

SPATIAL MAP • SOLUTION 04 / 07

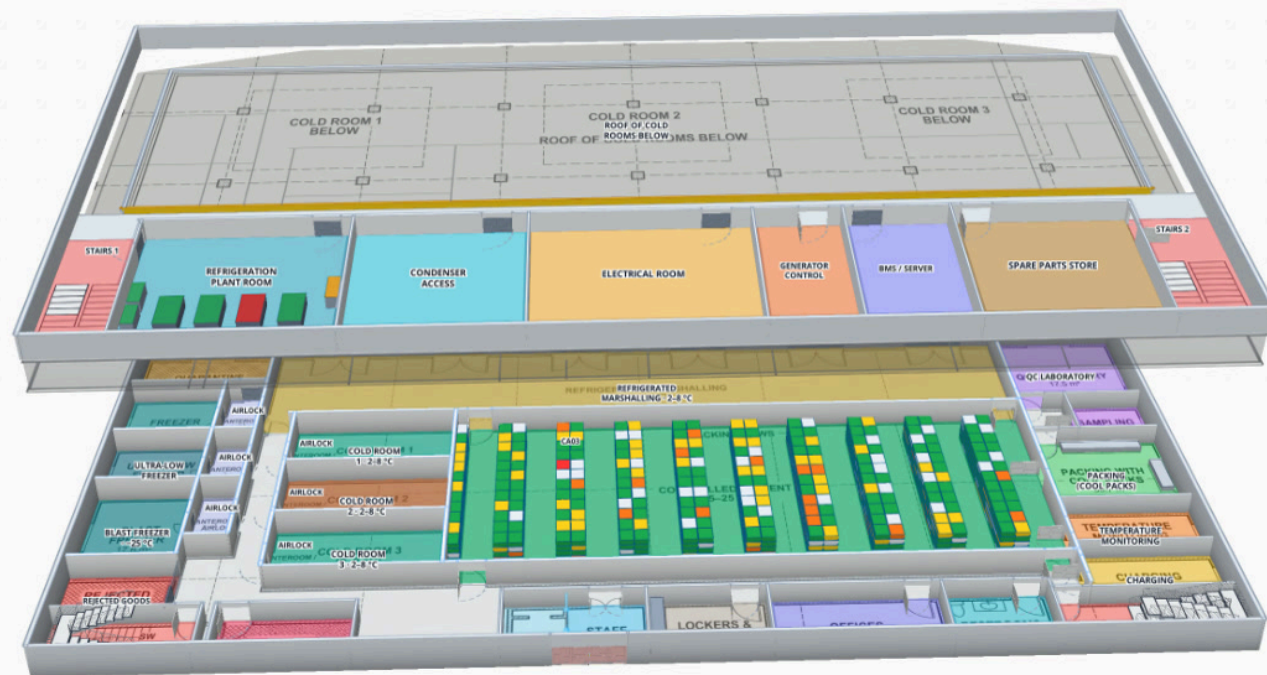


Cold Chain

Catch every excursion before it costs a batch.

EVERY ZONE • EVERY DOOR • EVERY PALLET • LIVE

 POLAR PHARMA – COLD STORAGE & QC FACILITY



01 — THE CHALLENGE

Excursions are found hours too late.

In a cold store, the data already exists — probes, door contacts, plant controllers and pallet reads each log their own piece. But a room drifting out of band, a propped door or a failing compressor often only shows up once the excursion is written up and the stock is on hold.



01

Excursions found too late

Out-of-band minutes surface hours later, after the damage.

36

EXCURSIONS • 60 DAYS • 731 MIN OUT OF BAND



02

Cold doors held open

One propped door warms a whole 2–8 °C room.

53

HELD-OPEN ALARMS • 7 DAYS • OF 1,206 OPENINGS



03

Stock frozen in quarantine

Every excursion locks product in the cage until QA decides.

\$949,320

ON EXCURSION HOLD • 35 HOLDS • 60 DAYS

AT A GLANCE

2

FLOORS MODELLED

8

TEMPERATURE ZONES

2,871m²

TEMPERATURE-CONTROLLED

647

RFID PALLETS • 12 H

97

CONNECTED DEVICES

02 — THE LIVE TWIN

Your cold store, live in 3D.

