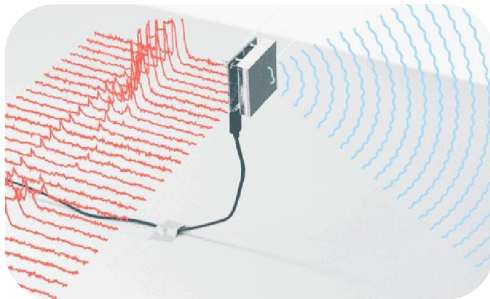
## mmWave radar

**pemberton.digital** is first to market with **mmWave**.

mmWave radar is similar to the **human-spotting technology** used in automotive applications. The newly released innovation uses high-frequency radio waves to detect human presence, proximity, and dwell with high precision.

Adapted for use in hospitality, mmWave offers **unique “open field” capabilities** to unlock a range of sensing and measurement applications, both for operational and analytical purposes.

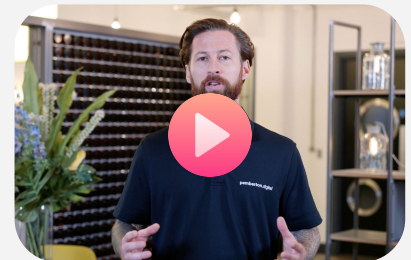
The **lens-less** technology has the advantage across **privacy, cost, and deployability**.



### Sensor Demo

A short video introducing the technology and running a sensor demonstration.

[Watch Here](#)



## mmWave sensors

### CF.10 - Customer Flow

Designed for both fit-and-forget installations and temporary deployments, the **CF.10** is **pemberton.digital**'s smart occupancy sensor for indoor applications.

Roughly the size of a pack of cards, **CF.10** can be tuned to perform a range of tasks to monitor an area of up to 1,000 sqft. The device ships pre-configured with minimal touch required from the user.

Reporting wirelessly via LoRa, ethernet, 5G or Wi-Fi, the **CF.10** delivers occupancy data to the cloud-based analytics platform and dashboard.



#### Design Details

- 60 GHz mmWave radar module
- Custom processing & communication PCB
- Independent LoRa, ethernet & 5G connectivity
- Powered via USB-C & PoE
- Dimensions: 117 x 82 x 16 mm, 108 grams
- 100% anonymous detection (zero PPI)
- Magnetic and articulating mounting

### XF.68 - External Flow Q1, 2025

**pemberton.digital** is developing an IP68 all-weather sensor for outdoor applications. Benefitting from all the ease and functionality of **CF.10**, the **XF.68** will provide advanced sensing in any environment. Arriving Q1, 2025.



## key functionality

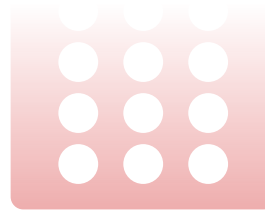


### Traffic & Occupancy Monitoring

#### *New opportunities in traffic & occupancy sensing.*

Unlike established “doorway” technologies, the **CF.10**'s unique open field capabilities are not restricted by the device's position or orientation within a space. With a 1,000 sq ft range, virtual gates monitor both irregular and open-plan areas with ease and precision.

- 
- Flexible Mounting & Configurations
  - Entry, Exit & Dwell Analysis
  - Time-Mapped Occupancy Trends



### Queue Detection & Analysis

#### *Know the when, where & why of conversion bottlenecks.*

Placed near a service area, the **CF.10** can detect and report on customer queuing, providing valuable insights for both operational and analytical purposes. Optimise throughput and customer experience by identifying and addressing service bottlenecks.

- 
- Visibility Over Service Areas
  - Queue Performance & Service Metrics
  - Enhance Throughput & Conversion

## key functionality



### Customer Flow & Zone Usage

*Shop floor visibility, at any scale.*

**CF.10** detects the presence, directionality and dwell of customers across any space, providing detail on customer flow, zone usage and site performance. Occupancy data is time-mapped to a digital floor plan, with metrics to accompany areas of interest.

- 
- Traffic & Dwell Heat Mapping
  - Aggregate Customer Pathways
  - Clarity on Zone Usage & Occupancy



### Impression & Engagement Measurement

*Measure the reach & impact of visual merchandising.*

**CF.10's** lens-less design provides new opportunities to measure the impact of visual merchandising, brand activations and shop-in-shop installations. Benchmark footfall, engagement scores and deployment meta data to refine and enhance marketing efforts.

- 
- Open Field Sensing
  - Measure Reach & Impact
  - Analyse, Iterate & Enhance Campaigns

## Transforming Occupancy Data

Occupancy Data  
via LoRa, ethernet  
& 5G



**pemberton.digital**  
Cloud Analytics Platform

The Cloud Analytics Platform serves as the interface between occupancy data & performance insights. Arranged by campaign & enriched with metadata, users can perform cross-site analysis in real time. The platform supports data exports via REST API, CSV, & integrates seamlessly with Power BI for enhanced reporting & analysis.

Operational  
Integrations



Data Exports



REST API



Power BI

about **pemberton.digital**

## **pemberton.digital** is a venture-backed retail technology business based in East London.

Led by Patrick Coleman (former Cisco leader) & Andrew Cameron (commercial development, investment), Pemberton supplies a range of occupancy sensing solutions for retail, hospitality, & asset management.



[www.sfccapital.com](http://www.sfccapital.com)

In a competitive field of established technologies, Pemberton is the first to market with **mmWave radar**, a recent innovation with unique “open field” capabilities. With a focus on **privacy, cost, & deployability**, our goal is to offer unrivalled visibility in any environment.



**K10 Japanese**, a London-based Itsu challenger brand using our QD.10 “Queue Density” models in all sites, measuring counter service performance to ensure peak demand is met.



**Pets at Home** is using Pemberton’s XF.68 “External Flow” sensors for measuring customer volumes & flow. The customer roadmap includes queue management, customer pathways & zone analysis.



**Epsom Social**, a 7,000 sq ft multi-vendor food hall & entertainment venue using our CF.10 “Customer Flow” to time-map footfall, zone usage, & customer pathways, advising better format design & entertainment offering.



# Thank you

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**Book a meeting here:**

<https://calendly.com/pembertondigital/30m>

