

Healthcare Solutions



On the Move in Healthcare

Automated Drug Management Systems



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A vertical banner on the left side of the slide. It features a dark blue vertical bar on the far left. To its right, the text 'Healthcare Solutions' is written vertically in a large, bold, blue font. The background of the banner is a collage of three images: a female doctor in a white coat with a stethoscope, a male doctor in a white coat, and a person wearing a surgical mask and cap.

Healthcare Solutions

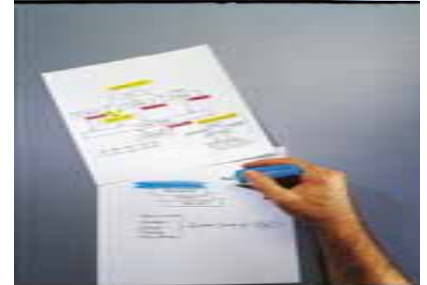
- ▶ Swisslog Overview
- ▶ Product Overview
- ▶ Pharmacy Operational Models
- ▶ Benefits

Agenda

Healthcare Solutions

- ▶ Turnkey supplier of healthcare solutions
- ▶ Manufacturer of unit load handling systems
- ▶ Founded in 1915
- ▶ 430 employees in North America
- ▶ Extensive Field Technician Base
- ▶ Over 2,500 systems installed

Swisslog Healthcare

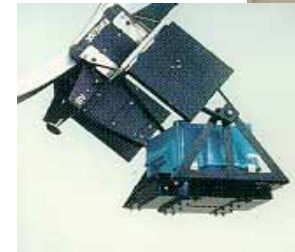


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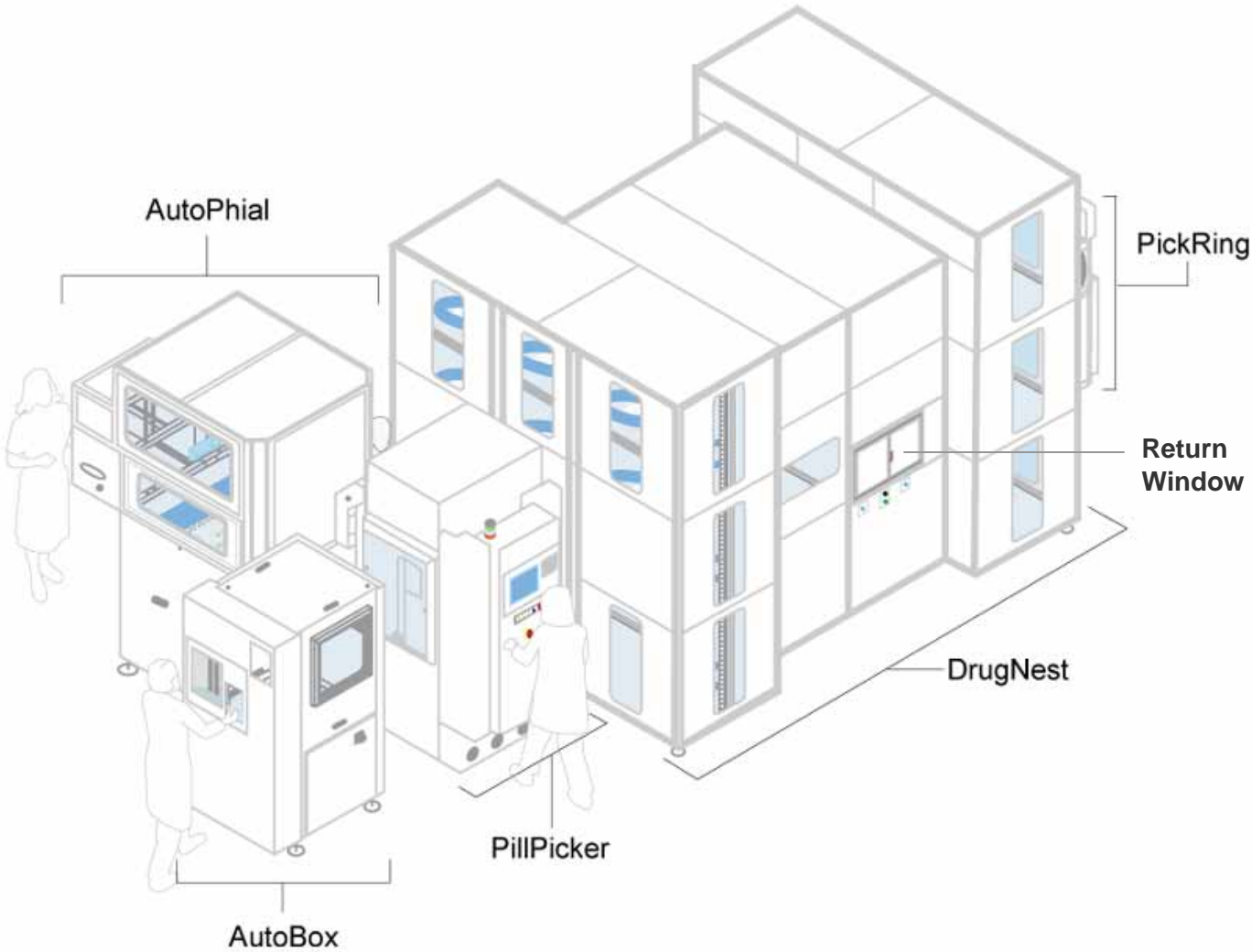
Healthcare Solutions

