



SMART HOSPITAL SYSTEM

i4
technologies



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Bursa

About i4 Technologies

i4 Technologies is a technopark company founded in 2017 with 100% domestic investment.

Builds vertical solutions on an IoT platform developed by its own engineers.

Offers solutions tailored to customer needs with a wide product range.

SOLUTIONS

Smart Hospital



R&D Office



Talking Factory



Smart Construction Site



Easy Measurement



Contactless Passage



Digital Port



Service Vehicles Tracking



Digital Apron



Hotel 4.0



REFERENCES

 KOÇ HEALTHCARE

MEMORIAL

ACIBAD
PROJECT
MANAGEMENT

 **TEMSA**

PEGASUS

TAV
Airports

DOĞUŞ
İNŞAAT


DP WORLD

 **matlı**

 **keskinoğlu**

 **Yörsan**

kronospan

MARPORT
LIMAN İŞLETMELERİ
SANAYİ VE TİCARET A.Ş.

 **BERICAP**

BMC

 **weber**
SAINT-GOBAIN

Defaş
 **Koç**

 **BFA**

 **ARTMİN**
MADENCİLİK

BTA

 **SAFİPORT**
DERİNCE

 **ÇİMKO**
ÇİMETTO VE EETOM SANAYİİ İÇ A.Ş.



WHAT IS THE SMART HOSPITAL SYSTEM?

The i4 Technologies Smart Hospital System is an IoT-based operations management platform designed to improve in-hospital efficiency, safety and process transparency.

**Staff Tracking
Module**

**Asset Tracking
Module**

**Patient / Operating
Room Tracking Module**

Integrated with existing **HIS** and **T&A** systems, it gathers all field data in a single center. With real-time monitoring, reporting and notification mechanisms, it creates **an active IoT network** across the entire hospital.

Thanks to the **BLE** -enabled **Access Point** (AP) infrastructure of global brands such as Huawei, Cisco and Extreme Networks, signals from BLE sensors in the field reach our platform over the existing network without any additional hardware.

Hospitals already using these vendors' infrastructure can, without any additional **gateway** investment, monitor location, transit and event data in real time, generate reports and benefit from automatic alert mechanisms.

SYSTEM TOPOLOGY



PRODUCT RANGE



**i4 Staff
Tracking
Sensor**



**i4 Patient
Tracking
Sensor**



**i4 Asset
Tracking
Sensor
(Anti-Tamper)**



**i4 Asset
Tracking
Sensor**

SYSTEM INFRASTRUCTURE

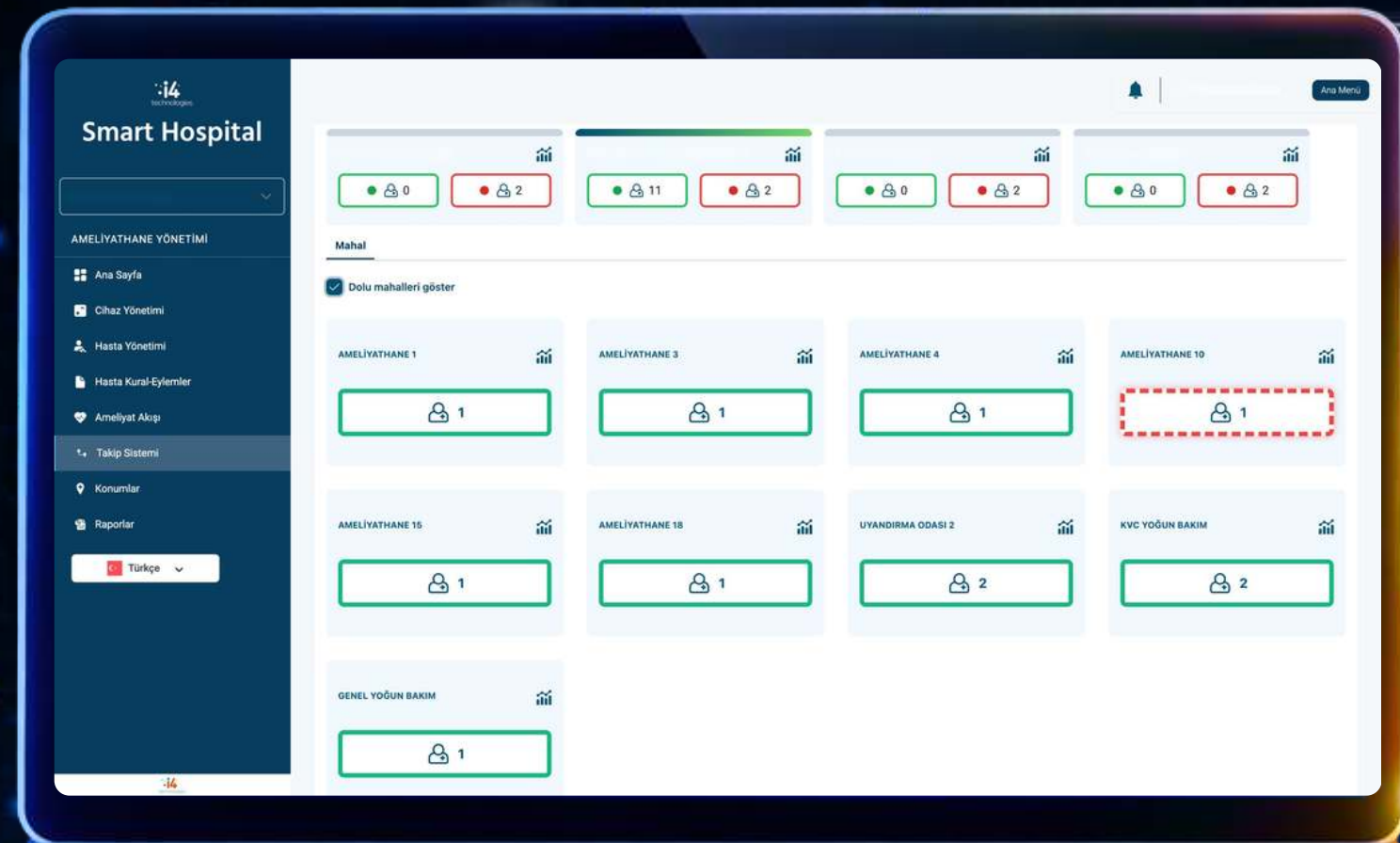
Thanks to the **BLE** sensors attached to staff, patients, operating rooms and assets, location and movement data is collected automatically.

