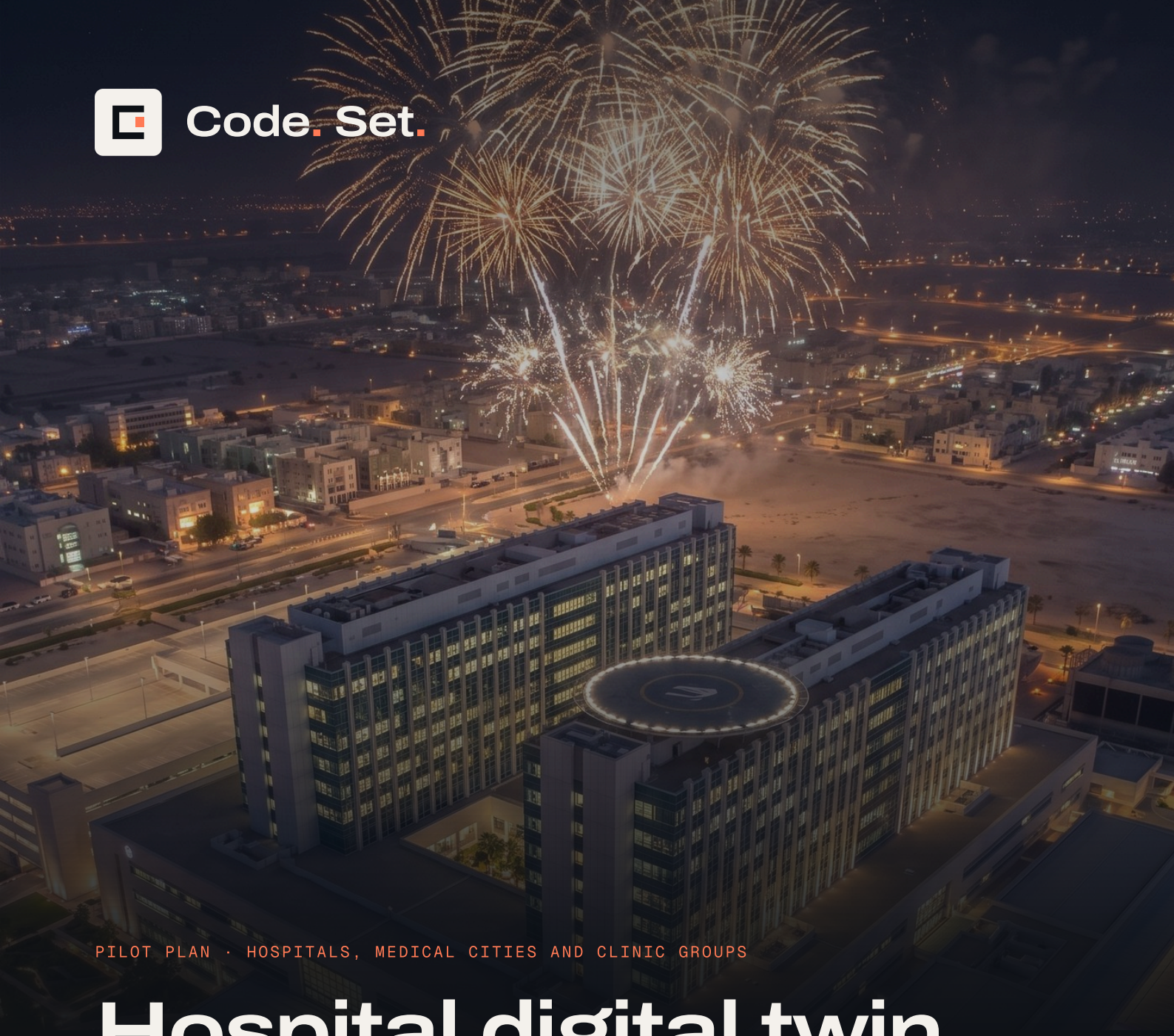
Code. Set.



PILOT PLAN · HOSPITALS, MEDICAL CITIES AND CLINIC GROUPS

Hospital digital twin. 90-day pilot plan.

One live twin of your hospital, joined to the systems you already run. It shows every bed, ward, theatre, fridge and scanner now, and forecasts the beds, staff and medicines you will need next week, next holiday and next year.

FOR CEOS, COOS, DIRECTORS OF NURSING, PHARMACY, ESTATES AND FINANCE

The data to plan it exists. Nobody joins it up.

