

SPATIAL MAP • SOLUTION 03 / 07

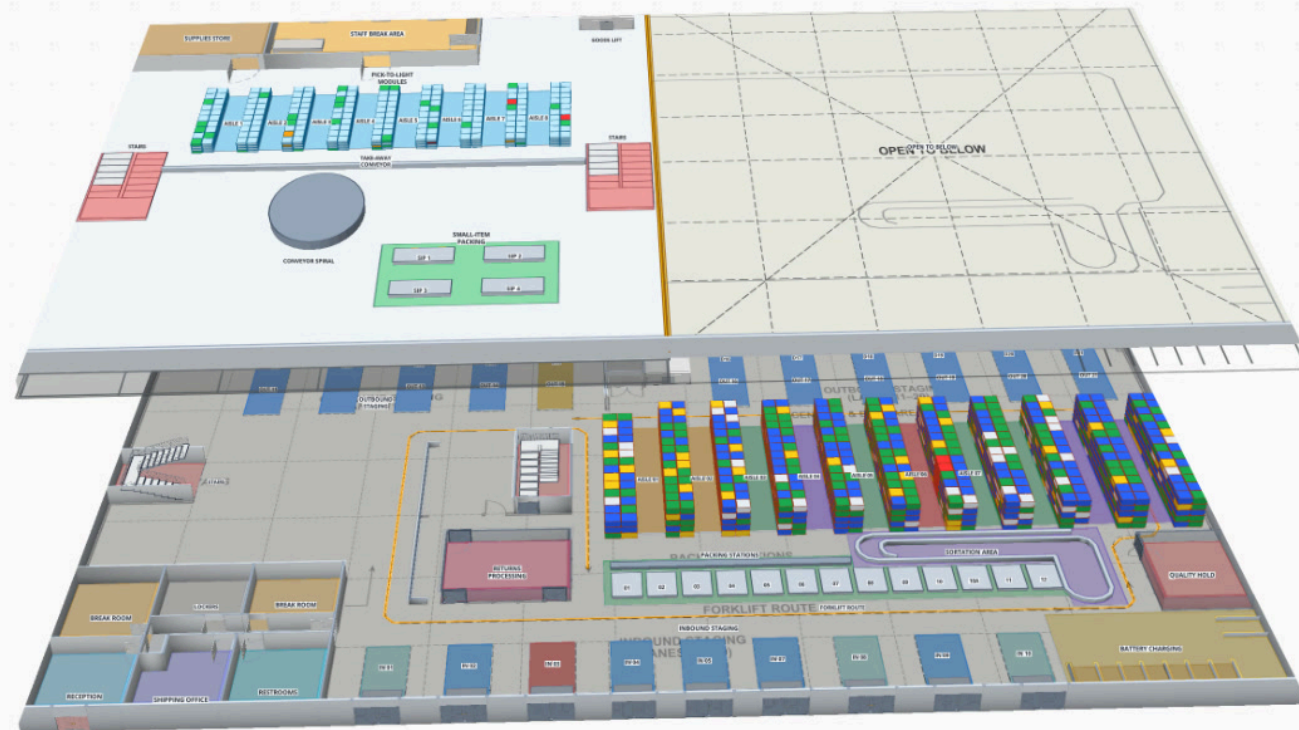


Inventory

Every pallet, carton and forklift, live in 3D.

EVERY RACK • EVERY CARTON • EVERY DOCK • LIVE

 CRESTLINE FULFILLMENT CENTER



01 — THE CHALLENGE

Stock you can't see is stock you can't ship.

In a busy warehouse, the problem is rarely a lack of data — it is that racks, docks, packing and the yard each see their own piece. A low bay, a carton at the wrong door or a trailer left at the dock only shows up when a pick fails, an order mis-ships or a detention fee arrives.



01

Empty slots, blind replenishment

Pickers reach empty bays; replenishment is chased on foot.

143

PALLET LOCATIONS RUNNING LOW · REPLENISHMENT OPEN



02

Cartons at the wrong door

A missed read becomes a mis-shipment and a chargeback.

17

CARTON EXCEPTIONS · 6 HOURS · 16 MISSED READS AT PACK-OUT



03

Trailers stuck at docks

Long dwell turns into detention fees and missed cut-offs.

