Inaccurate Utilization Data Leads to Misallocated Resources and Overbuying

Hospitals are constantly seeking ways to reduce costs and increase efficiency in their delivery of care, while also addressing the ever-changing needs of their patient population. Medical device inventories are one financial lever often overlooked.

Two out of five pieces of medical devices are underutilized, according to study utilization statistics. Underutilized equipment is influenced by its availability, failure rates, availability of trained staff to operate the equipment, and maintenance, including repairs.

Underutilized medical devices are on average sitting idle 50-60% of the time. CT scanners, for example, may be used 60% of the time, while 40% of the time they are unused, resulting in lost revenue.

The average hospital purchases or rents 20% to 30% more medical devices than they need, to cover the devices that's hidden. Additionally, hospitals write off hundreds of assets each year simply because they cannot find them.

Misallocated Device Inventories

Nurses often spend over 21 minutes per shift solely searching for necessary mobile medical devices and frequently lack confidence that they will receive them when required. Unauthorized retention of medical equipment by staff is widespread and commonly causes interdepartmental friction while wasting valuable time.

It also undermines a hospital's capability to locate devices for preventative maintenance and recalls, potentially generating patient safety, compliance, and legal risks. HTM technicians routinely expend disproportionate effort exploring a hospital's obscure areas to find essential devices.

RTLS is Not Enough

Many hospitals have implemented Real Time Location Systems (RTLS) by adding battery-powered chips to mobile medical devices to enable real-time location tracking similar to the Find My iPhone feature. Additionally, for high-volume fleet devices like intravenous (IV) pumps, many facilities utilize choke point location tracking to generate alerts when a device enters or exits an inventory room. While both methods can assist with equipment *locationing*, they lack insights into actual device utilization, optimal resource allocation, and the data necessary for capital planning initiatives. Usage-based data, when analyzed comprehensively, provides valuable intelligence that can support operational and strategic decision-making regarding clinical workflows and asset management, including management of cyber risks.

Accurate Usage-Based IoMT Device Information Benefits

Drive Additional Revenue

Improve the Patient Experience

Enhance Preventative Maintenance

Optimize Device Utilization

Right Size Device Inventories

Reduce Capital Expenditures

Asimily's Device Utilization Data Improves Hospital Revenue and the Patient Experience

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The Asimily IoT Risk Management platform provides granular insight into device location and utilization metrics, empowering hospitals to strategically plan operations. Through enhanced visibility, healthcare organizations can optimize quality of care and nimbly respond to shifting demand profiles.

Asimily's solution delivers real-time transparency into device utilization. Armed with these actionable analytics, facilities can maximize value from existing medical equipment investments while decreasing capital outlays. By pairing utilization tracking with predictive maintenance scheduling, our customers reduce operational costs and minimize disruptions to patient care services.

Utilization and idle time
Heatmaps show at a glance when additional patients could be scheduled or maintenance could be carried out based on past utilization records.

### Contextualization
Device context and comparisons between devices can be used to determine which locations allow for the most efficient utilization.

