NUCLEUS

3D Unified Management System for Hospitals

On a daily basis, hundreds of people arrive and leave an hospital. Hospitals all have a common goal to protect the safety and well-being of all patients, visitors and resources on their property, so that patients can get their needed medical care. Within a single interface, NUCLEUS allows you to monitor your hospital seamlessly, from CCTVs, building facilities to daily hospital operations. With NUCLEUS, you can unify, manage and interpret information from various systems in response to notifications, alarms and emergencies.

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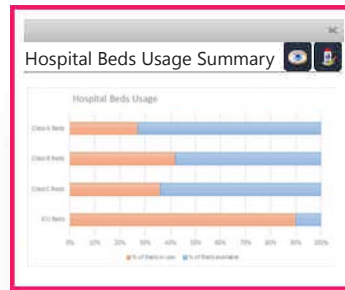
NUCLEUS for Executive Information Management

① Unified management system for comprehensive situation awareness

NUCLEUS unifies real-time data, analytics, videos, events and location information across all management systems (VMS, BMS, and ISMS etc.) in one 3D environment, giving executive management officers a single holistic real-time view of all hospital's operations, allowing fast query on any sub-systems.

It becomes a breeze to ensure all systems and operations (e.g. equipment and building facilities maintenance, patient throughput) run at optimal efficiency as executive management officers can make sense of information from all sub-systems easily, understanding live situation.
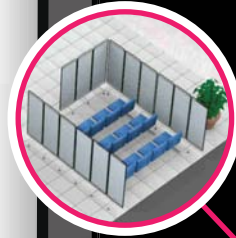
② Facilities usage summary

NUCLEUS consolidates and provides executive management officers a summary of hospital facilities usage (e.g. x-ray machines, operating theatres, hospital beds) for better gauge in facilities/equipment procurement planning.

③ Space usage planning at minimal cost

Hospitals constantly require space planning for expansion of facilities. During emergencies such as contagious disease outbreak, hospitals can perform space planning to quickly designate holding areas to contain infected patients. NUCLEUS enables the executive management to prototype different space usage plans in a cost-effective manner.
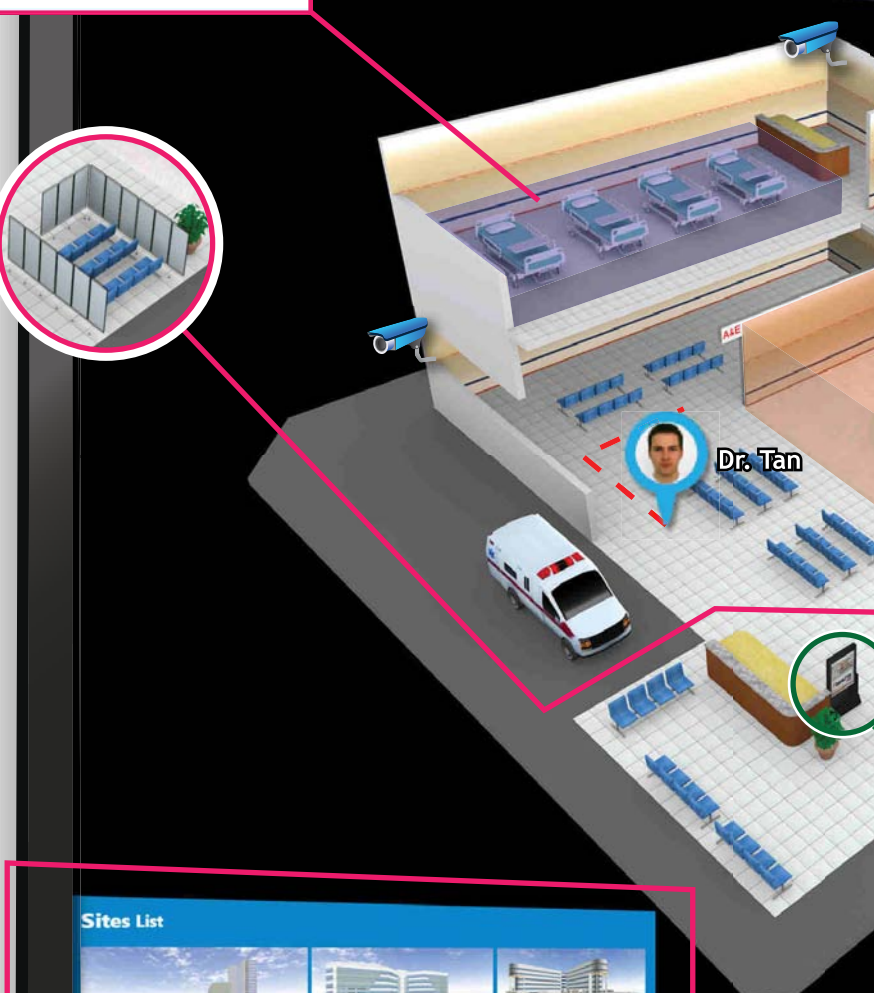
④ Showcase facilities to VIP visitors

