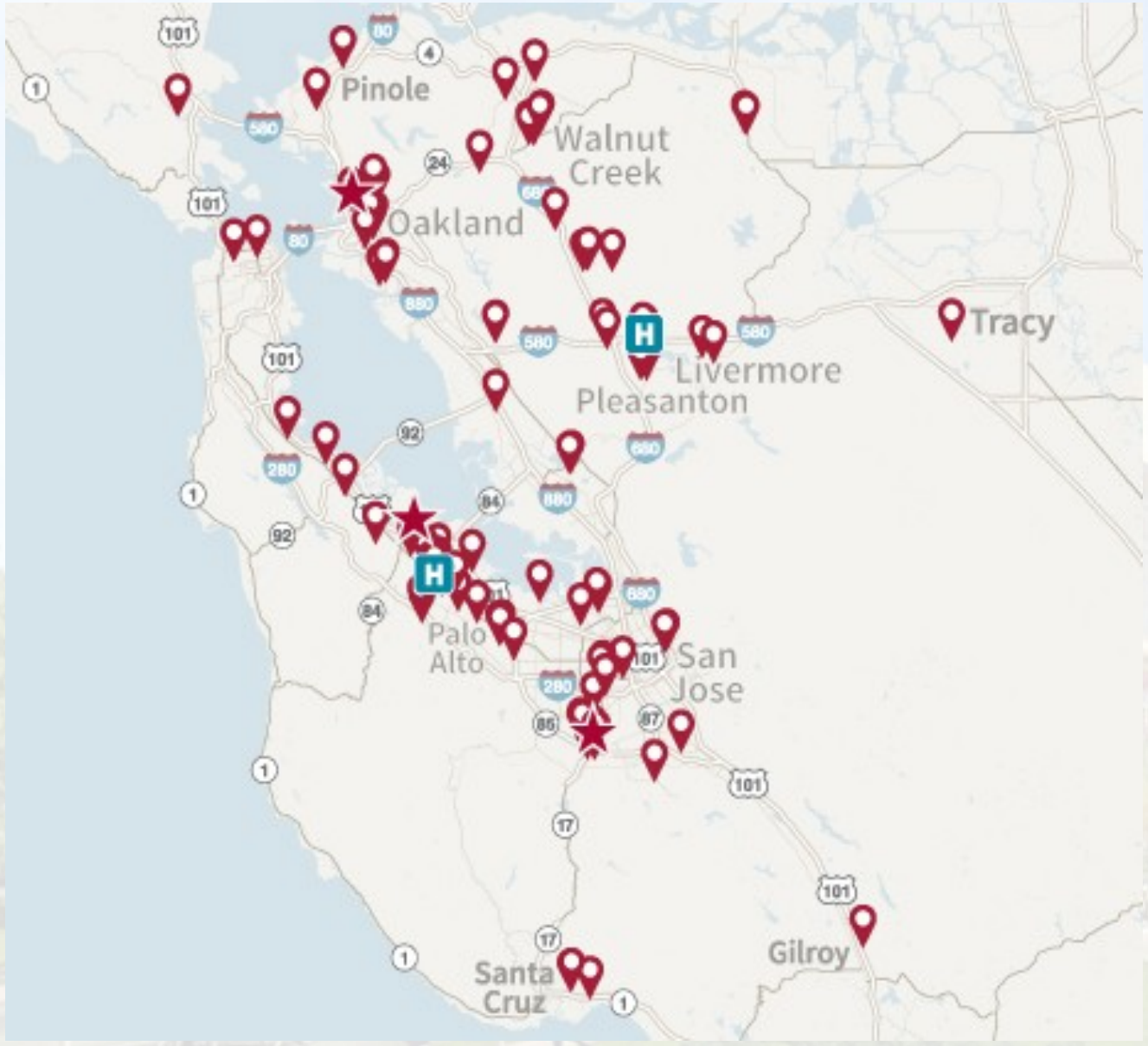
The New Stanford Hospital: Technology for a State-of-the-Art Hospital

Stanford HEALTH CARE

Who is Stanford Health Care?



