BORDATEX
IoT for Healthcare

Ankara City Hospital
The World's Third Largest Hospital
3,704 bed capacity

PRODUCTS IMPLEMENTED
Asset Inventory Management, Asset Safety,
Patient Throughput Management

INTELLIGENT HEALTH ASSOCIATION
IoT Solutions to Transform Healthcare
2020 WINNER

RFiD JOURNAL AWARDS
Best Health-Care RFID / IoT Implementation
2020 RUNNER UP

MINISTRY OF HEALTH ANKARA CITY HOSPITAL

Ankara Integrated Health Campus - the third-largest hospital in the world- was opened in 2019 by the Ministry of Health as part of the Public-Private Partnership (PPP) projects. The Campus covers an area of 14.126.104 ft2. It has 9 main buildings with 131 operation rooms, 904 polyclinics, and 3,704 hospital beds. When in full capacity, it will receive 30,000 patients and treat 8,000 emergency patients per day.

> "
> *We wouldn't be able to manage our operations efficiently in this 3,704 bed capacity hospital without the operational awareness we are getting from Borda IoT products.*

Dr. Aziz Ahmet Surel
Coordinator Chief Medical Officer, Ankara Integrated Health Campus

Need

In such a massive healthcare complex, it was not possible to manage labor-intensive asset operations and operating room processes with conventional methods. The main goal was to increase operating room utilization and asset efficiency.

Key objectives
→ Preventing assets taken out of the hospital without authorization.
→ Measure and reduce the waiting times of patients in the operating room process.
→ Reveal bottlenecks in the operating room process.
→ Increase patient satisfaction, decrease length of stay.
→ Increase time spent with patients.
→ Shorten the asset count time.
→ Receive up—to—date and accurate asset inventory list instantly.
→ Prevent asset theft and loss.
→ Increase staff satisfaction and loyalty.

Solution

Bilkent Integrated Health Campus adopted Borda Patient Throughput Management ,Borda Asset Inventory Management & Borda Asset Safety products.

Patient Throughput Management was the best-fit product to increase OR room utilization by tracking the operating room process of ~2000 operations per month and identify any bottlenecks within the process.

Borda Asset Inventory Management & Asset Safety products were deployed to maximize 143,000 assets' efficiency and prevent asset loss, resulting in reduced costs and improved patient care. The hospital would receive accurate and up-to-date asset inventory levels, identify which assets are lost or misplaced, and ensure all assets stay in the hospital at all times.

RESULTS

Asset Inventory Management & Asset Safety

- ✓ Increase in efficiency of more than 160,000 assets.
- ✓ 6X increase in asset counting speed.
- ✓ %94 reductions in time waste for searching a mobile asset in the hospital.
- ✓ Prevention of theft and loss of assets.
- ✓ Increase in asset availability for patient care.

Patient Throughput Management

- ✓ Monitoring of ~20,000 operating room process.
- ✓ Accurate forecasting of operation durations.
- ✓ Detection of bottlenecks causing delay.
- ✓ Decrease in patient waiting times, increase in patient satisfaction.
- ✓ Ensuring correct patient-OR room match.

Analysis

Before implementations, operational processes were analyzed to define the best rules and KPI's that maximize the benefit. Project management team decided how to divide the hospital into zones considering the hospital architecture and departments to track assets, patients &staff in the most efficient way. Hospital architecture was analyzed, and hardware installation location areas are determined to provide maximum coverage with minimum hardware products. Hospital assets (infusion pumps, wheelchairs, beds, pyrometers etc) were analyzed to determine what type of tag to use and which part of the assets the tag should be placed.

Implementation

Asset Inventory Management & Asset Safety

All fixed assets are tagged with RFID passive asset tags to count assets. All critical assets that are mobile and valuable are tagged with active RFID asset tags to track the assets with real-time locations across the hospital. Locators are placed on the hospitals' various services and exit doors so that asset movements across could be detected instantly.

Patient Throughput Management

Locators are placed in pre-op., post-op., and in front of the operating rooms to get each patient tag's location information. In addition to managerial reports, operational room phases are also shown through dashboards in the waiting zone to inform patient relatives.

Training

As part of onboarding, on-site training was provided to the hospital staff. The main goal was the staff's quick adaptation, enabling them to understand all guidelines, best practices for system usage, and ownership.

BORDATEX
IoT for Healthcare

Healthcare, operationally aware.