📍 POLAR PHARMA COLD STORAGE & QC · 2 FLOORS

We model your building to scale — cold rooms, freezers, marshalling, racks, docks, QC lab and plant mezzanine — and layer every data source on top. Zone climate, probes, doors, RFID pallets and dock doors stay in one browser view that QA, operations and engineering can all open.

Structure

Cold rooms, freezers, racks, docks and QC lab, to scale.

Zone climate

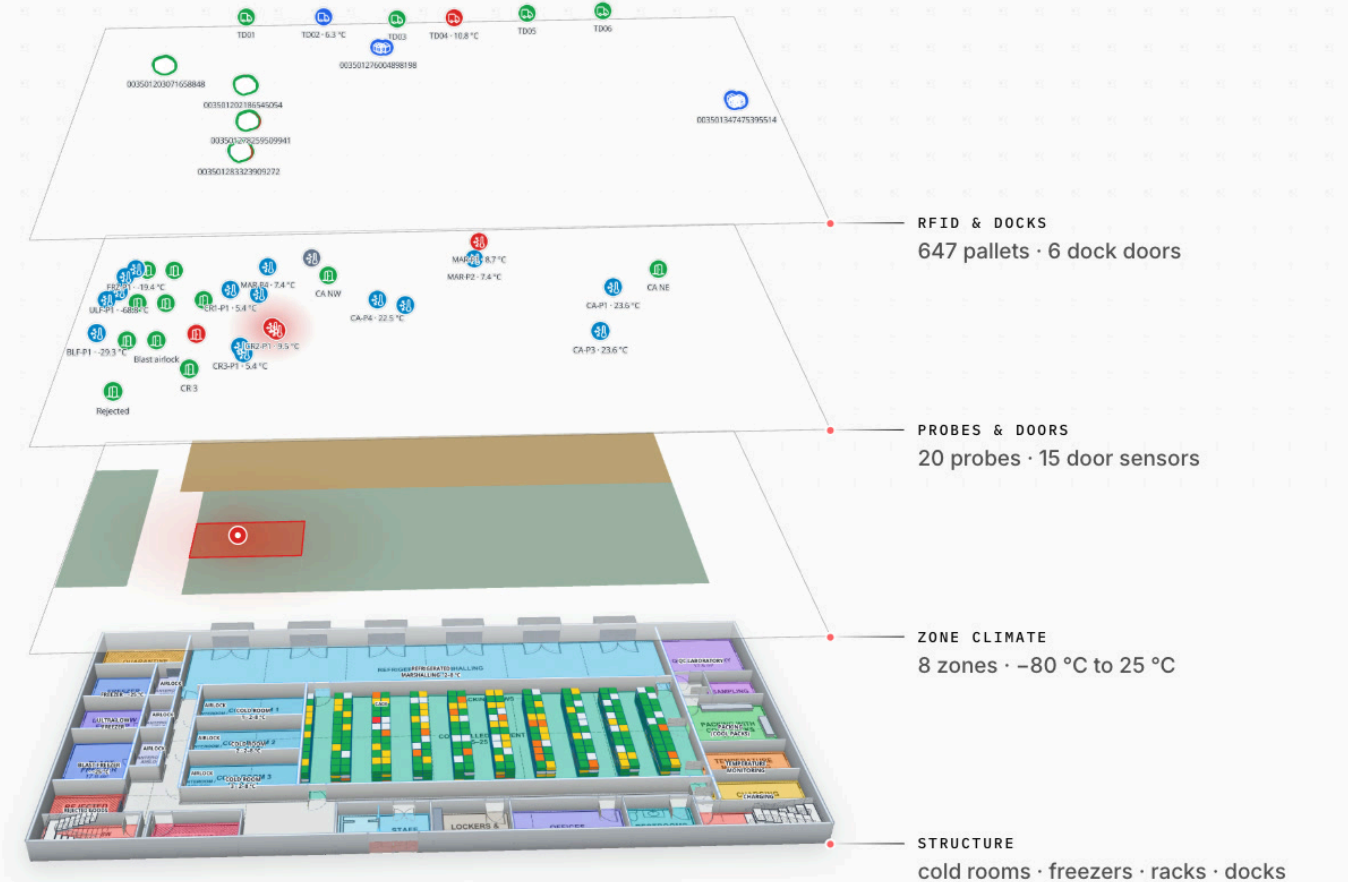
8 zones tinted live, from -80°C to 25°C .