Collected data is transferred in real time to the central management platform via the gateway and AP infrastructure.

The system provides seamless coverage across all areas, enabling real-time monitoring and secure historical data records.

Reporting, alarm configuration and operational analysis can easily be performed via the management panel.

SMART HOSPITAL - TRACKING SYSTEM



Patient, staff and asset location data is gathered in a single center and tracked both in real time and retrospectively.

SMART HOSPITAL - STAFF TRACKING MODULE

Digitally tracks staff check-in/check-out times and their location during working hours, managing work processes in one central system.

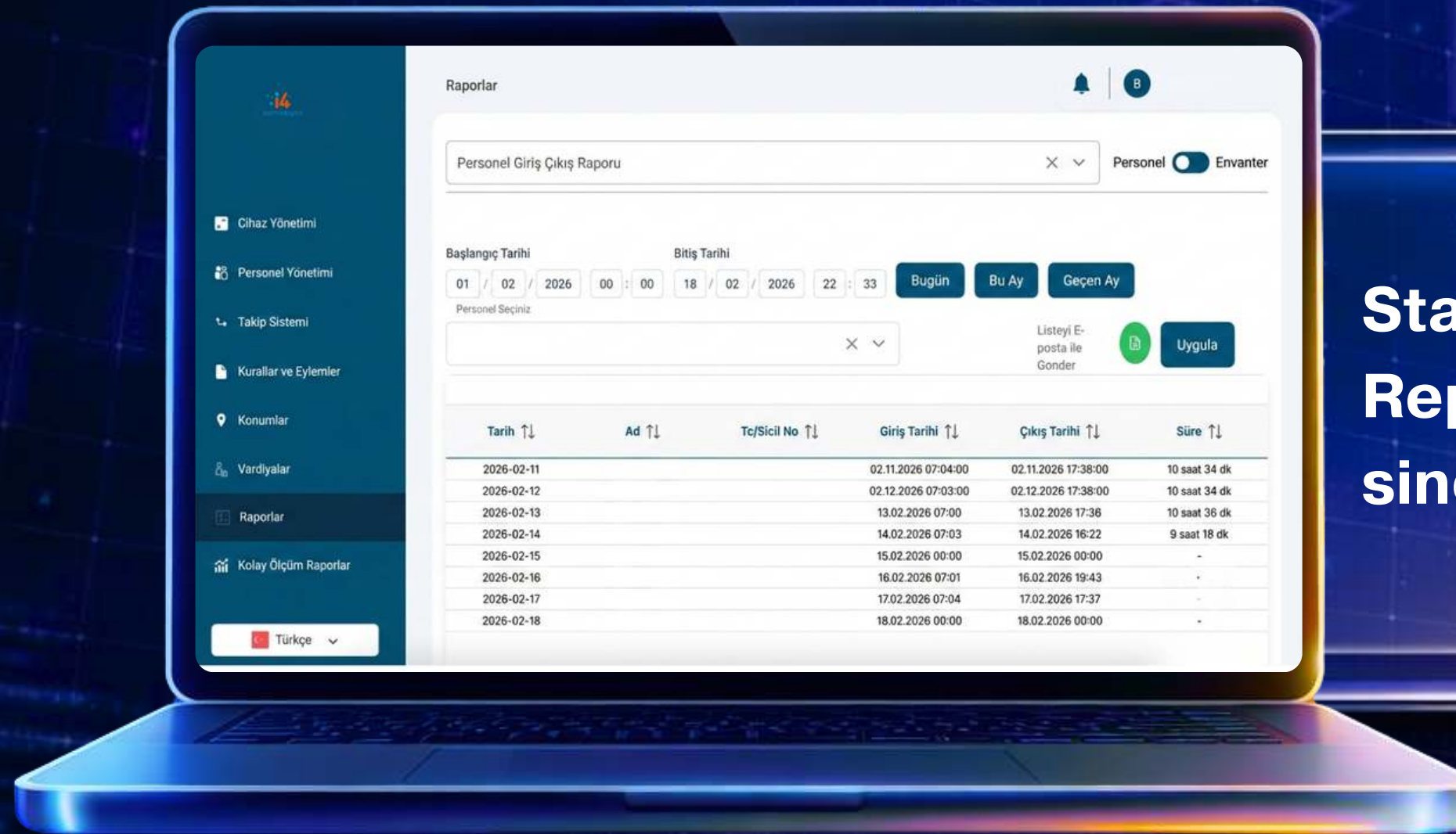
Ensures the right personnel are in the right place at the right time through real-time location and task tracking.