141

TRAILER DETENTIONS · OF 1,413 VISITS · 14 DAYS

AT A GLANCE

2

FLOORS MODELLED

1,484

PALLET LOCATIONS

20

DOCK DOORS

627

RFID CARTONS · 6 H

102

CONNECTED DEVICES

02 — THE LIVE TWIN

Your warehouse, live in 3D.

CRESTLINE FULFILLMENT CENTER · 2 FLOORS

We model your building to scale — racks, aisles, staging lanes, packing, sortation, docks and the pick mezzanine — and layer every data source on top. Racks, RFID cartons, docks and forklifts stay in one browser view that anyone on site can open.

Structure

11 racks in 10 aisles, packing line, sortation and charging.

Aisles & staging

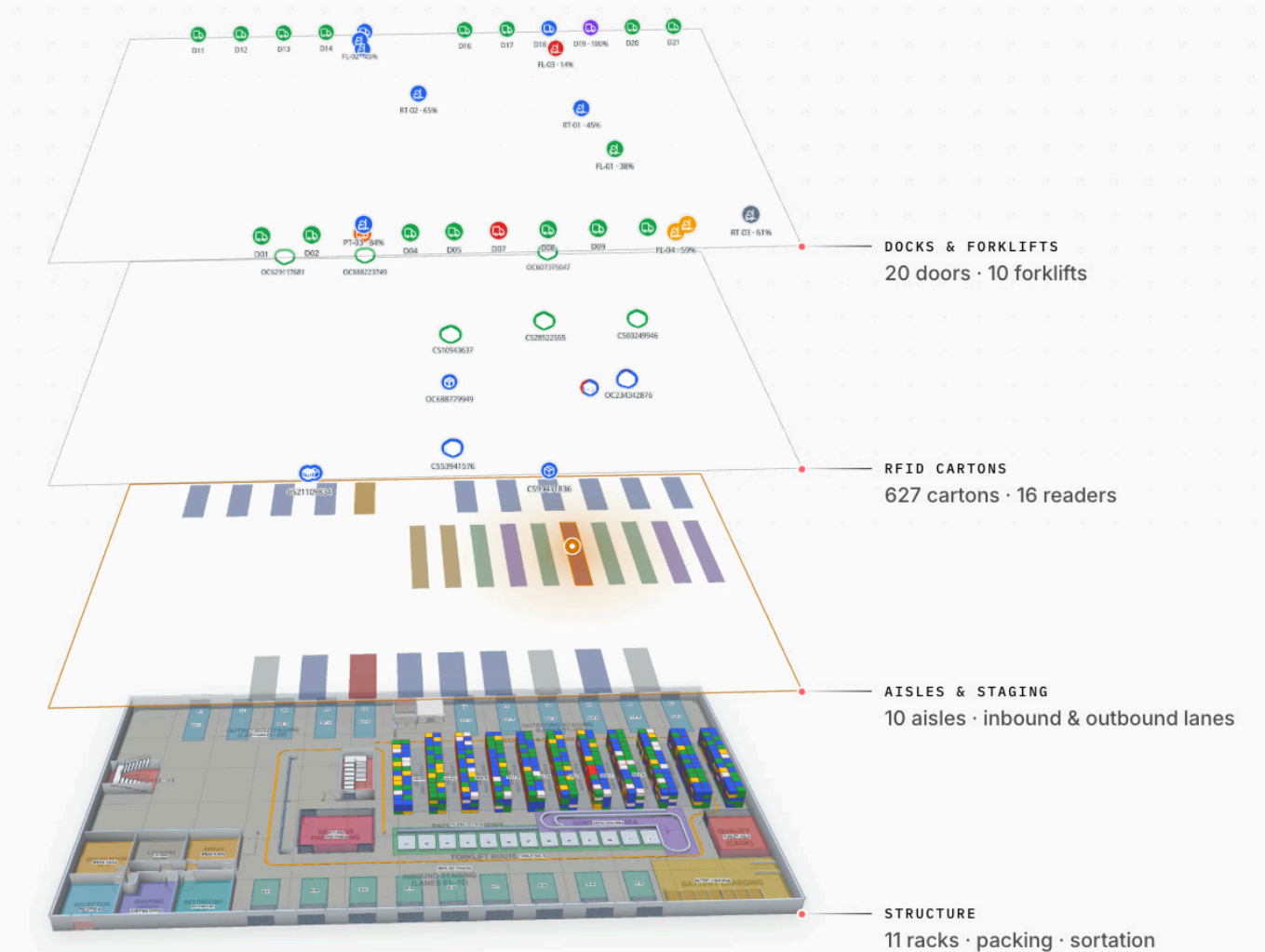
Rack aisles and inbound & outbound lanes, tinted live.