2 Hospitals – Stanford Health Care and Valley Care
12,000 Employees
2,500 Medical Staff
3,000 Nurses
1,100 Residents & Fellows
60+ Bay Area locations
820 Total beds (613 + 207)
33,955 Discharges (FY18)
134,637 ED & Urgent Care visits (FY18)
42,288 Surgical Cases (FY18)
1,811,767 Clinic visits (FY18)
Magnet Recognized in Palo Alto
HIMSS Stage 7 Inpatient & Ambulatory

Key Drivers for New Stanford Hospital

- Large portions of the current hospital are not up to California Seismic Standards.
- Significant challenges with managing increasing volume ED visits and transfers. Stanford is the only Level 1 Trauma center south of San Francisco.
- Need to increase bed count as we address aging ORs, EDs and other infrastructure in current hospital.
- Create technologically advanced hospital to fulfill the tripartite mission of Stanford Medicine

- 7 stories
- 824,000 sq ft
- 368 patient rooms
- 3 acres of ORs

Key IT Initiatives

Key Differentiators

Robotics & Automation

Advanced Guided Vehicles (TUGs)

Pharmacy Automation

Location Awareness

Location Awareness Platform

Digital Wayfinding

In Room Experience

Engagement

Entertainment

Comfort & Connectedness

Technology Uplift

Imaging Systems

Enterprise Imaging Platform

Operating Rooms

Intraoperative Hybrid/OR suites

Lab Transformation

New Automation Lines

Patient Monitoring

Telemetry and Vital Signs

Clinical Communications

Secure messaging

Alert/Alarm Management

Equipment Monitoring

Universal Asset Tracking

Enterprise Temperature Monitoring

Technology Extension

Clinical & Business Apps

180+ Applications

Network Services

Distributed Antenna System (DAS)

Cisco network distribution (181 switches)

