The Krakow University Hospital

The Krakow University Hospital experience and plans for implementing RFID/RTLS systems

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EuHPN 2014 Workshop, Edinburgh 1-3 October
The University Hospital offers highly specialised health care procedures, both outpatient and inpatient, in a wide range of specialised clinics, departments and consultation units.

**Hospital offers services in:**

- 27 specialised Clinical Departments with 1300 hospital beds;
- 7 diagnostic and treatment units, and
  - nearly 60 specialised clinic.
NHF hospital funding in Krakow in 2013

The Krakow University Hospital - 29%
Hospital 1
Hospital 2
Hospital 3
Hospital 4
Hospital 5
Hospital 6
Hospital 7
Hospital 8
Hospital 9
Hospital 10
Hospital 11
Hospital 12
Hospital 13
Hospital 14
Hospital 15
Hospital 16
Hospital 17
Hospital 18
Hospitals 19 - 30 - 2%

The Krakow University Hospital revenue (2009-2013)
The Krakow University Hospital in numbers:

- Employees: 4 300
- Large buildings: 18
- Main campus area: 19 ha
- Heating network length: 9 km

The scale - main street (red line) 750 m

https://www.google.pl/maps/@50.060759,19.9562543,17z?hl=en
Our buildings
History
(18th century)

Today
(the very same building)
Planning for the new hospital

925 beds
24 operating theatres
a heliport

http://www.almamater.uj.edu.pl/documents/2910359/52fc1dc0-f08d-4925-83db-c7371bd61948

http://investmap.pl/krakow-szpital-universytecki-w-prokocimiu/
The problem

Difficulties in effective assets management –

- 100 000 items in 33 buildings
RFID/RTLS technologies intended to improve the management of assets

RFID - Radio-Frequency Identification
RTLS - Real-Time Locating Systems

RFID/RTLS

The hospital of can be compared to a big supply chain.

Patient, assets, materials are moved from one department to another through the care process.

Some healthcare providers may not like this comparison, but the hospital is one big warehouse.
RFID/RTLS in a hospital

http://www.securecare.com/healthcare-rtls
RFID/RTLS in the Krakow University Hospital

The project proposal and goals of implementation:

Difficulties in effective assets management
- especially with tracking assets location
(100 000 items in 33 buildings)

Actions already taken:

• Selected solution – a WiFi based system
• Technical specification and estimates prepared for the whole hospital
• Started searching for funding
• A pilot implementation in the trauma centre
Expected outcomes:

• optimization of time and precision of identification and localization of assets,
• elimination of human error
• efficient management of the equipment
• less time-consuming inventory checks

• the same Wi-Fi network will provide telecommunications services
The pilot implementation in CUMRiK trauma centre

- 5 floors
- Emergency department
- 3 clinical departments
- 6 operating theatres
- Heliport
- Area: 7 500 m²
The pilot implementation in CUMRiK trauma centre

Software providing wireless paging has been upgraded to a new version including RTLS functionality

Signal propagation measurements carried out in all buildings; a wireless network with RTLS capabilities has been designed.
The pilot implementation in CUMRiK trauma centre

Wi-Fi signal propagation  RTLS system in action
Collaboration
We are seeking partners for joint projects

ICT-24(d): Robotics in areas of public interest including healthcare
ICT-8(a): Boosting public service productivity/services via cloud
ICT-36: Call open to any area of public interest needing ICT based solutions

and to share experience in implementing RFID and RTLS systems
Thank you for your attention!

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