NUCLEUS allows executive management officer to bring VIP visitors on a facilities showcase virtual tour around the hospital. Through the tour, visitors also get to learn more about the operations of the hospital, giving them assurance on the quality medical treatment provided.

⑤ Monitor multiple sites from 1 location

NUCLEUS can be operated through the Internet via remote monitoring and access. If a hospital has several locations, the operating personnel can check all systems in all locations simultaneously. In addition, staff on-call can log in from home to see whether an on-site malfunction is serious and has to be repaired immediately.

NUCLEUS for Hospital Operations Management

➏ Unifying systems for efficient management

NUCLEUS's unified management system allows operators to retrieve information across multiple sub-systems through a single platform. Operators no longer need to be trained in multiple systems, giving flexibility when deploying manpower.

Monitoring hospital operations and equipment on a daily basis also becomes easier as operators are immediately notified of critical system (e.g. digital signage) failures for prompt rectification action to reduce systems' downtime.

Operating Theatre
Current Location:
Level 2 OT 2A
Availability:
Operation in progress

➐ Facilities usage scheduling

Operators can see which operating theaters are available in a quick glance through NUCLEUS, and quickly schedule patients in emergency condition for surgery.

X-Ray Machine XR206-A
Current Location:
Level 2 Ward 2W
Availability:
Not in use
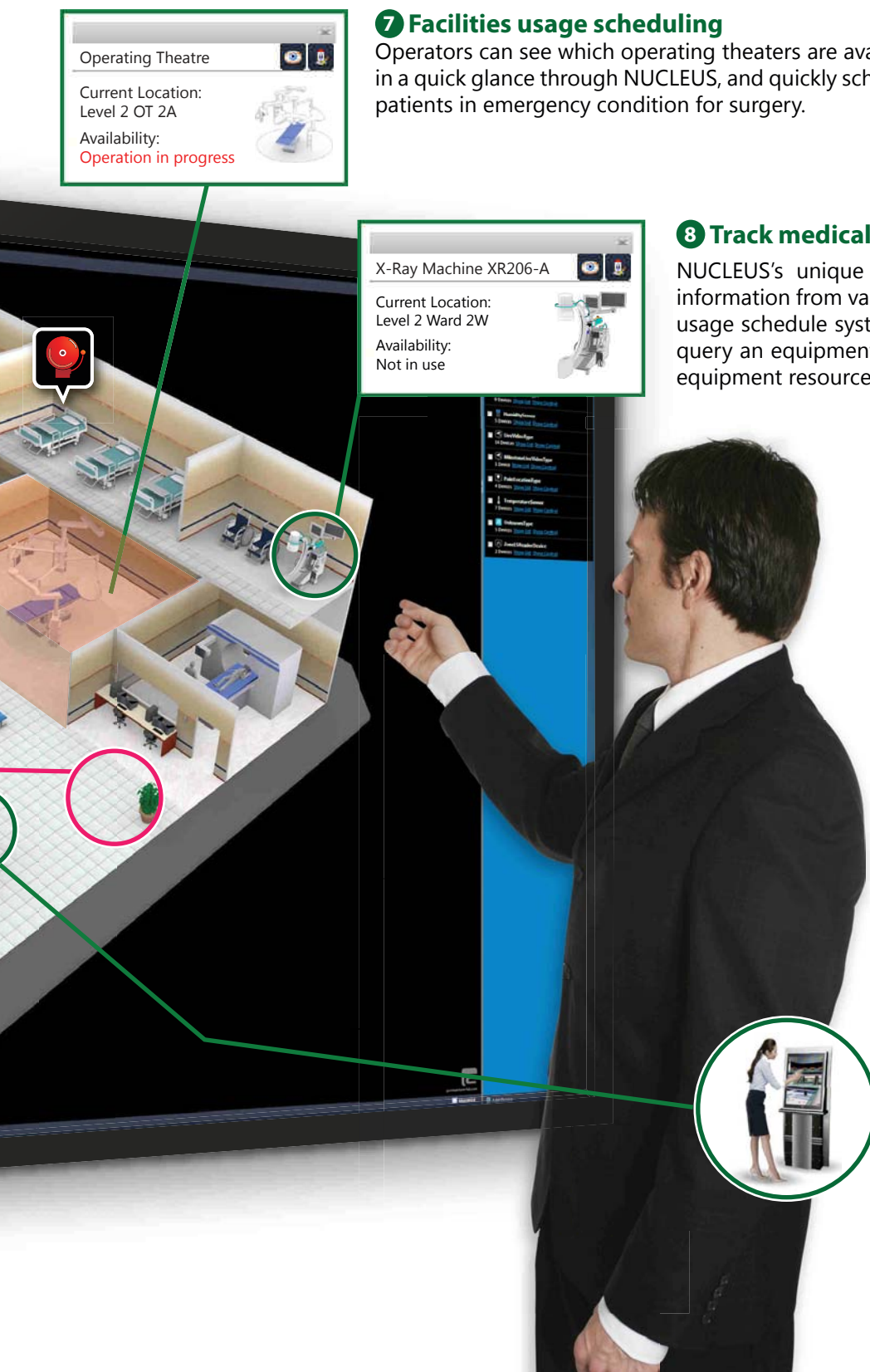
➑ Track medical equipment's location and usage

