ARBOR
From Edge to Action

Smart Pharmacy Solution

Problem

Medication dispensing in hospital pharmacies and nursing stations is often error-prone and inefficient. Pharmacists rely on memory to locate drugs, nurses risk miss-picking, and manual recordkeeping compromises safety and inventory accuracy. These issues affect patient safety, slow down hospital workflows, and increase the administrative burden.

Challenges

Medication Errors
Relying on a pharmacist's memory to locate drugs and a nurse's manual picking introduces a high risk of dispensing and administration errors, which can directly harm patients.

Workflow Inefficiencies
The time spent manually searching for medications and updating paper records creates significant delays, slowing down hospital workflows and increasing the administrative burden on staff.
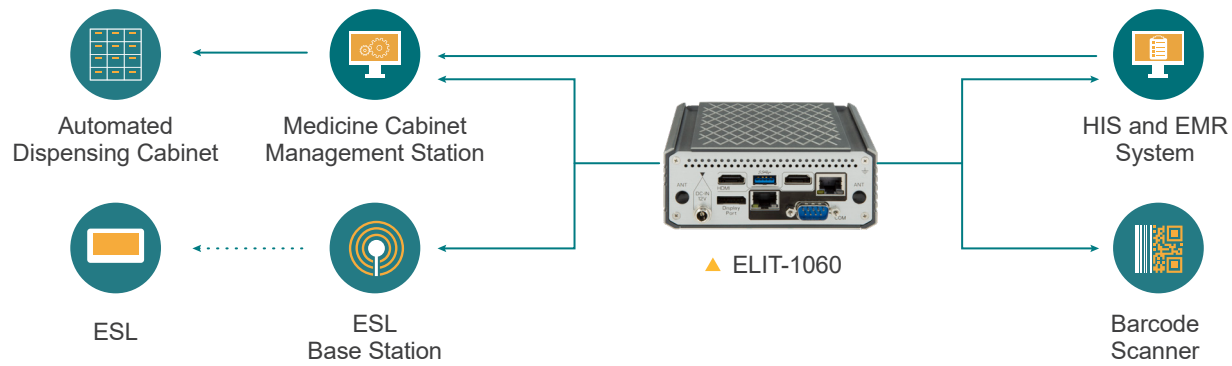
Inventory Inaccuracy
Manual recordkeeping leads to inaccurate inventory counts, resulting in medication stockouts and unnecessary overstocking, which impacts patient care and increases costs.

Solution

ARBOR's Smart Pharmacy Solution integrates the ELIT-1060 industrial-grade computing platform with wireless e-paper tags, Light-guided picking, and computer vision recognition to create a fully automated medication management system. The ELIT-1060 serves as the central controller, managing peripheral devices via serial, USB, and Ethernet interfaces while supporting real-time data processing and secure connectivity to hospital information systems (HIS) and electronic medical records (EMR).

Drug storage locations are dynamically mapped and illuminated to enable precise picking. Computer vision verifies each item against prescription data to minimize dispensing errors. Inventory status is continuously synchronized across distributed cabinets, including refrigerated and controlled units, via wireless and wired networks. This robust architecture ensures scalability, availability, and integration with existing healthcare IT infrastructures.

▲ ELIT-1060

Automated Dispensing Cabinet — Medicine Cabinet Management Station — ESL — ESL Base Station — HIS and EMR System — Barcode Scanner

Key Advantages

Improved Pharmacist Accuracy: LED-guided picking and computer vision recognition minimize human error in drug selection, ensuring every dose matches prescription data.

Real-Time Inventory Updates: Continuous synchronization across pharmacy and nursing stations—via wired and wireless networks—keeps stock levels accurate, even in refrigerated or controlled storage environments.

Automated Prescription Verification: Integrated validation algorithms cross-check medication against EMR in real time, reducing risks of mismatched or incorrect dispensing.

Seamless IT Integration: Powered by ARBOR's ELIT-1060 industrial-grade computing, the system interfaces with HIS, EMR, and existing hospital IT infrastructures, enabling scalable and secure deployment.

Contact our team of experts today to learn how the ELIT-1060 can revolutionize your Smart Pharmacy project.

Benefits

▶ **Faster Training & Onboarding:** Intuitive light indicators and e-paper tag guidance simplify cabinet operation, allowing new staff to quickly adapt without extensive training.

▶ **Zero-Error Medication Safety Net:** Unified storage, dispensing, and verification workflows reduce administrative burden and provide a robust safeguard for patient safety.