5th Infocom – mHealth: In mobile we trust!

mHealth @ Smart Hospitals

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mHealth @ Smart Hospitals

mHealth

«. . . άσκηση της ιατρικής και των υπηρεσιών υγείας μέσω των κινητών συσκευών . . .»

Συσκευές (smartphones, tablets αλλά και RFIDs, ιατρικά μηχανηματα, αισθητήρες κτλ)

Εφαρμογές

Smart Hospital

Υποδομές

Εφαρμογές

Διαδικασίες

Προτεραιότητες των Healthcare CMIOs/CIOs

Non-stop Operations

Wireless as Primary Access 3 to 5+ Devices per staff

Healthcare Transformation: On-Site & Remote (Tele-Medicine)

Innovation in Healthcare

Location services data and analytics

Safety Security

Applications Public/Private Cloud

Simplicity and Scale: Infrastructure / Team

Βασικοί στόχοι: Patient Experience and Care Delivery, Staff Productivity, Operational Effectiveness

Το ταξίδι στο mobility

Device-focused	Application-focused	Experience-focused

Innovation Through location and new connected Experiences

Productivity Through Mobile Applications and Collaboration

Foundation : Mission critical wired & wireless networks with easy, secure on-boarding & policy

Ενοποιημένη πρόσβαση (Unified Access)
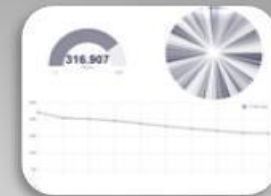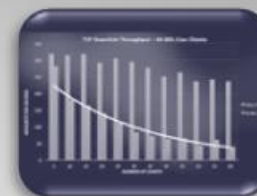
Σημερινές τάσεις στην αγορά

Gigabit Wi-Fi (802.11ac)

- ✓ Industry's only 4X4 MIMO antenna configuration
- ✓ Industry's only AP platform with dedicated CPU per radio
- ✓ Industry's only AP platform with dedicated Memory per radio
- ✓ Industry's only AP platform with dedicated inline RF sensors

High Density (HDX)

- ✓ CleanAir 80 MHz
- ✓ ClientLink 3.0
- ✓ Turbo Performance
- ✓ Optimized Roaming
- • RX-SOP

Policy & Application Visibility (AVC)

- ✓ Policy Classification Engine (PCE)
- ✓ Integrated Application Visibility and Control
- • Identity Services Engine (ISE) – coming in 1.3
  - • Simplified Guest Management
  - • Simplified Device Onboarding
  - • Simplified Active Directory Integration

Location (CMX)

- ✓ Big Data Analytics
- ✓ Tailored Messaging
- ✓ Targeted Onboarding
- ✓ Indoor Directions
- • Low Latency Location
- • Real-time Location Analytics
- • BLE Visibility & Management
- • Application based login

Cisco 802.11ac innovation, modularity

802.11ac Wave 1 & 2 (Future)

Cellular 3G & 4G (Future)

Always On Intrusion Protection

Highly Accurate Location (Future)

High Density Experience, HDX

Turbo Performance
Improves the efficiency of airtime utilization and channel capacity

Optimized Roaming
Intelligently determines the optimum time to roam

Cisco CleanAir® 80Mhz
Mitigates interference and improves channel capacity

Cisco ClientLink 3.0
Improves legacy and 802.11ac Client performance

Noise Reduction*
Enables Dense Access Point Coexistence / implementation

Διαχείριση πολιτικών: Identity Services Engine (ISE)

Policy Management
Increases Operational Efficiency

Onboarding & Remediation
Increases Productivity and Improves User Experience

Device Profiling & Posture
Provides Comprehensive Secure Access

Intelligent Identity
Ensures Consistent Policies

Network Enforcement
Decreases Operational Costs

✓ Who   ✓ What   ✓ Where   ✓ When   ✓ How

Cisco® ISE

Business-Relevant Policies

Wired   Wireless   VPN

Virtual machine client, IP device, guest, employee, and remote user

Context Aware Healthcare: Εντοπισμός θέσης εξοπλισμού

Help Improve Operational Efficiency and ROI by Integrating Contextual Information