Probes & doors

20 temperature probes · 15 door sensors.

RFID & docks

647 pallets · 6 dock doors.



8

TEMPERATURE ZONES

35

PROBES & DOOR
SENSORS

6

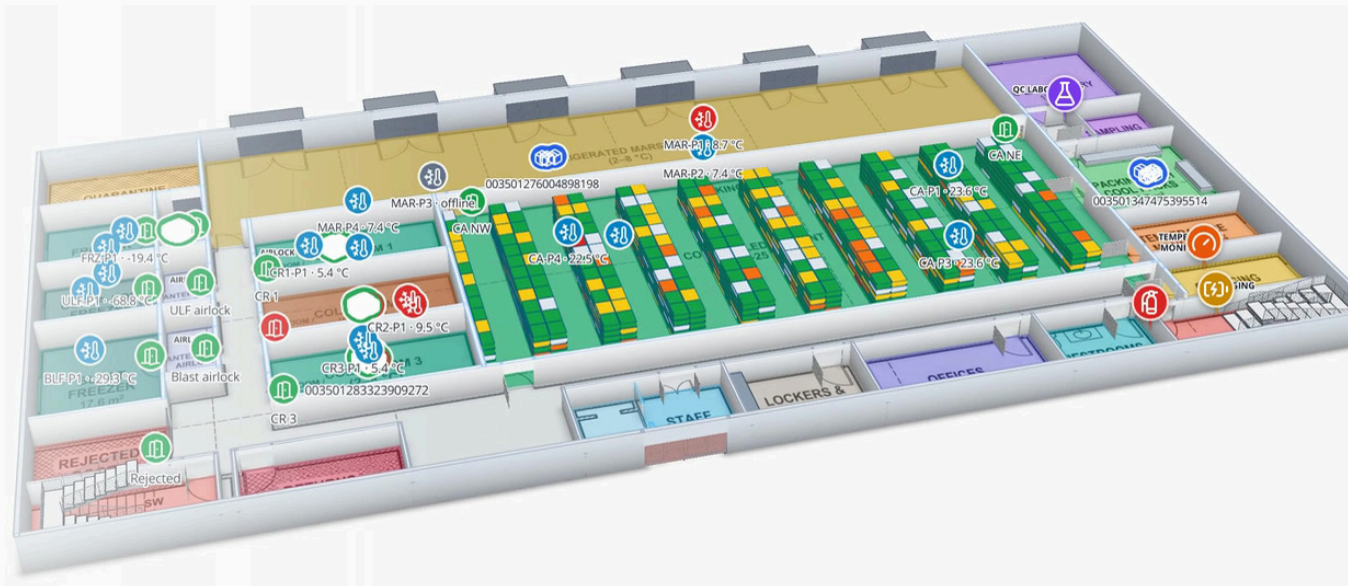
DOCK DOORS

03 — LIVE RFID PLAYBACK

Every pallet, every degree, live.

POLAR PHARMA · GROUND FLOOR

The twin is not a picture — it is live. Every probe reading tints its zone, every RFID read moves its pallet on the map, and the built-in history player replays any shift, so you can see where stock waited, which door was open and when a room began to drift.



Cold Room 2 9.1 °C · EXCURSION

Out of its 2–8 °C band.

CP-3 ALARM

The compressor pack serving Cold Rooms 1–3.

TD04 SHELTER NOT SEALED

Dock door reading 10.8 °C.