1/10 Gb to each desktop

40/100 Gb Backbone speed

2200+ RTLS sensors

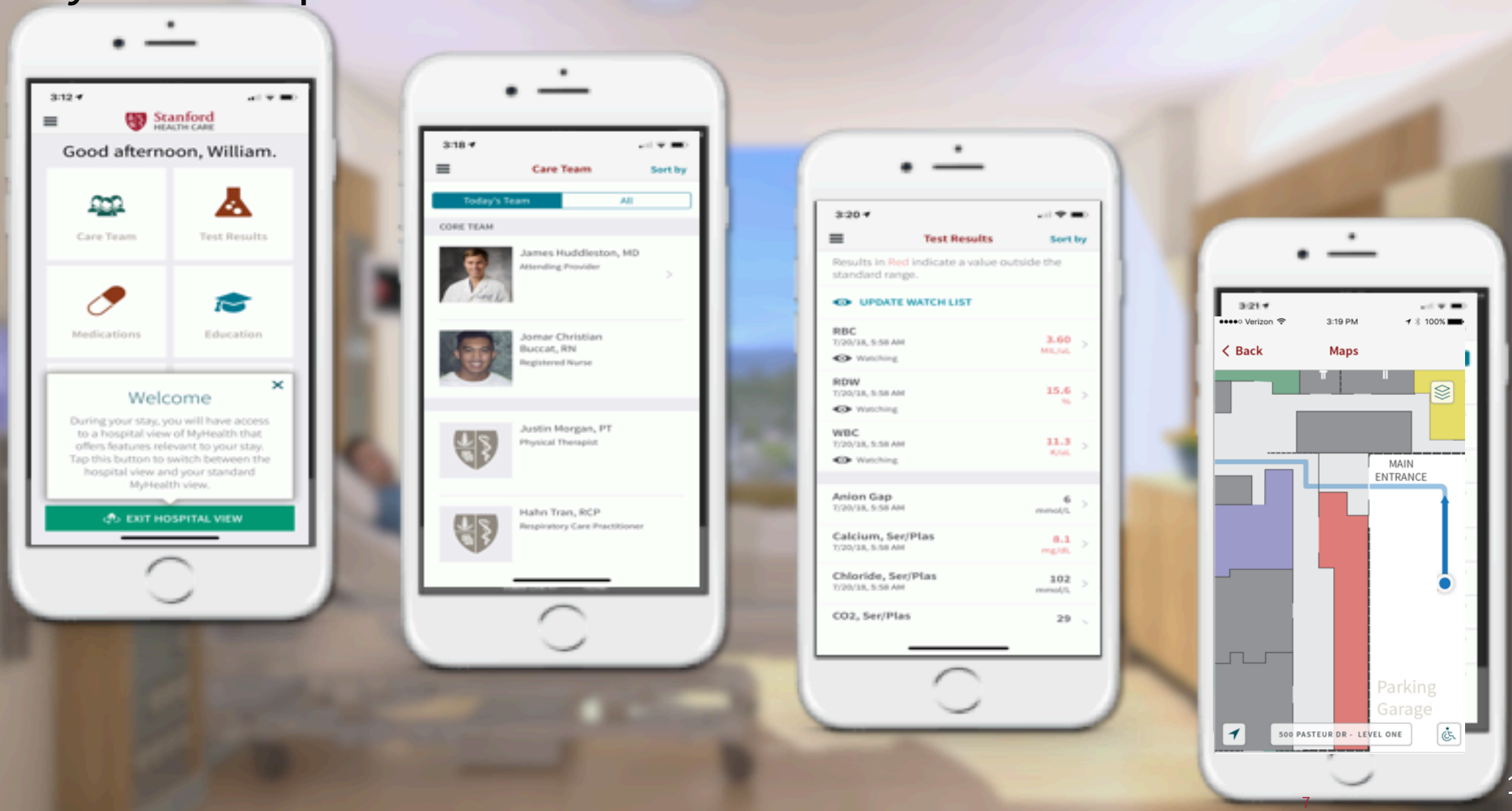