TRACKING ASSETS

Increases asset visibility and clinical staff responsiveness by freeing up time from locating medical equipment

SUPPLY CHAIN

- Reduce CapEx or lease equipment expenditure through utilization analysis
- Obtain improved utilization of equipment with statistical based inventory management

EQUIPMENT MANAGEMENT

- Improve preventative and corrective maintenance workflow
- Improve cleaning workflow

CONDITION MONITORING

Reduce costs, help comply with regulations, and improve productivity by automatically monitoring environmental conditions (temperature and humidity)

Επιπλέον υπηρεσίες Location-Based

Unlocking Unprecedented Business Value

INDOOR GPS	TARGETED MESSAGING	LOCATION-SPECIFIC ON-BOARDING	SYSTEM INTEGRATION	ANALYTICS

- **Indoor navigation within hospital to any location including depts, areas of interest, and the patient room**

- **Targeted personalized messaging based on guest location**
- **Location-based push notifications**

- **Location-based onboarding experience (captive portal)**
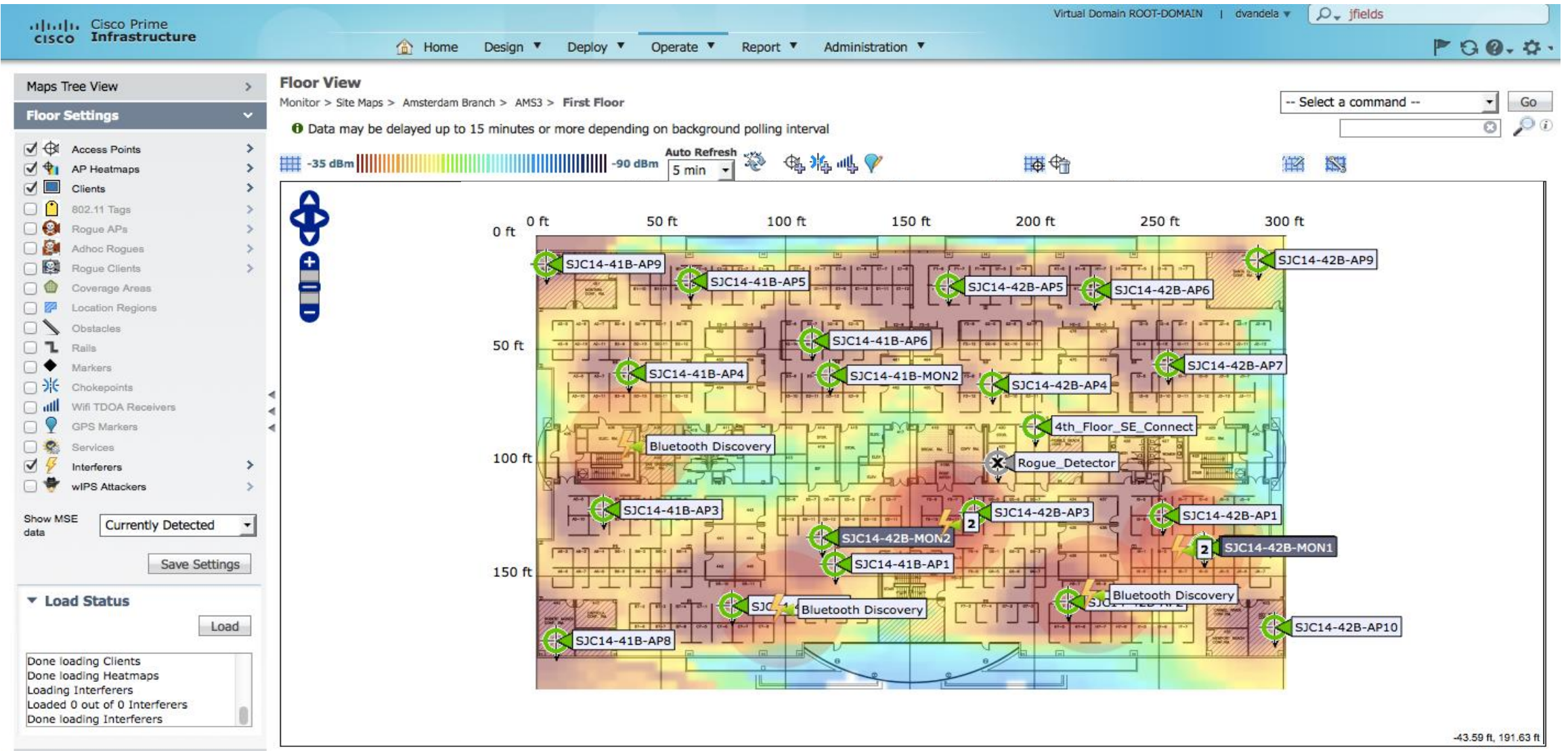- **Automatically connect to the dedicated wireless SSID network**