Supports higher efficiency and optimized resource use by analyzing performance, workload and task distribution.

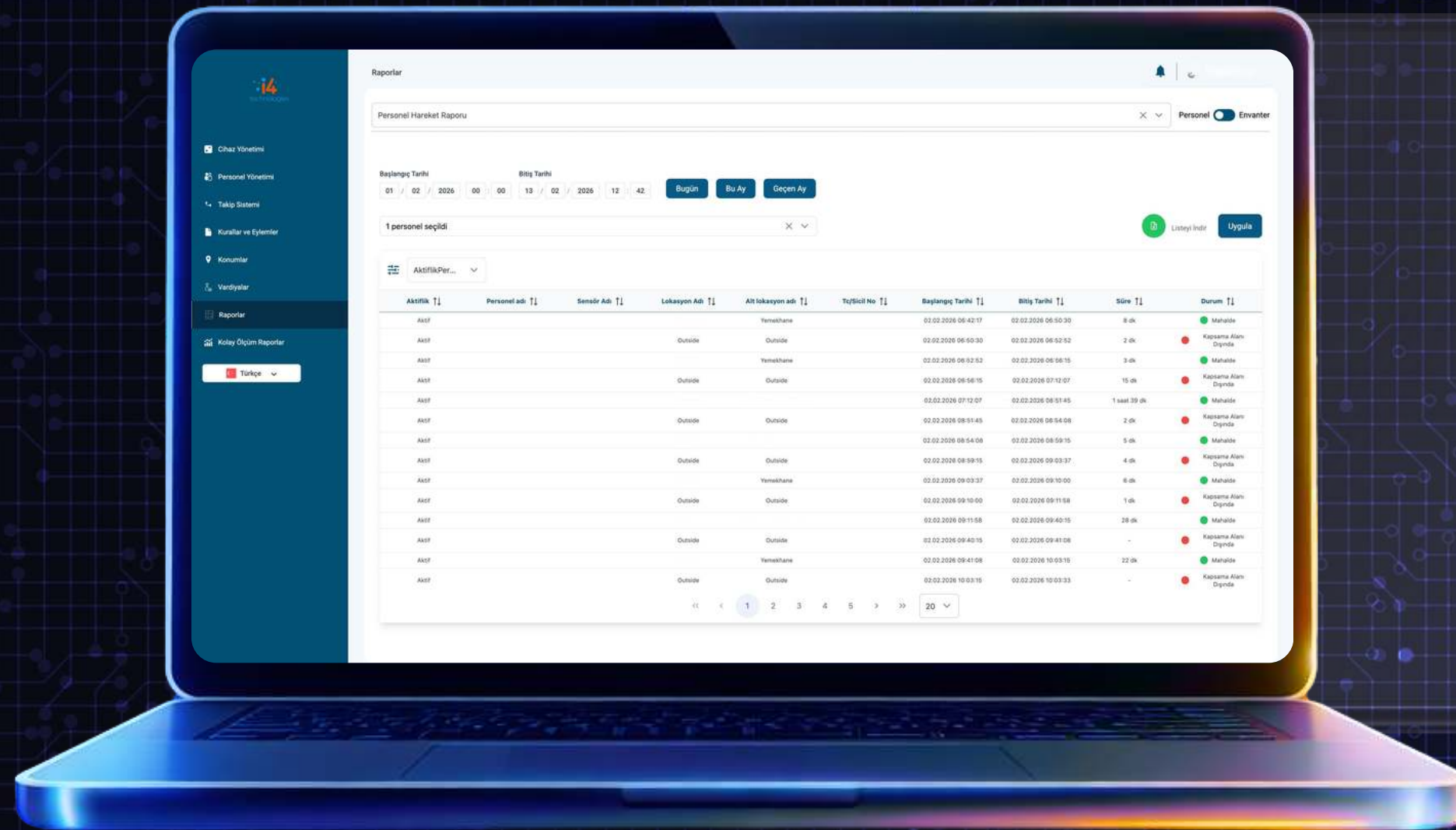
Strengthens security with authorization and access control, ensuring only authorized personnel enter critical areas.

SMART HOSPITAL - STAFF REPORTS



Staff Productivity Reports and Shift Reports can be accessed through a single system.

SMART HOSPITAL - STAFF MOVEMENT REPORT



Ensures operational coordination by tracking staff tasks, locations and system usage.