1500+ Wifi AP's

End User & Bio Med Devices

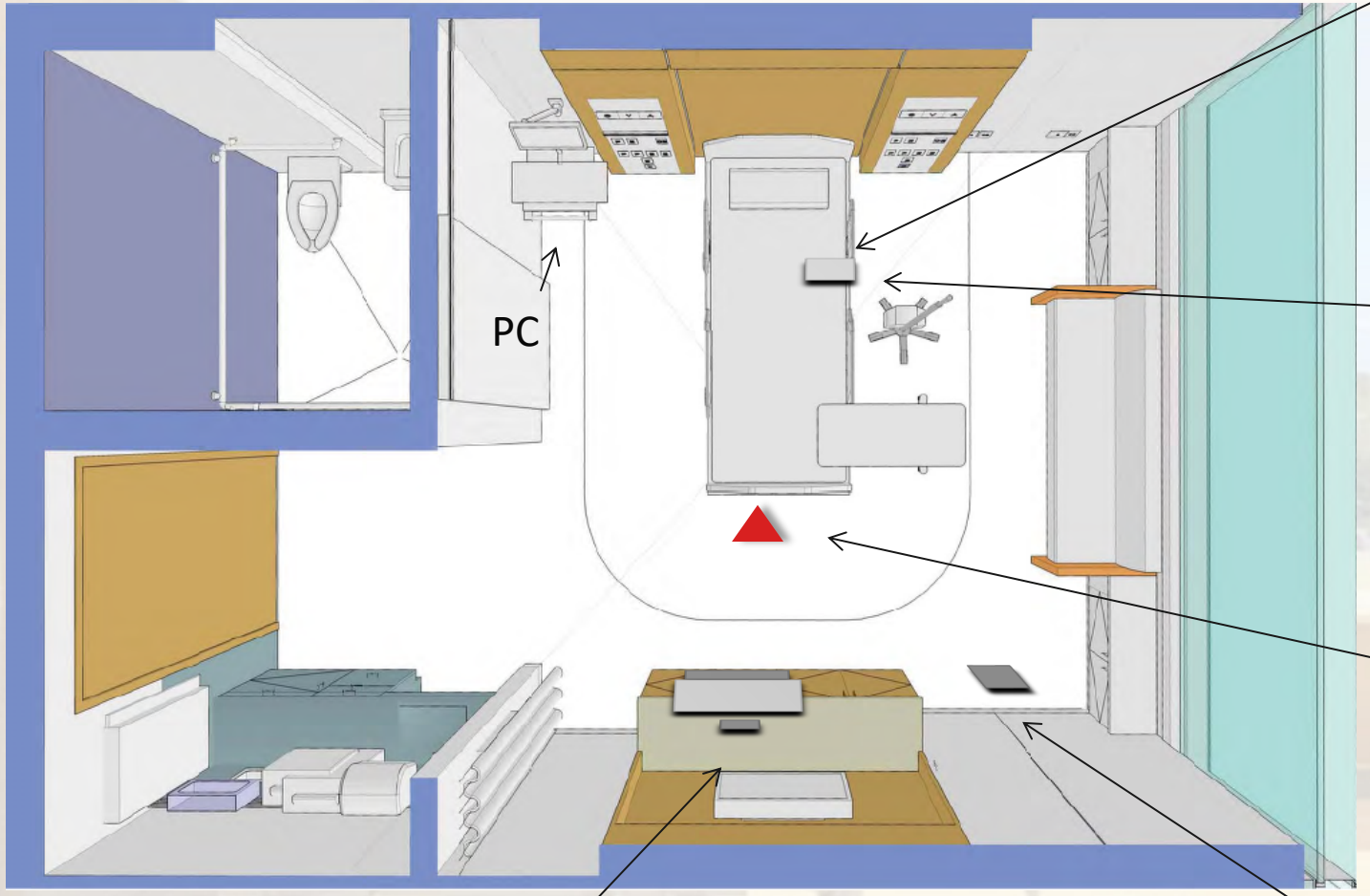
23000+ Devices deployment and Activation