- **Integration with systems including registration, self-rooming, and other location-based service applications**

- **Use gathered data to gain insight into patient flow trends**
- **Analyze wait and dwell times for care processes to help reduce total journey time**

π.χ. Location background

Διαδραστικές υπηρεσίες ασθενών και επισκεπτών

Υποδοχή/Πληροφορίες
Kiosks and Signage at Entry and Public Areas

Αίθουσες αναμονης
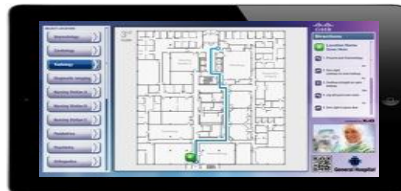**Information, health education, and collaboration**

Δωμάτια νοσηλείας
Entertainment, education, collaboration, and interaction

Internet

Mobile Guides
Personalized information delivered to devices

Patient Portal

π.χ. Υπηρεσίες υποδοχής: Hospital Wayfinding/Κατάλογος

Η χρήση του βίντεο στο νοσοκομείο

Emergency acute assessment – e.g. Neonatal Surgical Referral, A&E Departments

Remote Assessment

Interpreters

Multi Disciplinary Team Meetings

Mental Health Trusts

Education – watching live surgery etc

Out of Hours Clinical Assessment

Dermatology and Neurology

Remote Speech Therapy

Τηλεφωνία σε mobile συσκευές

All-in-one UC Application

- Presence & IM
- Voice, Video, voice messaging
- Desktop sharing, conferencing

Collaborate from Any Workspace

- PC, Mac, tablet, smart phone
- On-premises and Cloud
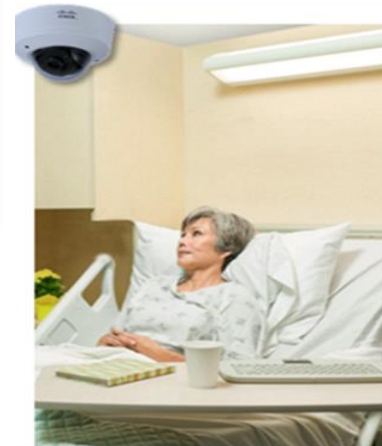- Integration with office apps

Παρακολούθηση ασθενών μέσω video

Solution Overview

- Cisco IP Cameras and Video Surveillance Manager for video feeds from patient rooms

- Two-way communications with healthcare providers and patients

Customer Value

- Lower sitter costs by having a single operator centrally observe multiple patients

- Reduce burden on family members to providing in-room sitting services

- Provide observation services to additional lower-risk patients

Παρακολούθηση, ενημέρωση, εξυπηρέτηση

Cisco IP Camera with Cisco Video Analytics

Cisco Video Surveillance and Voice / Notification

- Centralized Observation
- Timely Notification
- Ease of use and operation
- Lower Costs

"Bed 304 needs assistance"

- Voice call
- IP speaker/intercom
- Text to Cisco IP phone display
- Smart phone call
- Pager
- Digital Signage