SMART HOSPITAL - ASSET TRACKING MODULE

1

The location of all assets and equipment across the hospital is monitored in real time via sensors.

2

Which unit each piece of equipment is used in, and for how long, is digitally recorded.

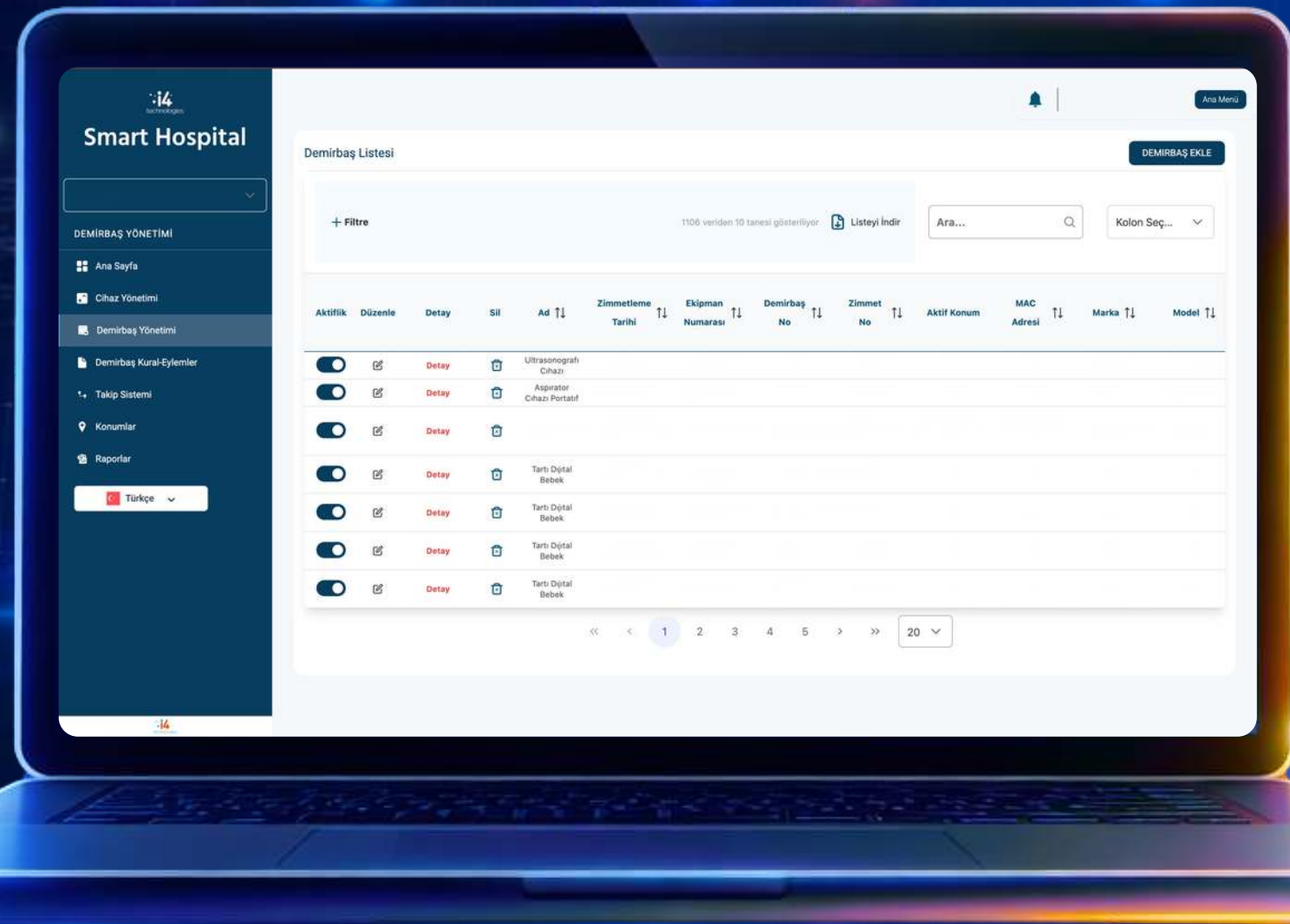
3

Temperature, humidity and ambient conditions of devices requiring special storage are continuously monitored and reported.

4

Automatic alerts and notifications are generated for unauthorized use, loss risk, maintenance delays or critical threshold violations.

SMART HOSPITAL - ASSET TRACKING REPORTS



Enables detailed tracking of the assignment, location and usage status of all medical equipment.

SMART HOSPITAL - PATIENT & OPERATING ROOM TRACKING MODULE

Active patient wristbands worn by inpatients enable real-time location tracking within the hospital and end-to-end digital monitoring of the operating room process.