Bed managers find out at 2 a.m. Pharmacy finds out when the shelf is empty. The signals were there weeks earlier, spread across systems that never meet: admissions and discharges in one, flu swabs in another, the theatre list in a third.

EHR Records, orders, diagnoses	PAS · ADT Admissions, transfers, discharges	PHARMACY Stock, orders, supplier lead times
LAB · LIS Tests, flu and RSV swabs	ROTA Staff, shifts, agency hours	THEATRE LIST Planned operations, cancellations

What that looks like, in the demo hospital

Al Noor Medical City: 520 beds, tertiary hospital, from the Synopton hospital demo. Demo names and figures are illustrative.

504 of 520 beds taken (97%). The 16 free beds are in maternity, paediatrics and critical care, none for an adult ED admission.

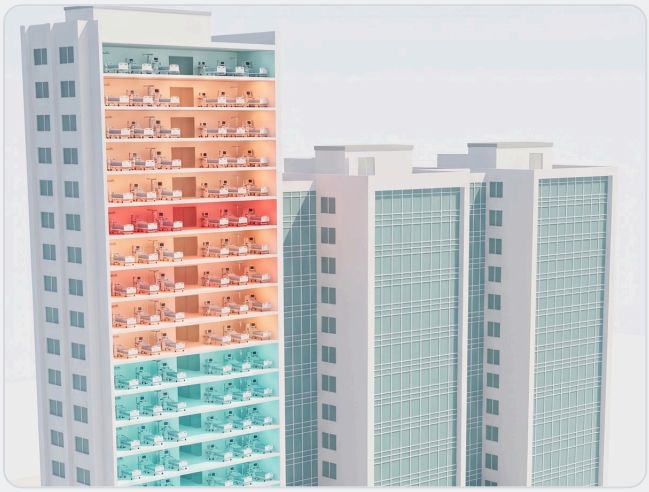
7.5 hours to get a bed for admitted ED patients, against a 4-hour target. The ED is forecast to reach 167% at 13:00.

31 patients fit to leave still in a bed, because only 18% of discharges happen before noon.

Fridge F-12 spent 52 minutes above 8 °C overnight with €50k of biologics, insulin and vaccines inside.

02 · WHAT THE TWIN WATCHES, LIVE

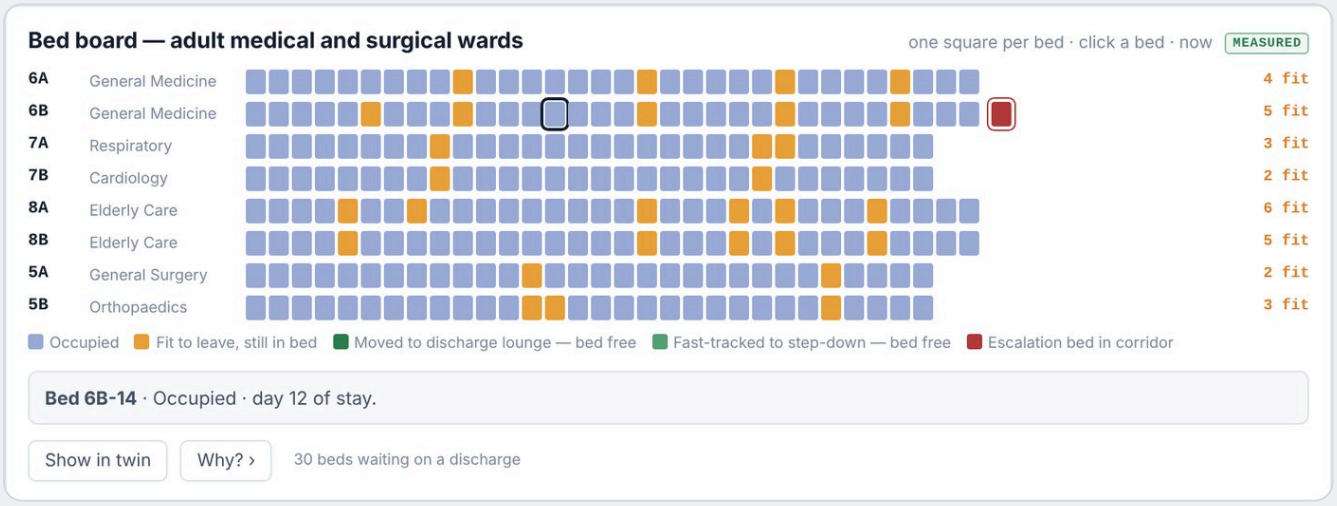
Every bed, ward, theatre, fridge and scanner.