1,435

PROBE READINGS ·
72 H

1,206

DOOR OPENINGS ·
7 DAYS

647

RFID PALLETS ·
12 H

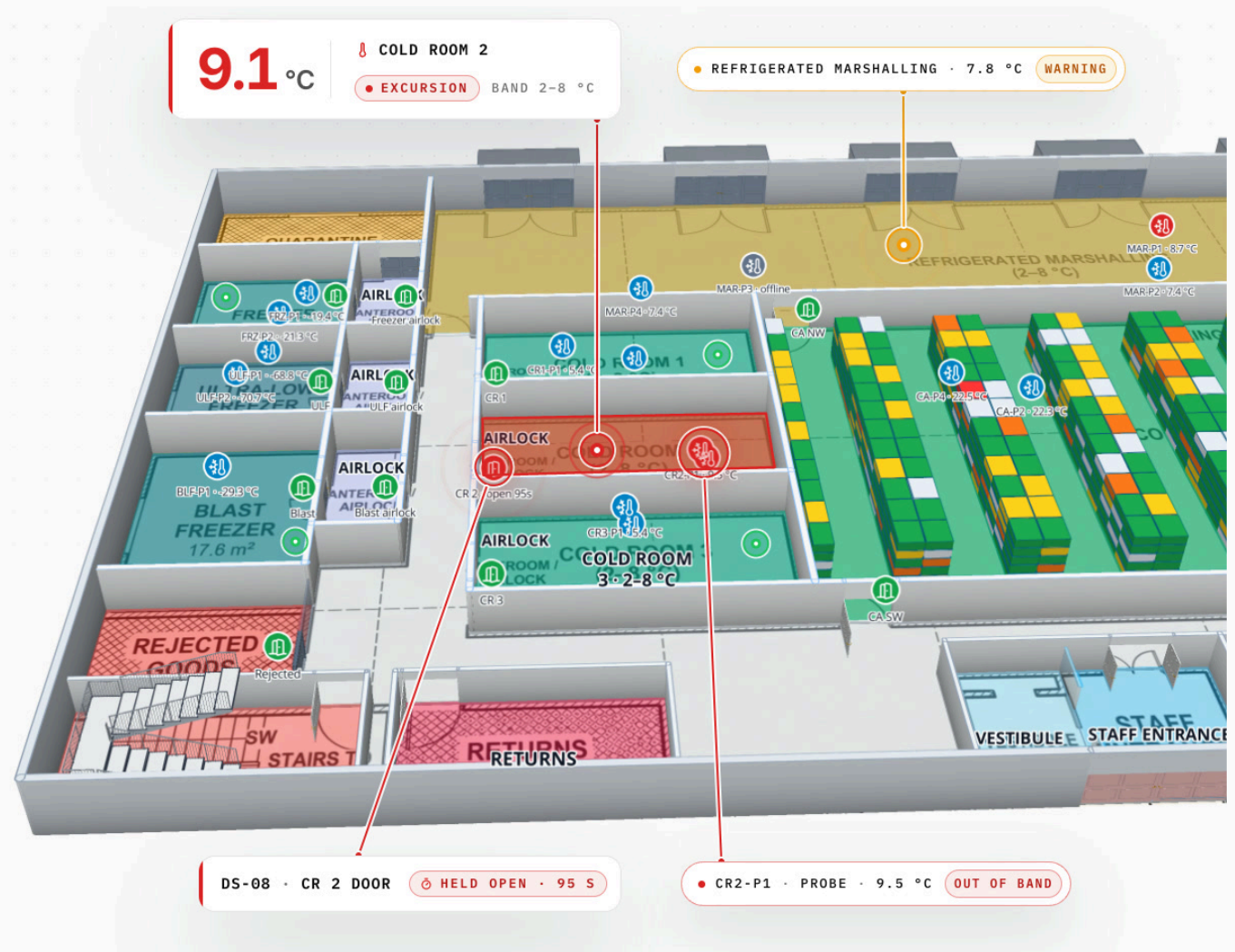
04 — LIVE ZONE CLIMATE

Eight zones. One just left its band.

📍 COLD ROOMS · MARSHALLING · FREEZERS

Every zone is tinted by its live state against its own band — 2–8 °C, freezer, blast, ultra-low or ambient. When Cold Room 2 drifts out of band, the probe reading high and the door held open are pinned to the exact spot — not buried in a logger download.

- **Cold Room 2** **EXCURSION**
9.1 °C against a 2–8 °C band.
- **CR2-P1 · Probe** **OUT OF BAND**
Reading 9.5 °C inside Cold Room 2.
- **DS-08 · CR 2 door** **HELD OPEN · 95 S**
Door sensor alarm at the cold-room door.