RFID cartons

627 cartons read by 16 readers, reader by reader.

Docks & forklifts

20 dock doors · 10 forklifts, each with live status.



1,484

PALLET LOCATIONS

627

RFID CARTONS

20

DOCK DOORS

03 - LIVE RFID PLAYBACK

Every carton, moving, live.

📍 CRESTLINE FULFILLMENT CENTER · GROUND FLOOR

The twin is not a picture — it is live. Every RFID read moves its carton on the map, from pick to pack-out, sortation and the shipping doors, and the built-in history player replays any shift, so you can see exactly where stock waited or went astray.



● **20 dock doors** 4 TRAILERS ON DOCK
2 loading · 1 unloading · 1 trailer docked.

● **10 forklifts** 5 WORKING
2 charging · 1 idle · 1 low battery · 1 out of service.

● **Pick-to-light mezzanine** 28,096 PICKS · 24 H
9 pick-to-light modules, one floor above the racks.

1,484

PALLET LOCATIONS,
LIVE

627

RFID CARTONS · 6 H

102

CONNECTED DEVICES

04 — LIVE RACK INVENTORY

Every location. Every case, counted.

📍 RACKS R01-R11 · 10 AISLES · GROUND FLOOR

Every pallet location is coloured by its fill, live, and every aisle is tinted by status. Search any rack, bay or aisle and the twin flies to it — here ten locations on rack R07, locked out after an upright was damaged, and an aisle where replenishment is due.

● **A06 · R07 bays 9-10** **LOCATION BLOCKED**

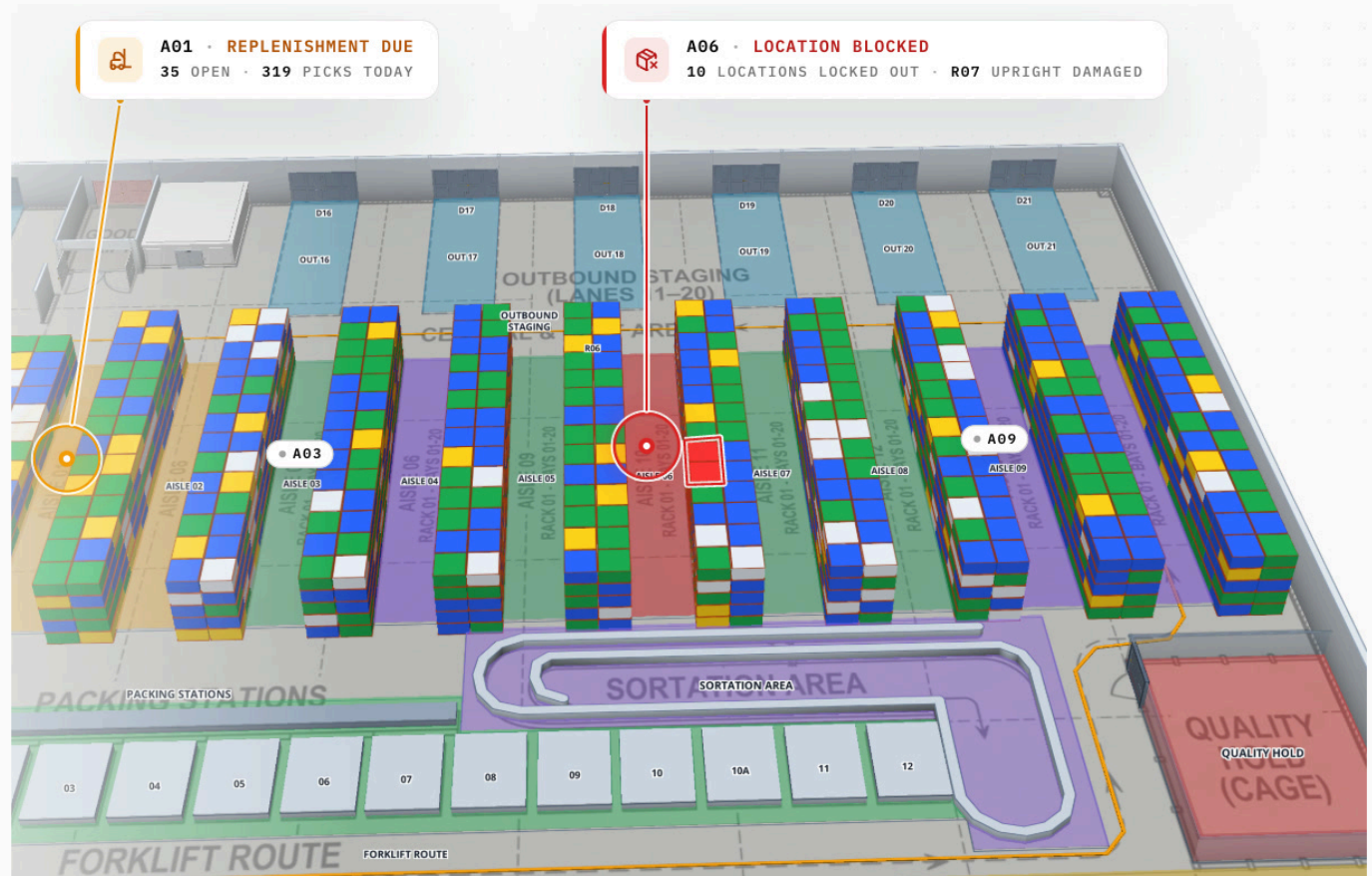
10 locations locked out — upright damaged, pending inspection.