THE 3D TWIN: WARDS COLOURED BY THE BED BOARD



CAMERA AI ON EXISTING CCTV: ED WAITING AREA, PEOPLE COUNTED, FACES BLURRED

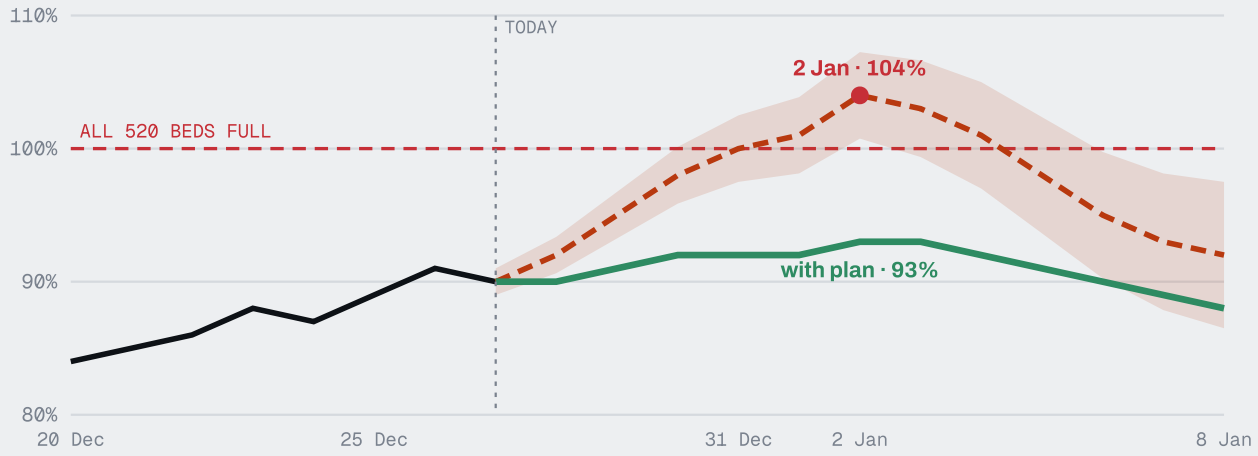


BED BOARD: ONE SQUARE PER BED, FIT-TO-LEAVE PATIENTS IN AMBER

The twin watches	From
Beds by ward, specialty and status	The systems you already run, read-only
ED crowding and the wait for a bed	The building management system
Theatre air changes and pressure	Cameras already on the wards and corridors
Medicine fridges and the cold chain	Cold-chain and gas sensors
MRI helium, CT tubes, ventilators, pumps	Nothing new for clinicians to type

Next week, next holiday, next year.

Holiday occupancy, 20 December to 8 January



ACTUAL TO TODAY, FORECAST WITH AN 80% INTERVAL, AND THE PLAN IN GREEN. PEAK 104% ON 2 JANUARY, 93% WITH THE PLAN.

Critical medicines over New Year

MEDICINE	USE	FORECAST 24 DEC TO 3 JAN	IN STOCK	STATUS
Alteplase	Stroke	22 vials	14	SHORT 8
Piperacillin-tazobactam	IV antibiotic	1,320	980	SHORT 340
Salbutamol nebules	Asthma · COPD	2,000	1,400	SHORT 600
O-negative blood	Major haemorrhage	30 units	22	SHORT 8
Rapid-acting insulin	Diabetes	540 pens	730	COVERED
Liquid oxygen	VIE tank	2 refills	booked	COVERED

SUPPLIERS CLOSE OVER THE HOLIDAYS. ORDER BY 12 DECEMBER.

BEDS NEEDED IN 2027

+18 beds in January, above today's 520. Drivers: over-75s up 4.1%, the flu season, a day unit opening in May.

EQUIPMENT

12 days until MRI-2 reaches its helium quench line. Repair and top-up €22.4k; a quench costs €444k and 10 days down.

Ask why.
Get the sources and a plan.

ASK THE TWIN

Why will Ward 7A overflow on 2 January?