Patient-Centered Technologies

MyHealth Inpatient



Inside a Patient Room



Telemetry monitor

Bedside Tablet
Lighting, Temp, Window Shade controls
Entertainment
Education

Ceiling mounted Real Time Location System sensors

Family console (TV control)

55” Smart TV (streaming, education, wireless screen control/mirroring)

In-room Technology

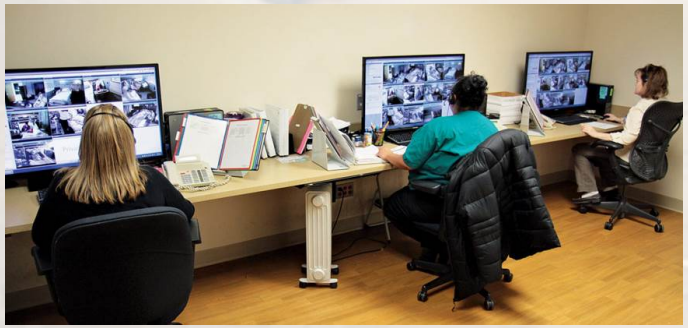
Remote monitoring of neuro patients with embedded and mobile technology

Integration with Telemetry and medication administration

Mobile

Fixed

Monitoring



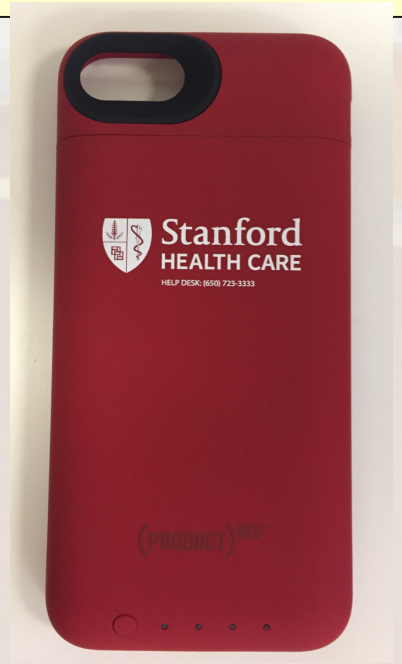
Infusion Pumps

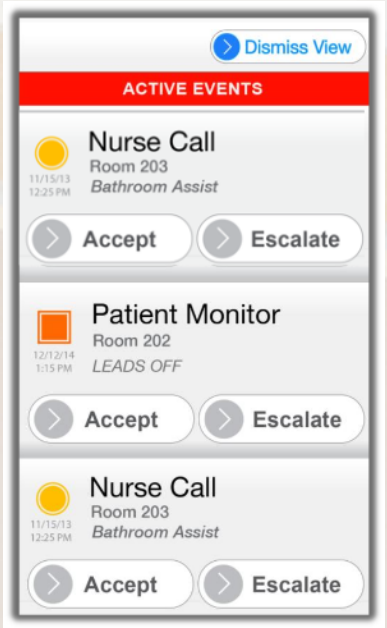
Telemetry

Clinical Communications

Secure Messaging, Voice, and Alarm Management

- Directory
- Availability Status
- Texts & Voice calls
- Alerts & Alarms
- Electronic Health Record Integration





Bar Code Medication Administration

Real-time Location System

Real-Time Location System (RTLS) enables operational efficiencies & optimizes clinical operations

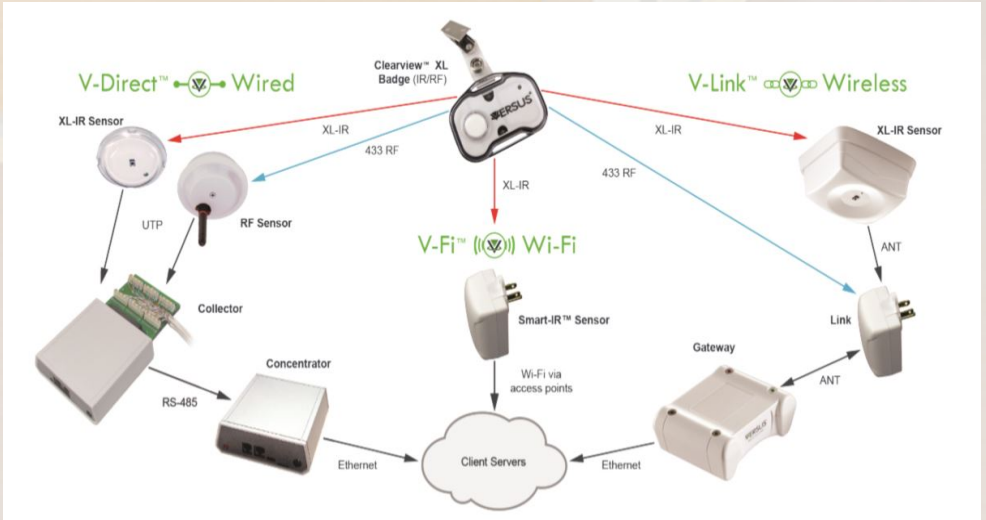
- Nurse Call RTLS Automation
- Staff Assist/Duress
- Staff location
- Medical equipment location & Management