● **A01** **REPLENISHMENT DUE**

35 replenishments open · 319 picks today.

● **Bin state · live**

Full 609 · OK 534 · Low 143 · Empty 188 · Blocked 10.



65%

RACK FILL

49,422

CASES ON HAND

143

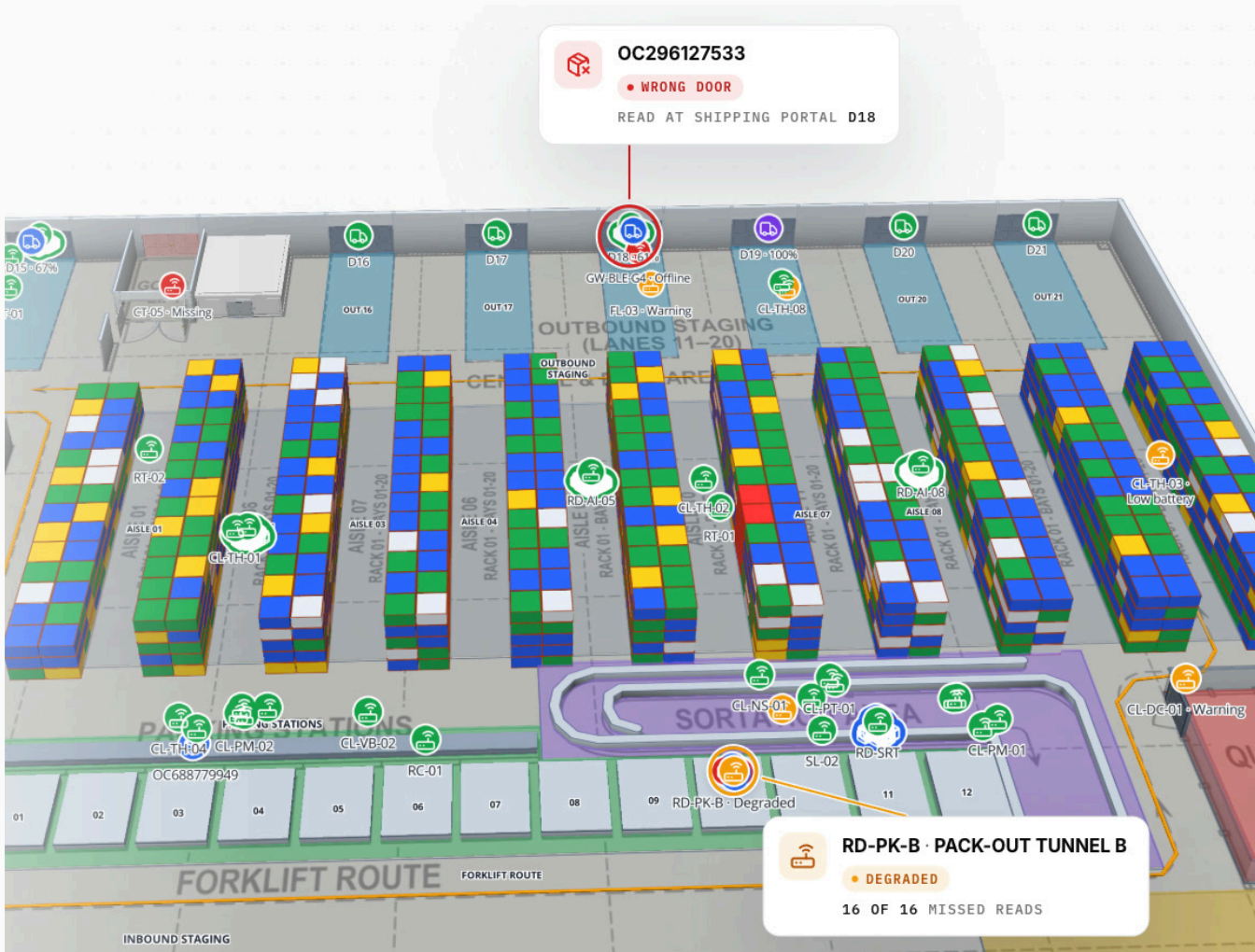
LOCATIONS RUNNING LOW

05 — FOLLOW EVERY CARTON

Follow every carton, reader by reader.

📍 PACK-OUT · SORTATION · SHIPPING DOORS

RFID readers at pick, pack-out, sortation and the shipping portals follow each carton. A carton read at the wrong door, or a reader that starts missing reads, is flagged where it happens — while there is still time to pull the carton back.



- **OC296127533** **WRONG DOOR**
Read at Shipping Portal D18, pulled back and re-sorted.
- **RD-PK-B · Pack-out Tunnel B** **DEGRADED**
16 of 16 missed reads trace back to this reader.
- **627 RFID cartons** **6 HOURS**
408 outbound order cartons · 219 inbound cases.

