Solution Overview:

Asset Management

Reduces Capital and Operational Costs, Improves Staff Efficiency, Increases Equipment Utilization

Challenges

Hospital asset management is a constant challenge for materials managers, clinical engineers, nurses, distribution and transport services. Hundreds of hours per year are spent inventorying and searching for equipment, and up to 15% of all high-value equipment may be lost, stolen or misplaced in a given year. Par level management (equipment par levels per nursing unit or hospital area) and equipment sterilization processes can be inefficient due to sub-optimal workflow, equipment hoarding, and a lack of real-time location and status of equipment. In many hospitals, information has been managed across fragmented systems, creating challenges to enterprise-wide reporting. Low equipment utilization rates, often below 40%, result in excess purchasing and high capital expenditures. Unnecessary equipment rentals and late returns of rentals significantly increase operational costs.

Waiting for ordered equipment may delay patient procedures and reduce patient throughput. Safety issues arise from problems locating recalled equipment, and from equipment software not being updated on time. Additionally, regulations (e.g., SOX) require accurate accounting for asset inventory.

Solution

As part of the STANLEY Healthcare industry-leading visibility and analytics platform, the Asset Management solution is a cost-effective way to continuously monitor and proactively manage the location, status and condition of all assets across the enterprise in real time. The solution leverages the hospital’s existing Wi-Fi infrastructure to automate the current manual processes that most hospitals have for managing their capital and rental equipment assets. Combined with powerful visual analytics, hospitals gain access to entirely new levels of operational insights for immediate action, historical views and trend analysis. The automated, wireless solution enables healthcare organizations to increase operational efficiency, enhance staff productivity and improve patient safety—all while avoiding unnecessary costs.

The Asset Management solution enables rapid deployment with a low total cost of ownership and does not require a dedicated network of readers. The solution components include:

Benefits

- Improves asset utilization and purchase management, resulting in reduced capital expenditures and rental costs
- Increases staff efficiency by automating equipment searches
- Improves operational decision making and material management workflow optimization through advanced visual analytics
- Reduces theft and loss through real-time asset tracking and alerting
- Improves quality of care and increases patient throughput due to improved equipment availability
- Reduces total cost of ownership (TCO) by leveraging the hospital’s existing wireless infrastructure
• STANLEY Healthcare MobileView® Visibility and Analytics Platform
• STANLEY Healthcare AeroScout® Wi-Fi Tags
• Location Engine
• Hospital's Wi-Fi Infrastructure

How It Works
Mobile equipment (e.g., infusion pumps, defibrillators, portable X-Ray equipment, beds, wheelchairs) is tagged with Wi-Fi tags. The tags periodically report their location (at customizable intervals) over the Wi-Fi network. STANLEY Healthcare offers mounting accessories and custom mounting solutions to suit a variety of types of equipment. The tag’s battery is replaceable and lasts for several years. A location engine collects the tag signals that are received by all of the Wi-Fi access points that hear a tag when it transmits. This information is used to determine the location of the tagged asset. The tag location data is transmitted to the MobileView® software.

Visual Controls
MobileView is a web-based application that enables staff to monitor and manage the location, status and condition of assets and people. MobileView is the front-end application for asset management which provides a graphical user interface, a rules/event engine to process incoming tag data, reporting tools, integration and interface capabilities for alerting users via third-party information systems or communication devices.

The status (e.g., available, clean, running) and location of the equipment is tracked in MobileView to help managers understand utilization rates. The status can be obtained when a staff member presses the tag call button or according to the asset’s location (e.g., in a soiled or clean utility room). The equipment’s operational status may also be obtained by integrating to the device’s management software—for example, the operational status of an infusion pump to determine whether the pump is in use or not. In addition, MobileView can aggregate status information on assets from other hospital information systems such as bed management or maintenance management systems.

Integrations
By combining RTLS with integrations to CMMS, ORIS, Infusion Management solutions and communication devices—and sharing information bi-directionally—hospitals can achieve complete visibility into equipment distribution, utilization and allocation. Integrations also aid in managing and tracking maintenance and recalls.

**HOW IT WORKS: Medical Device Integration**
When medical devices are fully integrated with MobileView, the platform displays more than just an asset’s location. In the case of infusion pumps, it also updates the device’s status (e.g., available, in use, not in use). In the map view, icons easily identify the status of an asset or group of assets and the location is updated automatically on the pump management server. This allows a user to quickly locate the nearest, available pump or identify a storage room with several soiled pumps ready for transport to SPD—improving workflow, device utilization and staff efficiency.