Swisslog Healthcare Products

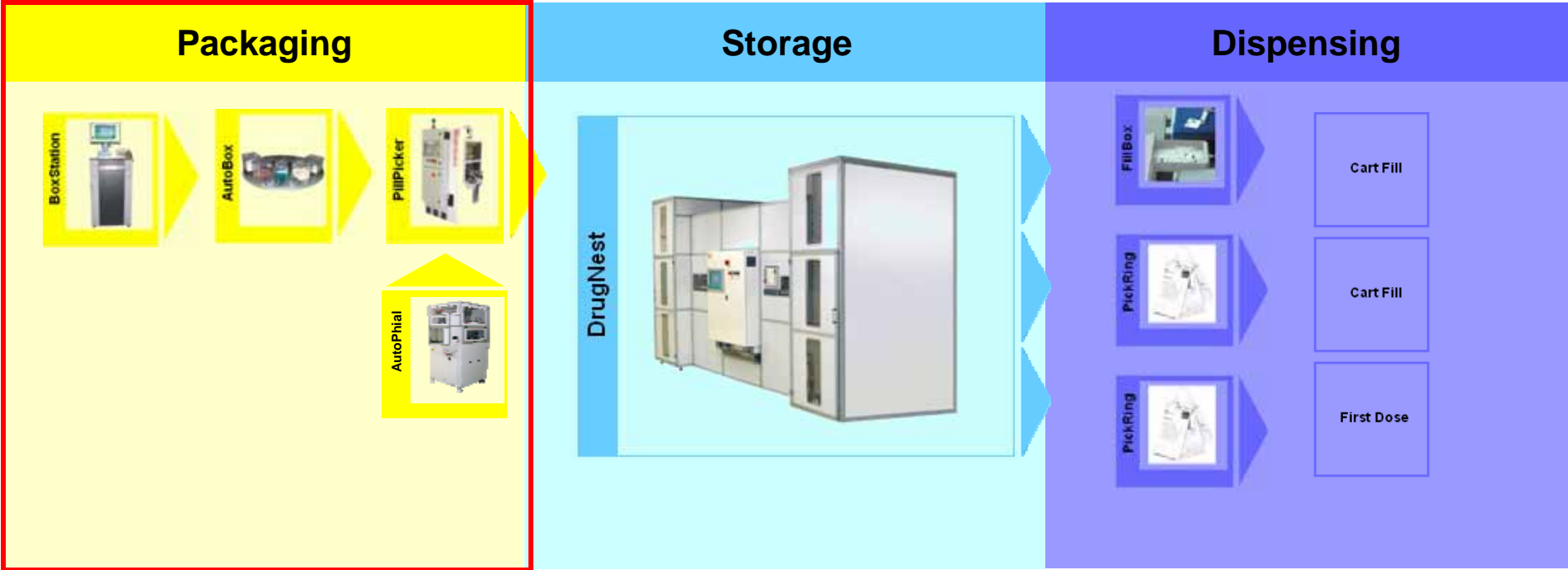
- ▶ Automated Drug Management Systems
 - PillPick System
 - PharmaStock Manager
 - BoxPicker
- ▶ Automated Guided Vehicle Systems
- ▶ Selective Vertical Conveyors
- ▶ Track Vehicle Systems
- ▶ Pneumatic Tube Systems



PillPick System Overview



PillPick System Overview



Right Patient, Right Drug, Right Dose, Right Route, Right Time

Package

Store

Dispense

Step 3

Packaging Unit Dose Solids



Oral Solids
PillBox



Packaging
PillPicker

- ▶ **Creates the unit dose package**
- ▶ Removes individual oral solid from PillBox
- ▶ Inserts pill into package and seals
- ▶ Prints bar code, including medication information, expiration date, *and unique serial number*

Package

Store

Dispense

Package

Store

Dispense

Step 1A

Packaging—Automatic Loader



Oral Solids
PillBox



Autoload
AutoBox



Packaging
PillPicker

- ▶ **Automatic loading of multiple PillBoxes**
- ▶ Operator loads up to 12 boxes and resumes other activities