2,185
RFID READS

16
READERS

99.3%
READ OK

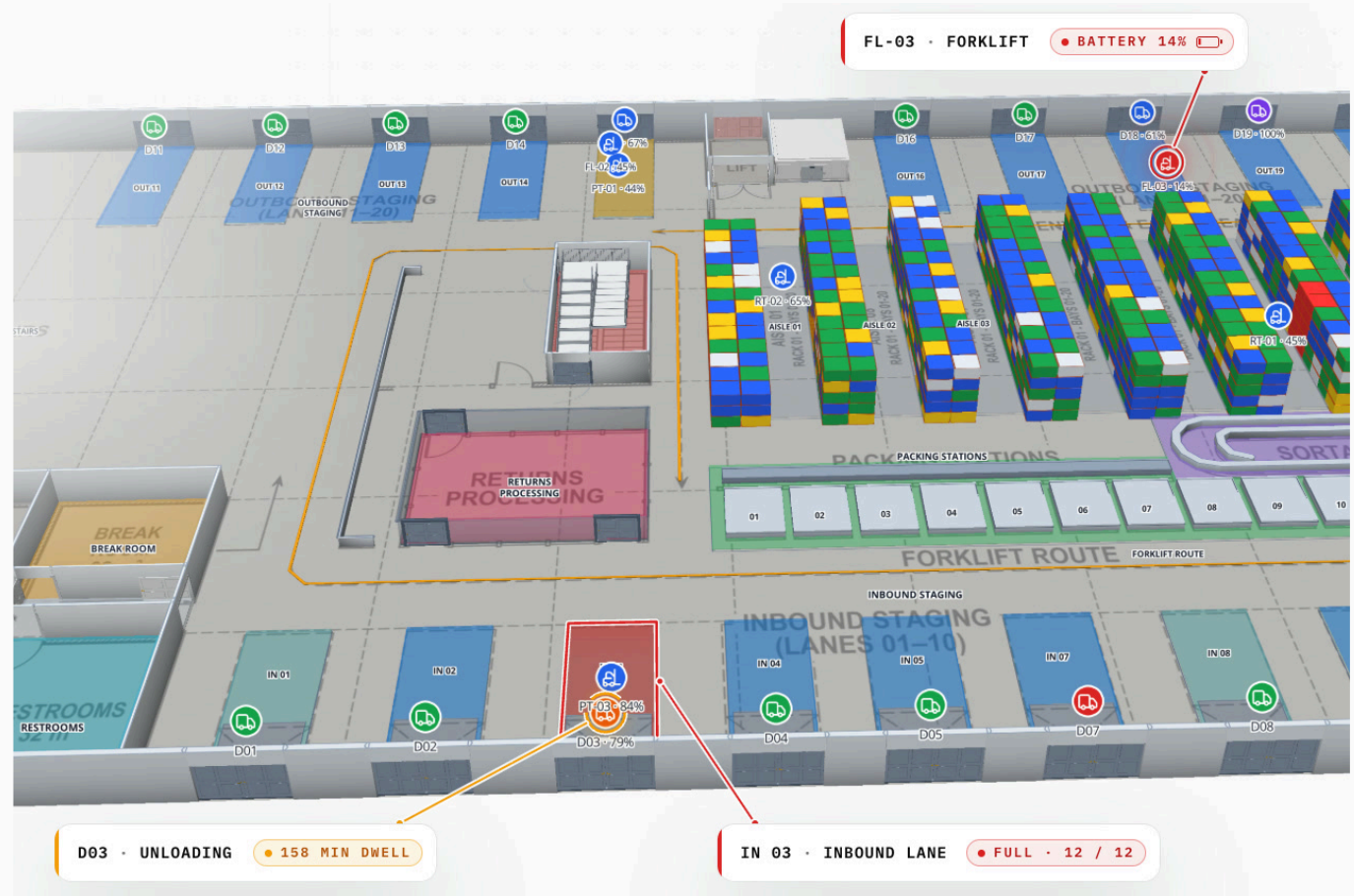
06 - DOCKS & FORKLIFTS

Every dock and forklift, flagged in place.

20 DOCK DOORS · STAGING LANES · FORKLIFT FLEET

Dock doors, staging lanes and the forklift fleet in one view. A trailer dwelling too long, a full staging lane and a forklift running out of battery are each pinned to the exact spot — before they become detention fees and missed cut-offs.

- D03 · Unloading** 158 MIN DWELL
 Dwell alert raised · 18 of 23 pallets unloaded.
- IN 03 · Inbound lane** FULL · 12 / 12
 Congested, staging the same delivery as D03.
- FL-03 · Forklift** BATTERY 14%
 Low battery — flagged to return to charging.