Υπηρεσίες τηλειατρικής

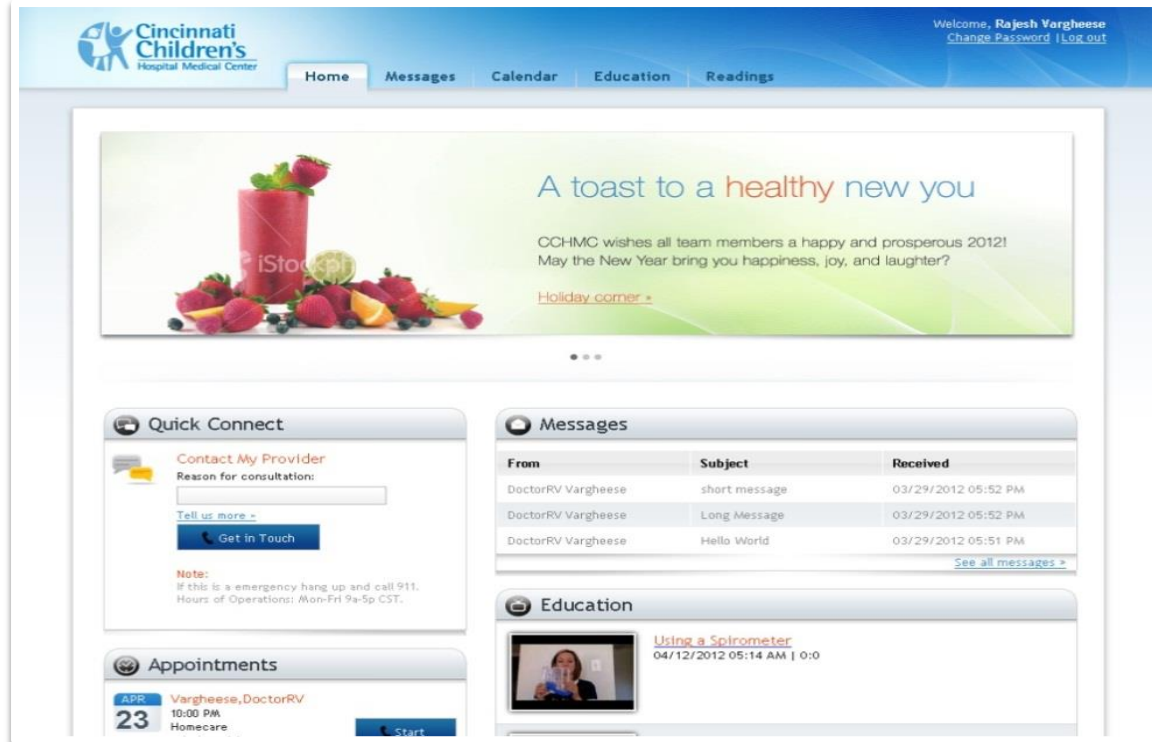## Cisco HealthPresence 2.5 Overview

- Cisco HealthPresence 2.5 provides a software-only platform to provide more cost-effective flexibility tailored to fit customer's needs