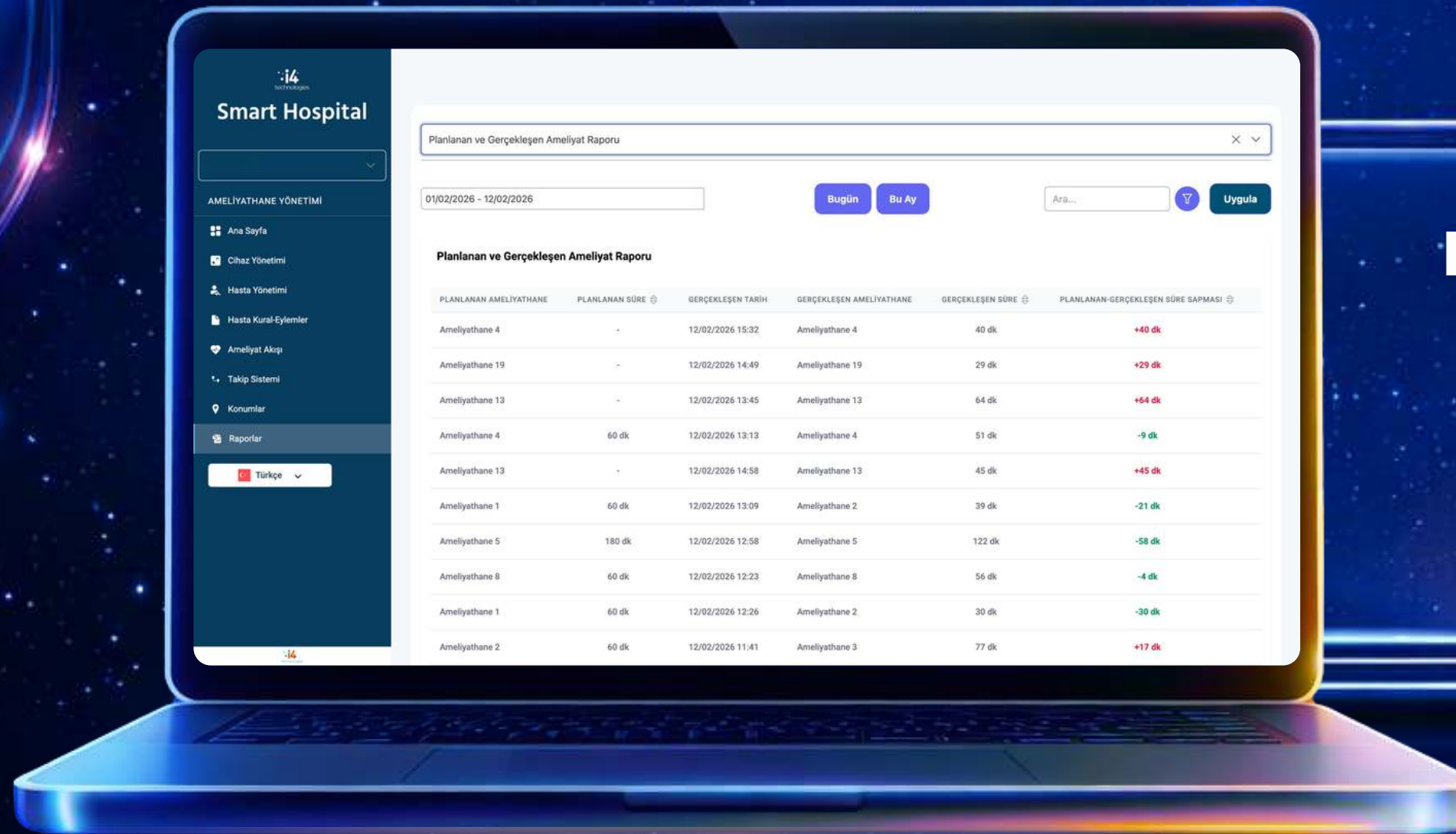
Thus, surgery stages are tracked in real time, potential delays are detected early and operational coordination is strengthened.



The surgery process starts when the nurse scans the QR code on the patient's wristband via the mobile app. Gateway devices in the area track the patient's location in real time.

The patient's surgery flow is monitored in real time. Meanwhile, relatives can follow the process live on patient information screens.