Effective utilization
The device utilization heatmap shows the average utilization over a 24-hour period with a customizable utilization time window based on facility, location device type and even per individual device.
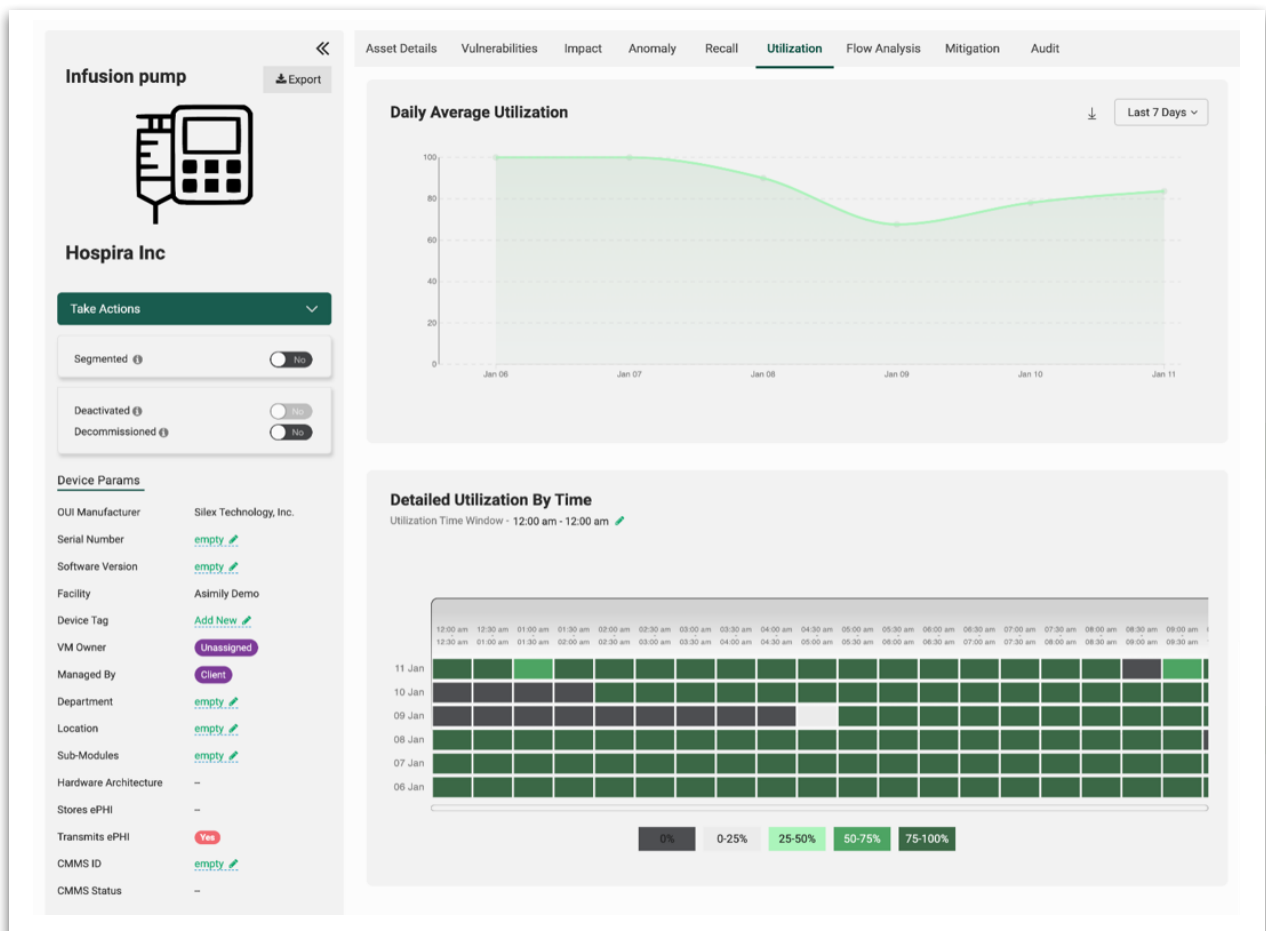
Track Utilization of High-Capital Equipment

Medical imaging devices like MRI, CT, and X-ray machines represent significant capital investments for healthcare organizations. Proper utilization is crucial to maximize return on investment. Asimily's real-time device network monitoring solution helps facilities better understand equipment usage to improve operational efficiency.