> Flu admissions are 31% above last winter. LIS · flu swabs

> Only 18% of discharges happen before noon. PAS · ADT

> 14 planned hip operations fall on 2 to 4 January. Theatre list

RECOMMENDED

OPEN THE DISCHARGE LOUNGE AT 10:00 | MOVE 9 OPERATIONS TO 9 JAN | OPEN 12 WINTER BEDS ON 8A

01	**What-if**	Try the plan before you commit: the forecast re-runs with the lounge, the moved operations and the winter beds. Peak 104% becomes 93%.
02	**Decide**	Approving drafts a decision record with an owner and a deadline. Nothing changes in clinical or building systems.
03	**Measure**	The twin tracks what happened against the forecast, and the next forecast learns from it.

Every figure carries its provenance

MEASURED | MODELLED | PUBLISHED | ASSUMED | FORECAST

Forecasts show their drivers and an 80% interval, and are backtested on your past winters before anyone relies on them.

05 · UNDER THE HOOD

The stack, the connectors and where it runs.

DATA	**Model**	HL7 FHIR, HL7 v2, DICOM and exports mapped to one patient-flow model. Every value keeps its unit, time and source.
ML	**Forecasts**	Seasonal time series and gradient boosting, backtested on past winters, with drivers and intervals.
AI	**Answers**	Language models grounded in the twin's own data, with citations. Hosted or local models.
3D	**Twin**	Three.js and WebGL in the browser, built from drawings or loaded from IFC and GLB.
SEC	**Privacy**	Pseudonymised analytics, SSO over SAML or OIDC, role-based access, audit log. Read-only by design.

Read-only connectors

CLINICAL

EHR over FHIR, PAS and ADT, lab (LIS), PACS over DICOM, pharmacy, theatre list, rota, nurse call, RTLS.

BUSINESS AND BUILDING

SAP, Microsoft 365, Teams, Power BI; BMS over BACnet, cameras over ONVIF, cold-chain sensors; REST API and webhooks.

Installation options

01 · CLOUD

Your Azure, AWS or Google Cloud tenant, or hosted by us.

02 · ON-PREMISES

Your servers, on Kubernetes or virtual machines.

03 · AIR-GAPPED

No outbound traffic. Models and updates delivered offline.

Support and ownership

SUPPORT

A named delivery lead. Optional 24/7 on-call after go-live.

UPDATES

Models, connectors and security patches on an agreed schedule.

OWNERSHIP

The code and the IP built for you are yours.

One hospital. 90 days.

Live from week six. Your team runs real decisions through it in weeks seven to twelve, ahead of the winter peak if you start by early autumn.



WEEK 1 · WEEK 6 · TWIN LIVE · WEEK 12

WEEKS 1 TO 2

Connect

Read-only access to the systems in scope, drawings for the 3D model, and one page of the questions the twin must answer.

WEEKS 3 TO 6

Build and backtest

The twin with every source mapped, and forecasts backtested on your last three winters. Usable from week six.

WEEKS 7 TO 12

Run decisions

Bed meetings, pharmacy orders and theatre planning run through the twin. Each recommendation priced and owned.

What we need from you

- Read-only access or exports: PAS/ADT, EHR, lab, pharmacy, theatre list, rota
- Floor plans or drawings
- Your information governance lead, from day one
- A sponsor and an operations lead, about one hour a week

What you get

- **A live twin** of the hospital in scope
- **Backtested forecasts** for beds, ED, medicines and equipment
- **A decision log** with owners and results
- **The code and configuration**, yours

07 · NEXT STEP

Tell us about your hospital.

Codset builds digital twins end to end: connectors, data model, forecasts, the 3D twin, computer vision and the decision workflow, in your cloud, on your servers or air-gapped.

START THE PILOT CONVERSATION

Beds, wards, systems. That is enough to start.

Send the form at

codset.com/hospital-twin

or email **info@codset.com**. The people who would build it reply.



EQUIPMENT FORECAST: MRI-2 HELIUM RUNWAY TO THE QUENCH THRESHOLD

EXAMPLES IN THIS PLAN COME FROM THE SYNOPTON HOSPITAL DEMO AT SYNOPTON.COM. DEMO NAMES AND FIGURES ARE ILLUSTRATIVE, NOT CLIENT RESULTS. PATIENT-LEVEL DATA IN A PILOT IS HANDLED UNDER YOUR INFORMATION GOVERNANCE RULES.