SMART HOSPITAL - PLANNED vs ACTUAL OPERATING ROOM REPORTS

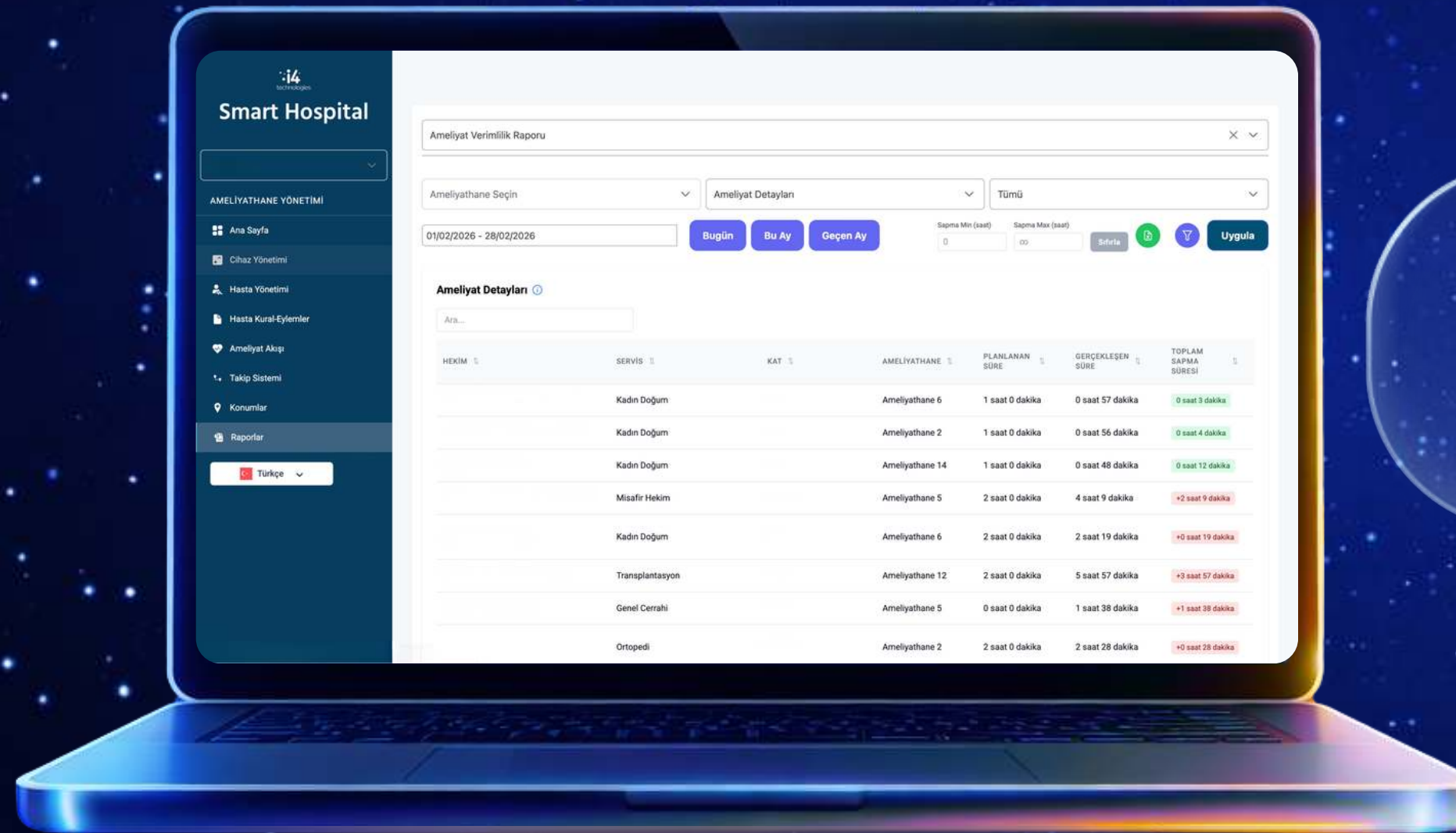


The image shows a laptop displaying the Smart Hospital software interface. The interface is in Turkish and shows a report titled 'Planlanan ve Gerçekleşen Ameliyat Raporu' (Planned and Actual Surgery Report) for the date range 01/02/2026 - 12/02/2026. The report table has columns for 'PLANLANAN AMELİYATHANE' (Planned Operating Room), 'PLANLANAN SÜRE' (Planned Duration), 'GERÇEKLEŞEN TARİH' (Actual Date), 'GERÇEKLEŞEN AMELİYATHANE' (Actual Operating Room), 'GERÇEKLEŞEN SÜRE' (Actual Duration), and 'PLANLANAN-GERÇEKLEŞEN SÜRE SAPMASI' (Planned-Actual Duration Deviation). The table lists 12 rows of data for various operating rooms and their durations.

PLANLANAN AMELİYATHANE	PLANLANAN SÜRE	GERÇEKLEŞEN TARİH	GERÇEKLEŞEN AMELİYATHANE	GERÇEKLEŞEN SÜRE	PLANLANAN-GERÇEKLEŞEN SÜRE SAPMASI
Ameliyathane 4	-	12/02/2026 15:32	Ameliyathane 4	40 dk	+40 dk
Ameliyathane 19	-	12/02/2026 14:49	Ameliyathane 19	29 dk	+29 dk
Ameliyathane 13	-	12/02/2026 13:45	Ameliyathane 13	64 dk	+64 dk
Ameliyathane 4	60 dk	12/02/2026 13:13	Ameliyathane 4	51 dk	-9 dk
Ameliyathane 13	-	12/02/2026 14:58	Ameliyathane 13	45 dk	+45 dk
Ameliyathane 1	60 dk	12/02/2026 13:09	Ameliyathane 2	39 dk	-21 dk
Ameliyathane 5	180 dk	12/02/2026 12:58	Ameliyathane 5	122 dk	-58 dk
Ameliyathane 8	60 dk	12/02/2026 12:23	Ameliyathane 8	56 dk	-4 dk
Ameliyathane 1	60 dk	12/02/2026 12:26	Ameliyathane 2	30 dk	-30 dk
Ameliyathane 2	60 dk	12/02/2026 11:41	Ameliyathane 3	77 dk	+17 dk