6

ZONES IN BAND

1

WARNING ·
MARSHALLING 7.8 °C

1

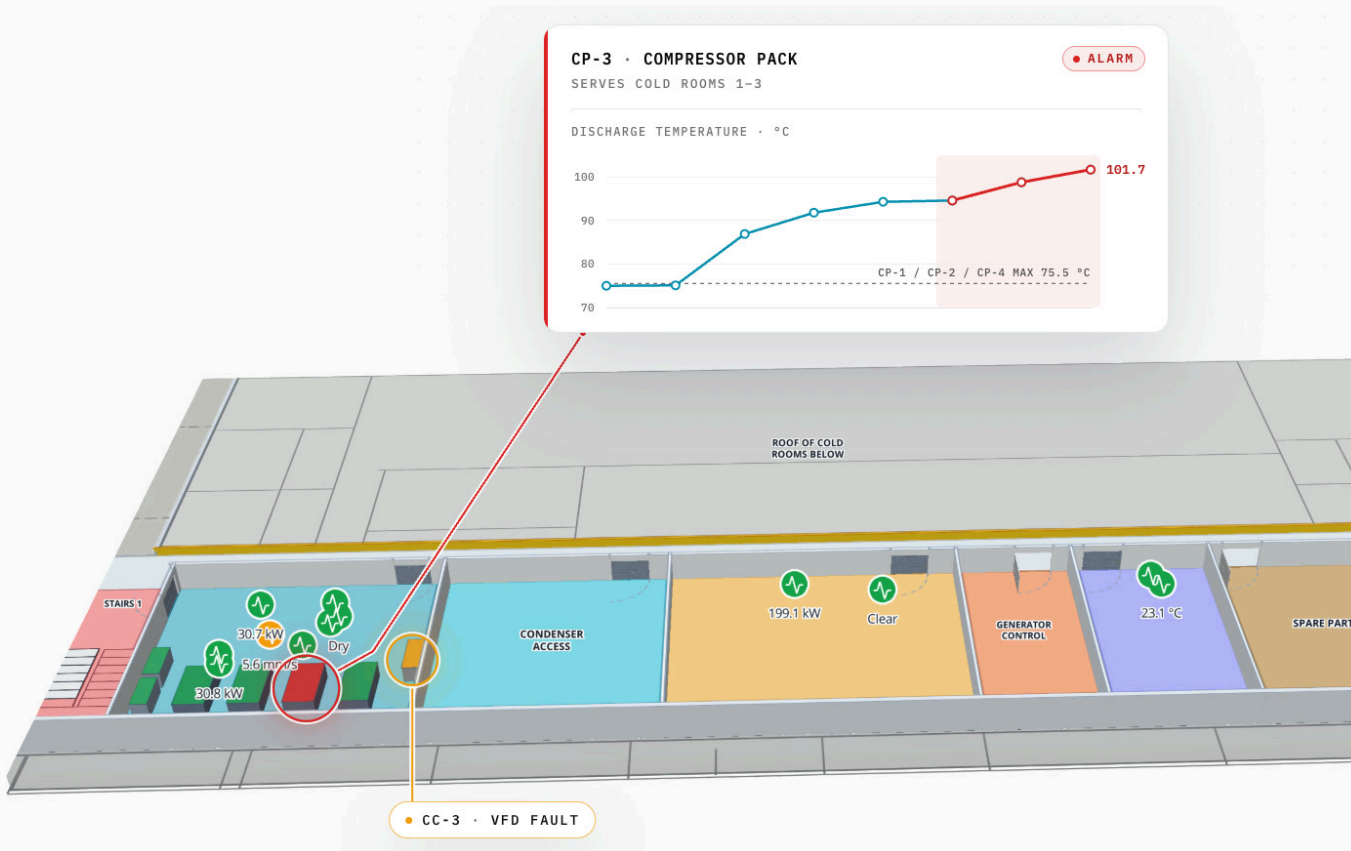
EXCURSION ·
COLD ROOM 2

05 — ROOT CAUSE, UPSTAIRS

The plant alarmed 82 minutes earlier.

📍 PLANT MEZZANINE • COMPRESSOR PACKS CP-1-CP-4

Go one floor up and the cause is already there. Compressor pack CP-3, which serves Cold Rooms 1-3, alarmed 82 minutes before Cold Room 2 left its band. With plant telemetry on the same map, that alarm becomes time to act — not a line in tomorrow's report.