141

DETENTIONS ·
14 DAYS

220

LATE ARRIVALS ·
14 DAYS

5

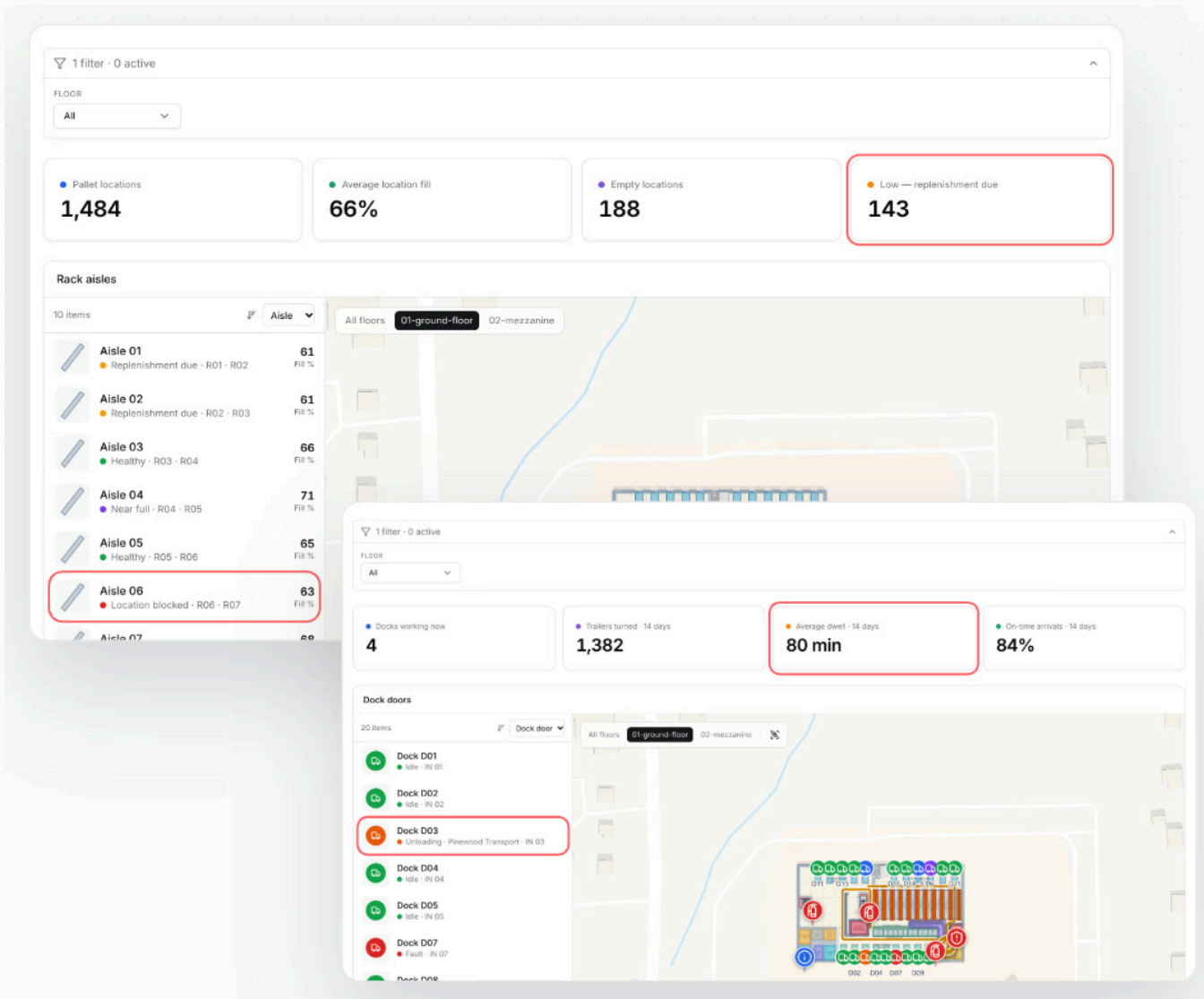
PALLETS STAGED
> 4 H

07 — REPORTS, BUILT IN

The reports your shifts already run.

Every map layer feeds reports your shifts already use — built around your KPIs and ready from day one. Each report keeps its live map, so a number always leads back to the exact rack, door or lane it comes from.

- Rack Inventory — pallet locations, average fill, empty and low locations, aisle by aisle.
- Docks & Trailer Yard — docks working, trailers turned, average dwell and on-time arrivals.
- Aisle 06 blocked and dock D03 unloading highlighted straight from the floor.

**143**

REPLENISHMENT DUE

80 minAVERAGE DWELL ·
14 DAYS**84%**ON-TIME ARRIVALS ·
14 DAYS

08 — CONNECTED TECHNOLOGY

Connects what you already run.

New RFID, BLE and sensor networks sit alongside the equipment you already own. Forklift telematics, pick-to-light controllers and power meters join over the protocols they already speak — no rip-and-replace.

102

DEVICES ON ONE MAP

87% **99.88%** **627**

ONLINE NOW 7-DAY UPTIME RFID CARTONS