- Identify underutilized devices to increase utilization by 25% or more through optimized scheduling
- Track study and image counts to inform maintenance/replacement planning, potentially extending equipment lifespan
- Reduce re-setup times using metrics on examined body parts
- Compare utilization across facilities to pinpoint and remedy inefficient use of under-leveraged devices
- Understand usage patterns and ordering physician habits to refine hours of operation and scheduling
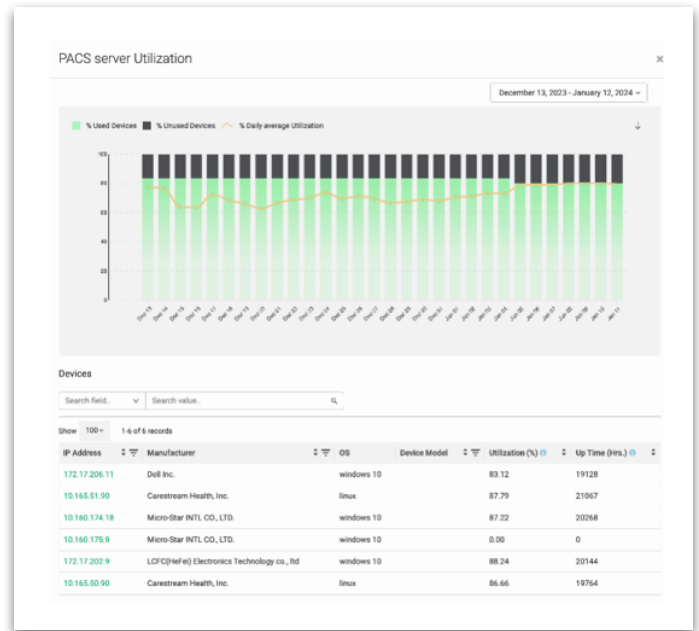
Track Utilization of Fleet Equipment

High-volume medical fleet devices including infusion pumps, patient monitoring systems, and ECG machines each present unique characteristics and challenges. Consistent high usage patterns help inform decisions around purchasing or renting fleet equipment.

- Compare across facilities and decide how well they can be distributed
- Identify fleet devices that are offline and put them back in service
- Reduce detective work for nurses and technicians, potentially saving 20 minutes per shift per employee

Justify AEM with Utilization Data

Leveraging equipment utilization data can support an Alternative Equipment Maintenance (AEM) program. Analyzing utilization statistics using Asimily's tools may validate adjusting from an original equipment manufacturer's prescribed maintenance activities and schedules. Data-driven insights into actual machine usage could facilitate more optimized servicing aligned with operational realities rather than generic recommendations. Resources may be focused on needs demonstrated by empirical metrics for maximized uptime at lower cost.

Inform Capital Planning and Procurement

By monitoring usage throughout the day or through a specific time period, HTM personnel can see when devices have low utilization, enabling hospitals to perform maintenance when least disruptive. This ensures an evidence-based approach to developing a maintenance strategy where there is minimal disruption to patient care delivery.

Asimily Can Help

Securing the Internet of Things is far more complex than securing traditional IT equipment. Poor security practices at IoT device manufacturers paired with minimal visibility by IT and security teams make connected equipment a major security risk. The distributed and broadly installed nature of these devices means that a risk-based approach is required. This can be done, and thankfully Asimily can help companies implement and manage a risk-focused method of securing IoT devices for a more secure future.

Asimily's IoT Risk Management Platform

- Creates a complete IoT inventory, collecting 100+ attributes for each device;
- Identifies and prioritizes the riskiest vulnerabilities;
- Recommends simple, validated mitigation actions;
- Conducts a full flow analysis for each device, recording all communication patterns across the network;
- Calculates risk for every connected device based on device attributes, dataflows, vulnerabilities, anomalies, configuration, and overall criticality of the device on operations;
- Generates ACLs for targeted segmentation for use by a NAC;
- Flags anomalous device behavior based on profiling data from millions of IoT devices;
- Makes it easy to set policies to monitor accepted risks and identify suspicious activity proactively;
- Automates packet capture for forensic analysis of any IoT device to support root cause analysis;
- Documents when the device is being used so users can understand utilization and operational efficiency;
- Allows device configuration snapshots to be taken, to thwart ransomware and simply recovery; and
- Risk simulator helps determine the benefit of work before it is performed, increasing team efficiency.

Asimily can help enterprise organizations drastically reduce cyber risk while minimizing resource and time costs.

To see how Asimily can help your organization, **arrange a demo today.**

About Asimily

Asimily is an industry-leading risk management platform that secures IoT devices for medical, diagnostic, life sciences, pharmaceutical, and enterprise companies.

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