RTLS Badge

RTLS Tag

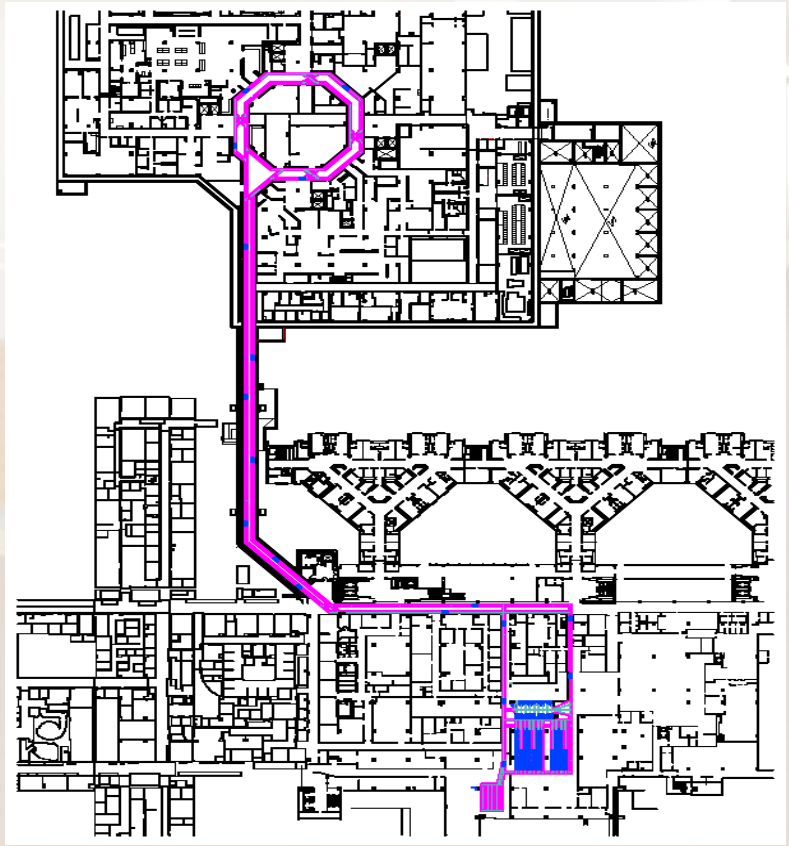
Application

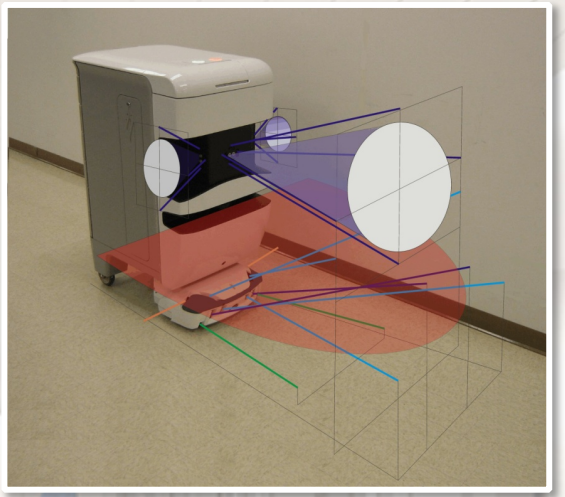
RTLS Sensory Network



Automated Guided Vehicles (AGV)

- AGV (TUG) system for adult and pediatric hospitals (30 TUGs)
- Vehicles move along pre-programmed routes between facilities, and operate elevators through wireless integration
- Automate and schedule movement of materials reducing resource time required to distribute supplies
- TUGs will move EVS (trash/recycling), linens, med gas tanks.



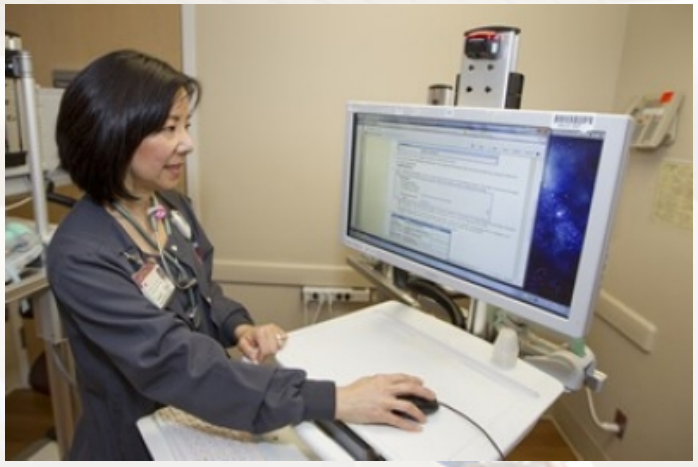


Advanced Interventional Platform Technologies

State-of-the-art imaging in the interventional areas (iMRI)