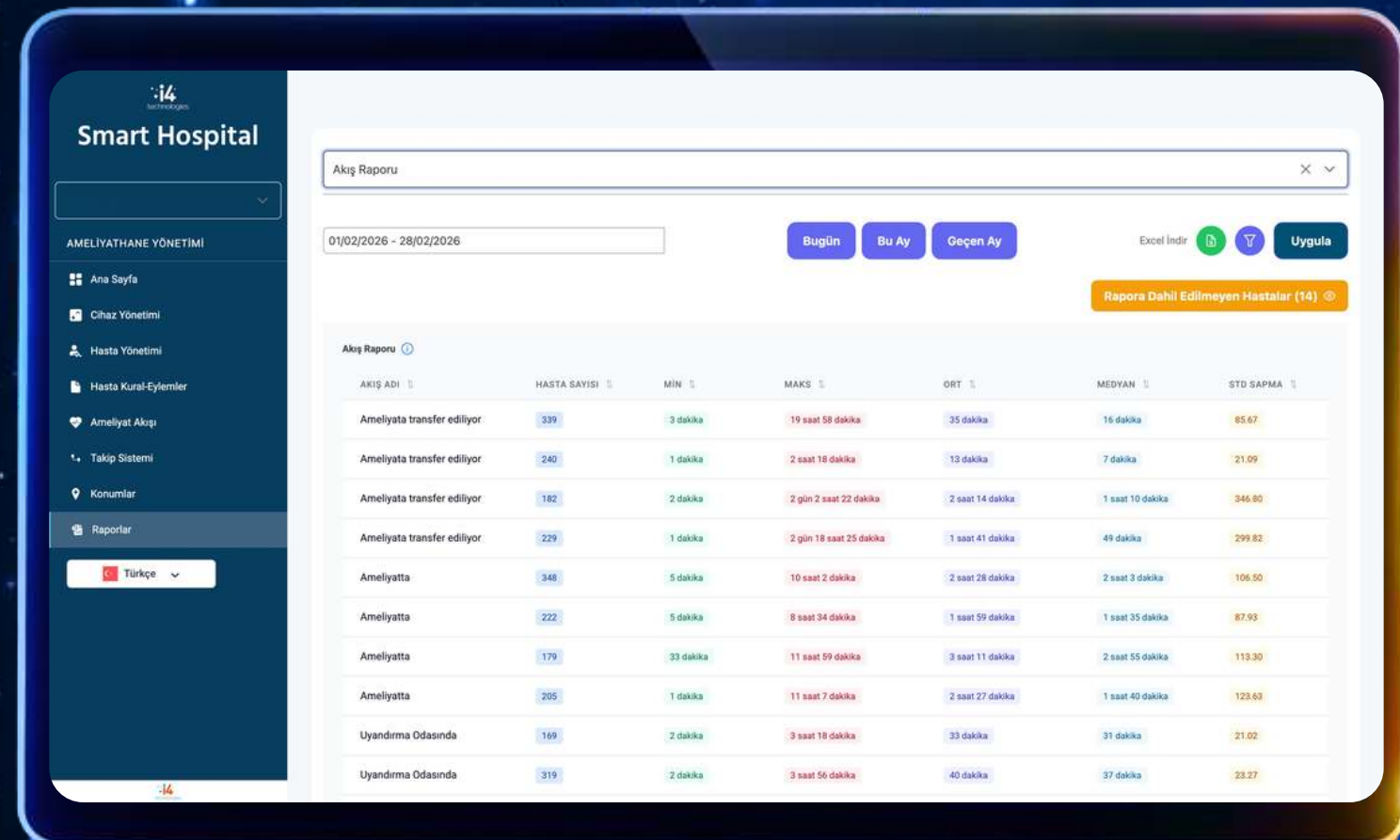
Evaluates time management by analyzing deviations between planned and actual surgery durations.

SMART HOSPITAL - SURGERY EFFICIENCY REPORT



Analyzes how effectively the process runs based on Operating Room Utilization Rate, delays, waiting times and resource efficiency.