NUCLEUS's unique 3D location tracking combined with information from various systems (e.g. VMS and equipment usage schedule system) allows medical personnel to easily query an equipment's availability and location, maximizing equipment resource capacity.

➒ Active tracking of medical personnel and patients

NUCLEUS, integrated with location tracking systems, allows the operator to have visual 3D location awareness of staff, equipment or patients. This significantly reduces the time delay in locating any equipment or staff, especially during emergencies, and improves patient safety within the hospital, alerting staff in the event where any patient is observed to be missing from the hospital premises, or not moving for a long period.

➓ Visitor directory

NUCLEUS also offers visitors to your hospital an easy to understand 3D way-finding directory, aiding them in finding required facilities easily.

NUCLEUS

NUCLEUS for Facilities Management

Smart building with green operations

NUCLEUS integrated with building sensors, can transform the hospital building to a green building, saving operational cost while maintaining patients' comfort. Room temperatures of areas determined by occupancy are monitored (i.e. more occupants requires cooler temperature) to achieve steady optimal temperature, saving energy. NUCLEUS with building sensors such as air filtration can properly control and monitor hospital's air quality, preventing spread of infectious diseases.

Facilities' health feedback system

NUCLEUS receives feedback on health of building facilities and equipment, alerting Operators to any facility malfunctions so that prompt rectification actions can be taken to reduce down time.

Room temperature monitoring using NUCLEUS

NUCLEUS for Safety & Security Management

Unified security surveillance management system

NUCLEUS as a unified management system allows information from various sub-systems (e.g. CCTV, video management system, video content analysis) to be overlaid in one single 3D environment so that Operators can easily monitor safety of assets, patients and medical personnel.

Assets security management

Expensive medical equipment are all tracked within the hospital in NUCLEUS, and Operators are immediately notified of any illegal removing of equipment so that rectification actions can be taken.

Manage visitors to wards

NUCLEUS tracks the number of visitors to each high security patient wards (e.g. ICU) in the 3D environment. This allows Operators to monitor and limit the number of visitors allowed in the wards at one glance.

CCTV surveillance using NUCLEUS

Movement histories of patients and visitors are also recorded in NUCLEUS, so that in times of contagious disease outbreak, Operators can easily track down movement history of infected individual and take preventive measures within a short time.

Emergency Preparedness

NUCLEUS can act as a situation planning tool for routine fire drills and in times of actual emergency (e.g. fire outbreak in a ward), NUCLEUS alerts the Chief Fire & Emergency Officer to the fire site.

With NUCLEUS, he can query multiple system all at one time, quickly understand the situation, ascertain the required actions to take (e.g. block off entrance to fire site, plan evacuation routes, stops the ventilation at the fire source and controls both supply and exhaust air for fast containment of the fire as well as for the smoke and heat dissipation) and give clear rescue work briefings.

NUCLEUS alert showing fire site and emergency exits