Pharmacy – Advanced Technology

Electronic Health Record

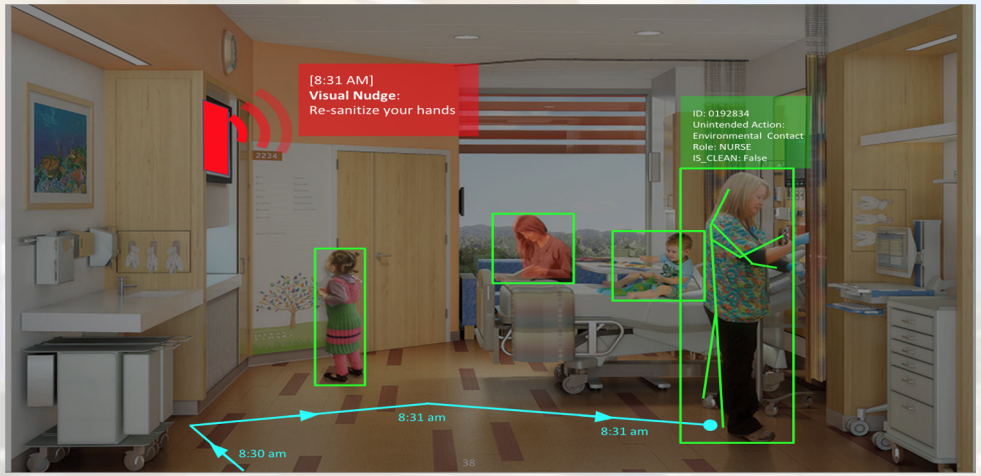


Medication Dispensing

Robotic Prescription Fill

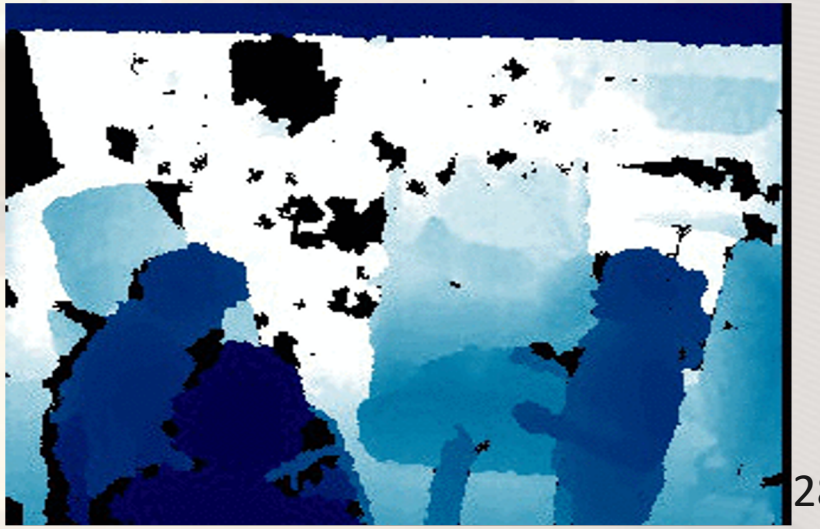
Uniquely Stanford - Innovation

Illustration: > 99%+ accuracy in discerning hand hygiene omissions at room portals



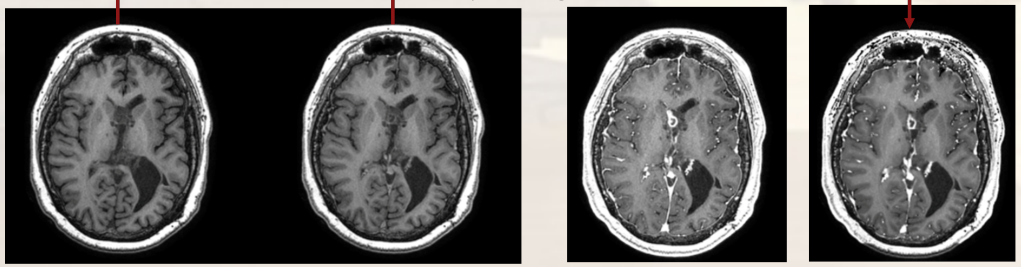
Get patient out of bed

Sit patient in chair



Deep Learning to Reduce Contrast Dose

Deep Learning Model



Pre Contrast | 10% Contrast | 100% Contrast | Synthesized using DL

Gong E, Pauly JM, Wintermark M, Zaharchuk G. *J Magn Reson Imaging*. 2018 Aug;48(2):330-340