### Real Results
- Avoided more than $300,000 in annual new pump purchases
- Located 99.9% of recalled pumps in less than 24 hours
- Reduced equipment search times to less than 2 minutes
- Achieved 100% PM rate of level one criticality equipment

### Wireless, battery-powered RTLS tags are available in a variety of form factors and functions

Map View provides location-based context for asset availability and current state

Single, filterable list of all assets (e.g., show me all available infusion pumps)
Combining status and location information enables a hospital to document every stage of the pump lifecycle—including contextual awareness of location. With visibility to every step of this process, in real-time, a hospital can use this data to identify, diagnose and address material management process problems.

**HOW IT WORKS: CMMS Integration**

With MobileView integration, current asset location is automatically updated in the CMMS. In fact, users can launch a popup map display from within the CMMS system. Directly from the CMMS, users can also commission tags to assets and route alerts from MobileView (e.g., “device requires repair”). Integrating these systems keeps pertinent information consistent, eliminates duplicate work and improves accuracy of inventory information in MobileView and the CMMS.

With location tracking information consistently updated in MobileView and transferred to CMMS, time-stamped location data is visible in asset and work order records. For example, if preventive maintenance is scheduled on a ventilator, the technician responsible for the work order would need to locate the equipment. Because ventilators are highly mobile, the manual process of locating the ventilator is time consuming. With this integration, the technician can quickly locate the ventilator in MobileView. Finding devices—whether to perform preventive maintenance or address a recall—improves both efficiency and safety.

**Analytics**

Transforming complex data into easy-to-understand visual information, the Asset Management solution provides powerful visual analytics to drive better operational decision making, identify areas for process improvement and apply predictive analytics to anticipate future asset needs.

MobileView Analytics provides visibility to inventory quantity and location, PAR levels and equipment process cycle status:

- Explore asset utilization, seeing real-time distribution enterprise-wide to understand the effectiveness of current asset allocation and enable more intelligent decisions moving forward
- Investigate PAR levels, understanding how well current PAR level practices are performing, identify areas for improvement and enable materials management to manage by exception and provide clinicians with seamless, behind-the-scenes provisioning
- Analyze cyclical asset flow in context, know where inventory is in the equipment process at all times (e.g. in use, soiled, cleaned, SPD, in transit or clean utility)

MobileView Analytics helps in pinpointing process bottlenecks, understanding staff behavior and identifying potential risks. Better business intelligence can drive a range of outcomes—including improved patient and staff satisfaction by reducing waits for pumps, efficient throughput in equipment pool by streamlining the handling and cleaning process, better visibility for the clinical engineering staff and improved utilization of the fleet.
Additionally, the Asset Management solution provides a standard reporting tool for inventory management, operational and compliance needs. On-demand and scheduled reports include asset management (battery level, inventory summary, out of sight assets), asset utilization (by status or location), PAR level (summary and history), asset/event history, and system reports (usage history and user access). Reports feature graphical and tabular views which can be printed or exported to Microsoft Excel, PDF or HTML formats, including electronic signature capabilities.

PAR Level Management
PAR Level Management improves materials allocation, distribution and purchasing, by automating a count of how many pieces of equipment are in each zone, floor or utility room to effectively and efficiently meet the equipment requirements associated with each department. Hospital users can set up automated alerts to inform staff when there is a shortage or surplus of equipment in an area. This enables materials management to more accurately understand the current and future equipment needs of hospital staff. Patient transport can benefit from PAR level management of wheelchairs and gurneys to improve patient flow and ensure equipment availability.

Order Fulfillment
When equipment is requested by nursing and clinical staff, distribution services staff can run on-demand searches and are able to locate the nearest available asset. This enables them to rapidly fulfill orders and reduce wait times.

Inventory Management
Inventory management can be facilitated by accessing a variety of reports in MobileView. Inventory reports enable staff to perform real-time inventory counts throughout the entire hospital facility. Utilization reports are an effective tool to help managers assess capital equipment purchasing requirements and allocation among hospital departments. In addition, staff can be alerted, in real-time, when equipment is leaving a certain area to prevent shrinkage and loss.

Rental Management
Tracking rental equipment throughout the hospital ensures that equipment is returned on time. Moreover, utilization analysis enables optimization of the balance between capital and rental equipment.