- "Bring your own hardware" for endpoints and the server components

- Medical device compatibility based on standards, not make/model

Customer Value

- Virtual access to specialists

- Support for Accountable Care Organizations

- Support many TeleHealth use cases
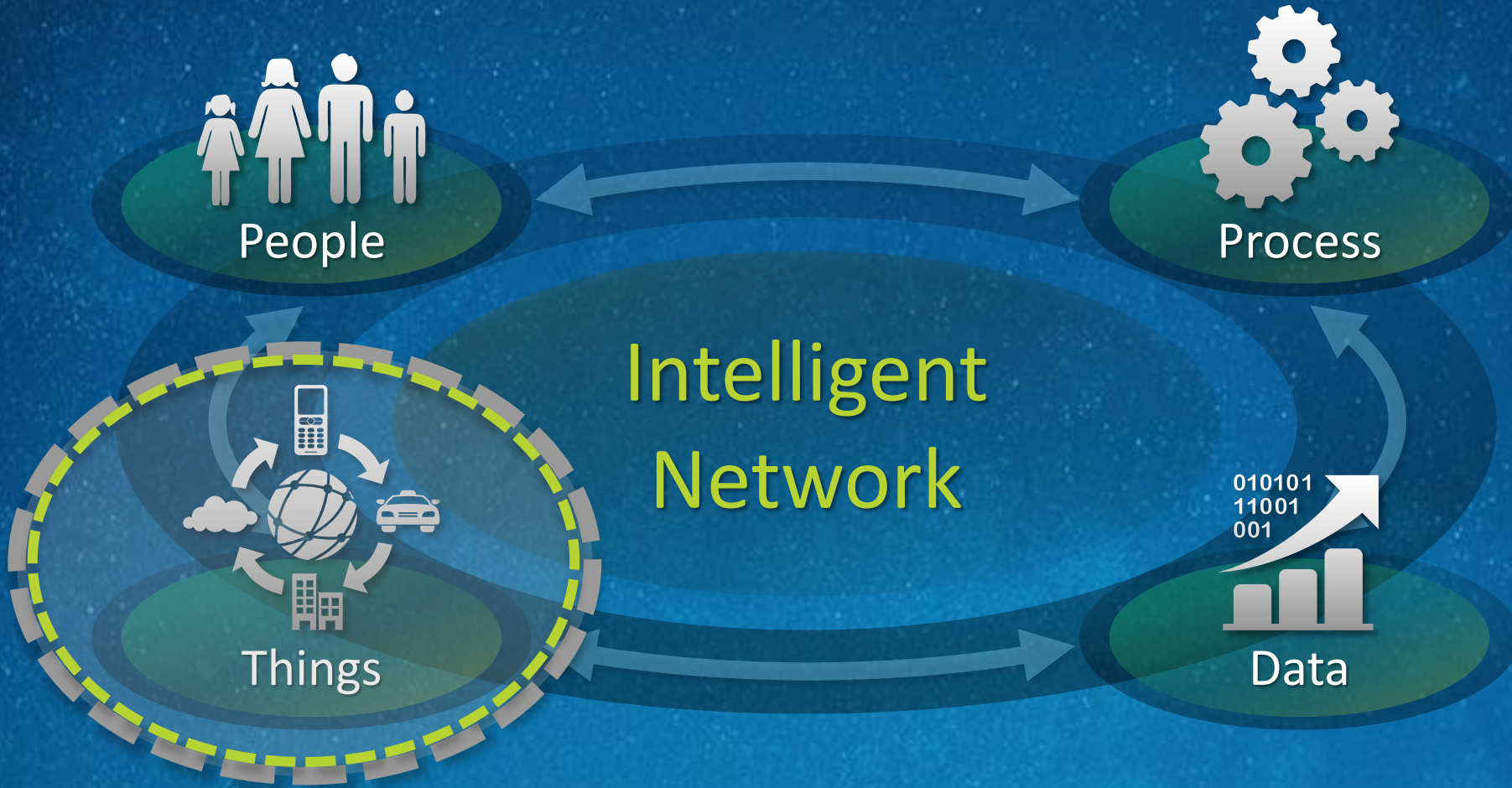
Ιατρικό portal (ερωτήσεις, video, συμβουλές κτλ)

Flexible Web Portal Integration

Consultation using Real time Video

Εξυπνο Νοσοκομείο – mobility παντού

Νοσοκομείο Παπαγεωργίου – Θεσσαλονίκη

1. Ασύρματο Δίκτυο παντού

2. Εντοπισμός θέσης εξοπλισμου (μεσω RFIDs, mobile συσκευών)

3. Bed side terminals

4. Tablets, smartphones

Εξυπνο Νοσοκομείο – mobility παντού

Νοσοκομείο Παπαγεωργίου - Θεσσαλονίκη

Βασικά οφέλη:

1. Αύξηση παραγωγικότητας προσωπικού – Μείωση κατά 10-30% του χρόνου εύρεσης εξοπλισμού και 45% λόγω μη επαναληψιμότητας

2. Βελτίωση της αποδοτικότητας – ένα σύνηθες νοσομοκείο χάνει 15% του εξοπλισμού του κάθε χρόνο και παραγγέλνει 20-30% περισσότερα αναλώσιμα από ότι χρειάζεται

3. Βελτίωση προσφερόμενων υπηρεσιών υγείας και εξυπηρέτησης στους ασθενείς και στους συνοδούς τους

Ευχαριστούμε

CISCO