● **CP-3 • Compressor pack** **ALARM**
Discharge 75.0 → 101.7 °C · serves Cold Rooms 1-3.

● **CC-3 • Control cabinet** **VFD FAULT**
Feeds the CP-3 condenser fan.

● **CP-1 / CP-2 / CP-4**
Max 75.5 °C — the baseline CP-3 climbed away from.

82 min

ALARM BEFORE THE EXCURSION

101.7 °C

CP-3 DISCHARGE TEMPERATURE

06 — EVERY PALLET TRACED

647 pallets. Every door read.

📍 DOCK PORTALS TD01-TD06 • COLD-ROOM DOORS

RFID portals at the docks and cold-room doors read every pallet in and out. Missed reads are traced to the reader behind them, so a degraded portal is fixed before a pallet of temperature-sensitive stock goes unaccounted for.

● **RD-TD02 • Dock portal TD02** **DEGRADED**

13 of 13 missed reads trace back to this reader.

● **TD02 • Dock door** **UNLOADING**

Dock reading 6.3 °C while unloading.

● **Insulin-pen pallet • 2-8 °C** **MISSED READ**

Flagged and traced • last read at the Cold Room 1 door.



1,910

RFID READS • 12 H

99.3%

READ OK

13

MISSED READS •
ALL AT TD02

07 — GDP EVIDENCE, READY

Excursion reports your QA already uses.

Every map layer feeds the reports your QA and GDP teams already work from — built around your SOPs and KPIs and ready from day one. Each report keeps its live map, so an excursion, a door alarm or a reefer shipment always leads back to the exact place it happened.

- Temperature Zones & Excursions — zones in band, out-of-band minutes, excursions by zone and cause.
- Cold-Zone Doors — doors open now, held-open alarms, openings and average open time.
- Reefer Docks & Shipments — compliance per shipment: 396 of 425 compliant.

36EXCURSIONS •
60 DAYS**14**HELD-OPEN ALARMS •
24 H**93.2%**REEFER SHIPMENTS
COMPLIANT

08 — CONNECTED TECHNOLOGY

Connects what you already run.

Probes, door contacts, RFID portals, BLE tags and plant controls — five protocols, one map. New sensors sit alongside the refrigeration plant you already run, connected as it is, with no rip-and-replace.

97

DEVICES ON ONE MAP

99.88%

7-DAY UPTIME

647

RFID PALLETS

4

COMPRESSOR PACKS



20

Temperature probes

LORAWAN • EVERY ZONE



15

Door sensors

LORAWAN • COLD-ZONE DOORS



24

Plant & building

POWER, HUMIDITY, VIBRATION, CO₂



13

RFID readers

LLRP • 4-ANTENNA PORTALS & DOORS



15

BLE tags

TRUCKS, PALLET JACKS, STAFF



10

Gateways

BLE • LORAWAN • MODBUS • LLRP



Connects what you already run

Compressor packs CP-1–CP-4 report hourly through a Modbus gateway, so the refrigeration plant feeds the same map as the new probes, door sensors and RFID portals.

PROTOCOLS

LoRaWAN

BLE 5.0

LLRP

Modbus TCP

Zigbee

WHAT WE DELIVER

Built for your cold store. Like no other.



Your cold store in 3D

Zones, racks, docks and plant, built from your drawings.



Every sensor on one map

Probes, doors, RFID and BLE tags — with history playback.



Alerts that show where

The room, the door, the compressor, highlighted on the twin.



GDP reports, your format

Excursion, door, reefer and CAPA reports your QA uses.



Custom-built, end to end

We connect your probes, plant and readers for you.

HOW WE WORK

1 Discover

We walk your sites with your teams and agree the questions the solution must answer.

2 Model

We build your buildings as a live 3D twin — every floor, room, rack and door, to scale.

3 Connect

We integrate the readers, sensors, cameras and systems you have, and add what is missing.

4 Configure

Alerts, playback and reports are set up around your workflows and KPIs.

5 Run & evolve

We support the solution and extend it as your operation changes.

LET'S MAP YOUR OPERATION

contact@spatialmap.io

spatialmap.io

Tell us about your sites — we design, build and run the solution around them.