16

RFID readers

LLRP • 4 ANTENNAS EACH



34

Sensors

CLIMATE, POWER, DOOR, LEAK,
SMOKE, VIBRATION



20

BLE tags

PICK CARTS, ROLL CAGES, PICK
TEAMS



10

Forklift telematics

WI-FI • MQTT



9

Pick-to-light

MQTT • MEZZANINE MODULES



13

Gateways

BLE • LORAWAN • MODBUS • LLRP



Connects what you already run

Forklift telematics, pick-to-light controllers and meters feed the same map as the new readers, tags and sensors — 63 devices on the ground floor, 39 on the mezzanine.

PROTOCOLS

BLE 5.0 LoRaWAN LLRP Wi-Fi (MQTT)

MQTT Modbus TCP Zigbee

WHAT WE DELIVER

Built for your warehouse. Like no other.



Your building, rack by rack

Both floors, all 1,484 pallet locations, in live 3D.



Every tag, one map

RFID cartons, forklifts, sensors and readers — with playback.



Alerts with exact location

Blocked bays, dock dwell, low batteries pinned where they happen.



Reports your shifts use

Rack, dock, RFID and fleet reports on the same live data.



Built end-to-end for you

We connect your LLRP, LoRaWAN, Modbus and MQTT devices.

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.

