DARVIS

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

MD Anderson Cancer Center
Case Study

The Challenge

MD Anderson Cancer Center's materials management team faced a critical challenge: optimizing inventory management across its 100+ PAR locations to ensure life-saving supplies were consistently available.

The Solution

The cancer research hospital partnered with DARVIS to implement its Digital Shelves® solution. This AI-powered computer vision software provided a new level of real-time visibility into supply consumption.

The Results

By implementing the DARVIS solution, the cancer research hospital quickly achieved a significant return on investment (ROI) and fundamental improvements to its materials management operations.

Yes, we were able to decrease stockouts as automation helped us catch 30% more orders than our manual approach while reducing headcount and increasing inventory turns from 6.5 to 12.

– Executive Director
Materials Management Systems & Support
MD Anderson Cancer Center

MD Anderson Cancer Center achieves 10-month ROI, cuts inventory 50% with AI-powered automation

The challenge: Optimizing inventory and eliminating stock-outs

As a world-renowned cancer hospital, its mission to eliminate cancer is supported by a highly efficient supply chain. However, the materials management team faced a critical challenge: optimizing inventory management across its 100+ PAR locations to ensure life-saving supplies were consistently available. This case study details how the implementation of DARVIS Digital Shelves delivered a highly efficient solution, directly contributing to the hospital's world-renowned patient care and research goals.

The materials management team faced significant operational challenges:

- Reduced service level: The change in restocking operations from a 24/7 to a 24/5 model increased the risk of stock-outs in crucial areas without a corresponding increase in inventory.
- Excess inventory and low turns: With inventory turns at only 6.5 times per year, MD Anderson had an average of 56 days of on-hand inventory, tying up valuable working capital.

- Labor-intensive processes: A team of 25 PAR technicians was required to perform manual inventory counts and restock rooms, a process prone to human error and inefficiency.
- Persistent manual processes: Despite implementing a new inventory management system system, manual barcode scanning was still required, creating data silos and reducing accuracy.

The solution: AI-powered automated inventory management with DARVIS Digital Shelves

To overcome these challenges, the cancer research hospital partnered with DARVIS to implement its Digital Shelves solution. This AI-powered computer vision software provided a new level of real-time visibility into supply consumption.

The DARVIS solution included:

- Autonomous scanning: Pan-tilt-zoom cameras with AI software were installed in 100+ PAR locations. The system automatically scanned barcodes and QR codes 24/7 to track fill levels by SKU.
- Automated requisitioning: DARVIS transmitted item-level inventory readings directly into Tecsys, automating the counting process and triggering faster, rule-based replenishment through requisitions in PeopleSoft.
- Real-time visibility: The system provided real-time, 24/7 visibility into SKU levels in each room, allowing for more precise and timely restocking and requisitioning.

The results: A measurable impact on inventory and labor costs

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Key results included:

- Rapid ROI: The organization realized a full payback in just 10 months, a 19% return on investment, including all hardware, installation, and software costs.
- Operational savings:
  - 7% process accuracy improvement: Automation and AI eliminated manual errors, leading to a 7% increase in process accuracy.
  - 33% manual labor reduction: The new process removed manual steps, allowing for a 33% reduction in manual labor. 50% of the positions that were eliminated through automation were reassigned to other areas including inventory cycle counting.
  - 50% CAP baseline reduction: By optimizing inventory levels, the cancer research hospital was able to cut its baseline inventory on the balance sheet, by 50%. This increased inventory turns from 6.5 to 12 and ensures the right supplies are always available for patient care.
- Inventory optimization:
  - 50% reduction in expired product: Reduced inventory levels and increased turnover resulted in decreased expired product by 50%.
  - 50% inventory reduction: Enhanced forecasting capabilities, driven by real-time data, contributed to a 50% reduction in overall inventory.
- Performance metrics and visibility: The system provided real-time reporting, eliminating the need for manual PAR rounds and giving management accurate, up-to-the-minute data.

MD Anderson Cancer Center has collaborated with DARVIS to enhance healthcare supply chain operations using AI-driven computer vision, aiming to create a more efficient hospital ecosystem. This strategic partnership integrates AI and computer vision technology to improve logistics, operational efficiency, and potentially patient care through automated inventory monitoring and data-driven decisions. For more details, visit DARVIS.

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