SMART HOSPITAL - SURGERY FLOW REPORT



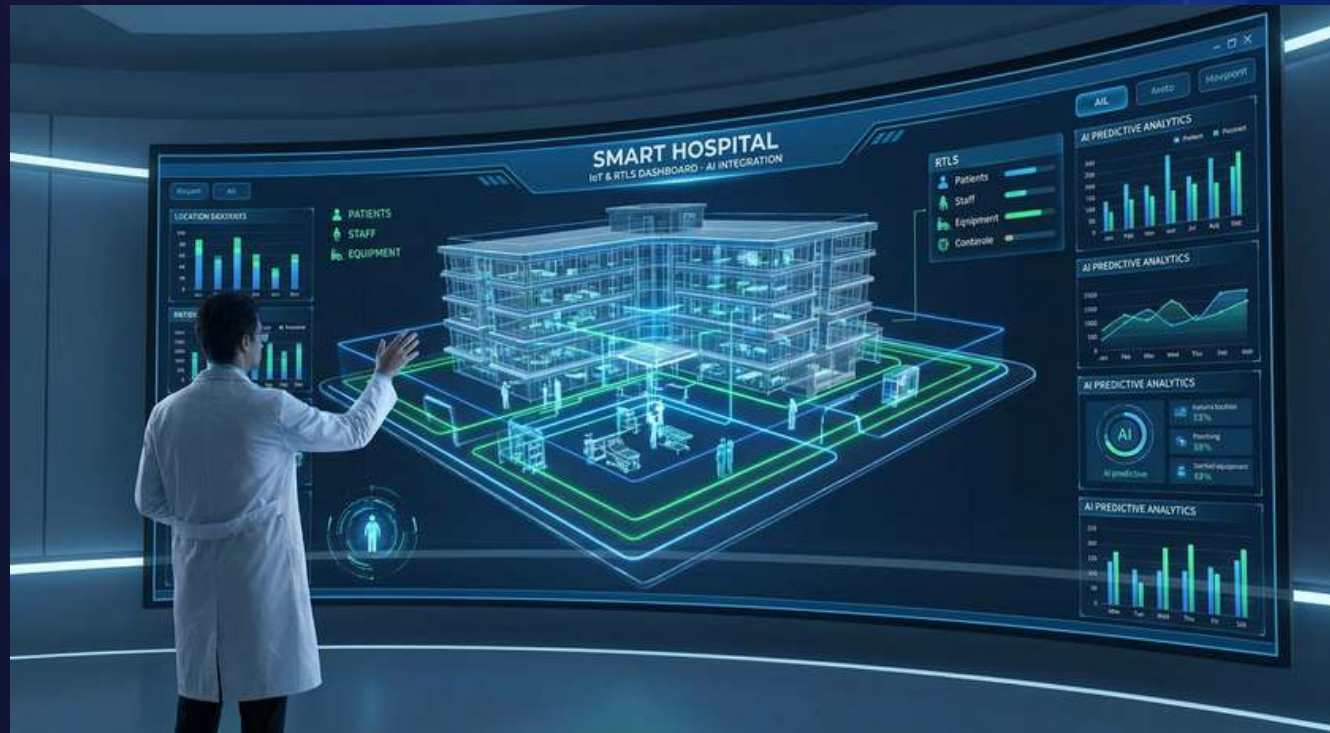
The image shows a laptop displaying the 'Smart Hospital' web application. The interface is in Turkish and shows a 'Surgery Flow Report' for the period 01/02/2026 to 28/02/2026. The report is titled 'Akış Raporu' and includes a sidebar with navigation options like 'Ana Sayfa', 'Cihaz Yönetimi', 'Hasta Yönetimi', 'Hasta Kurat-Eylemler', 'Ameliyat Akışı', 'Takip Sistemi', 'Konumlar', and 'Raporlar'. The main content area displays a table with columns for 'AKIŞ ADI', 'HASTA SAYISI', 'MIN', 'MAKS', 'ORT', 'MEDYAN', and 'STD SAPMA'. The table lists various surgical procedures and their associated patient counts and time metrics.

AKIŞ ADI	HASTA SAYISI	MIN	MAKS	ORT	MEDYAN	STD SAPMA
Ameliyata transfer ediyor.	339	3 dakika	19 saat 58 dakika	35 dakika	16 dakika	85.67
Ameliyata transfer ediyor.	240	1 dakika	2 saat 18 dakika	13 dakika	7 dakika	21.09
Ameliyata transfer ediyor.	182	2 dakika	2 gün 2 saat 22 dakika	2 saat 14 dakika	1 saat 10 dakika	346.80
Ameliyata transfer ediyor.	229	1 dakika	2 gün 18 saat 25 dakika	1 saat 41 dakika	49 dakika	299.82
Ameliyatta	348	5 dakika	10 saat 2 dakika	2 saat 28 dakika	2 saat 3 dakika	106.50
Ameliyatta	222	5 dakika	8 saat 34 dakika	1 saat 59 dakika	1 saat 35 dakika	87.93
Ameliyatta	179	33 dakika	11 saat 59 dakika	3 saat 11 dakika	2 saat 55 dakika	113.30
Ameliyatta	205	1 dakika	11 saat 7 dakika	2 saat 27 dakika	1 saat 40 dakika	123.63
Uyandırma Odasında	169	2 dakika	3 saat 18 dakika	33 dakika	31 dakika	21.02
Uyandırma Odasında	319	2 dakika	3 saat 56 dakika	40 dakika	37 dakika	23.27

The Surgery Flow Report summarizes patients' waiting and operation times during surgical procedures. It reports the number of patients and time spent at each stage, from the ward floor to the recovery room/ICU, identifying potential bottlenecks.

SMART HOSPITAL - AI & DIGITAL TWIN

End-to-end tracking on a live 3D model of the hospital



All location, movement and sensor data in the hospital is combined in a live 3D digital twin. AI agents monitor this data continuously: they detect anomalies, identify the root cause, trigger the necessary workflows and follow the issue until it is resolved.

From end-to-end tracking to automated action.

SEE

Every event is displayed live on the 3D model

UNDERSTAND

AI analyzes the data and identifies the root cause

ACT

Work orders, alerts and tasks are triggered automatically

VERIFY

The system follows the issue and confirms it is resolved

An infusion pump leaves its assigned floor → the system locates it on the 3D model → the responsible nurse is notified and an assignment record is created → the pump is returned and the record is closed.

THANK YOU

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