Package

Store

Dispense

Step 1B

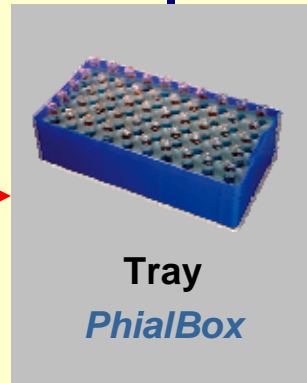


Injectables, Cups,
Blisters, and Syringes

Package



Overwrap
AutoPhial



Tray
PhialBox

Package

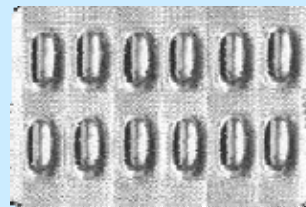
Store

Dispense

Step 2B

Packaging—Overwrap

- ▶ **Overwraps bulky and odd shaped items**
- ▶ Transfers items into packager
- ▶ Removes blister sheets from trays, cuts into individual doses, and deposits into bags



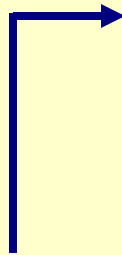
Store

Dispense

PillPick: Automating Pharmacy Processes
AutoPhial to PillPicker

Package

Overwrap Packaging



Packaging
PillPicker



Overwrap
AutoPhial

Package

Store

Step 3B

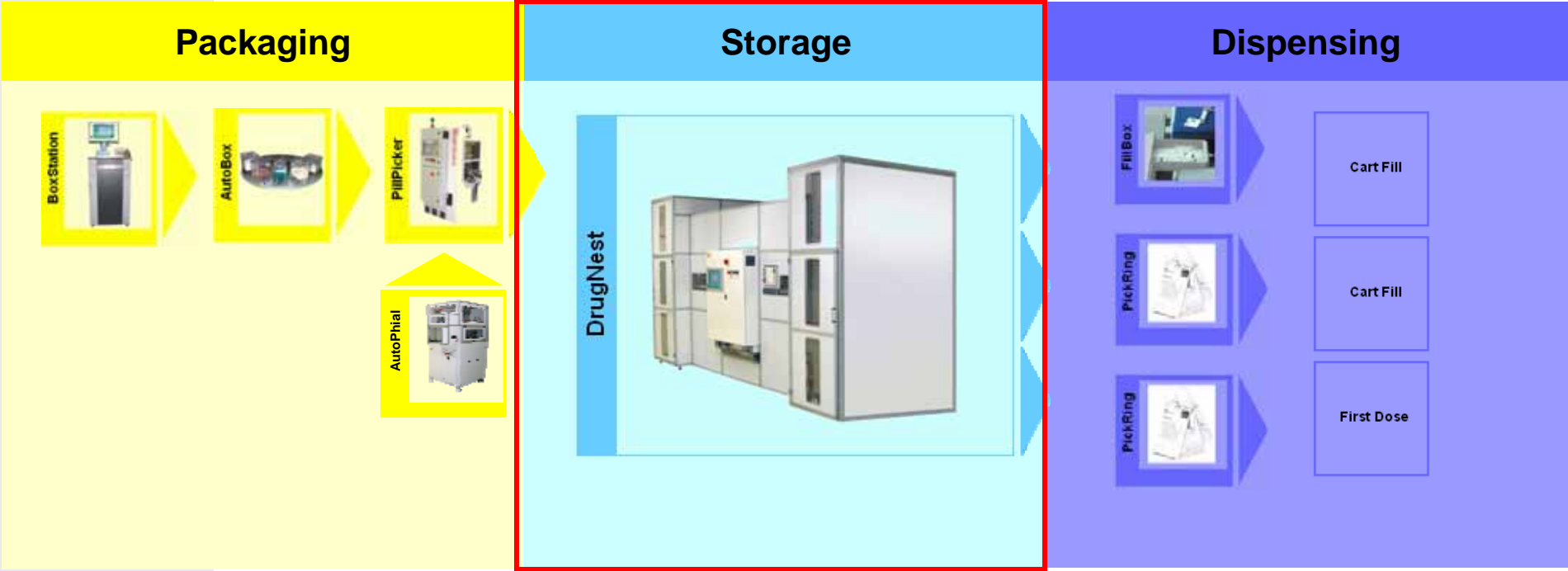
- ▶ Prepacked unit doses are placed into bar coded packages, cut to length and sealed

Dispense

Store

Dispense

PillPick System Overview



Right Patient, Right Drug, Right Dose, Right Route, Right Time

PillPick: Automating Pharmacy Processes
PillPicker to DrugNest

Package

Store

Dispense

Step 4

Packaging to Storage

- ▶ Packages are **automatically** transferred from the packager and loaded into storage



Packaging
PillPicker



Storage
DrugNest

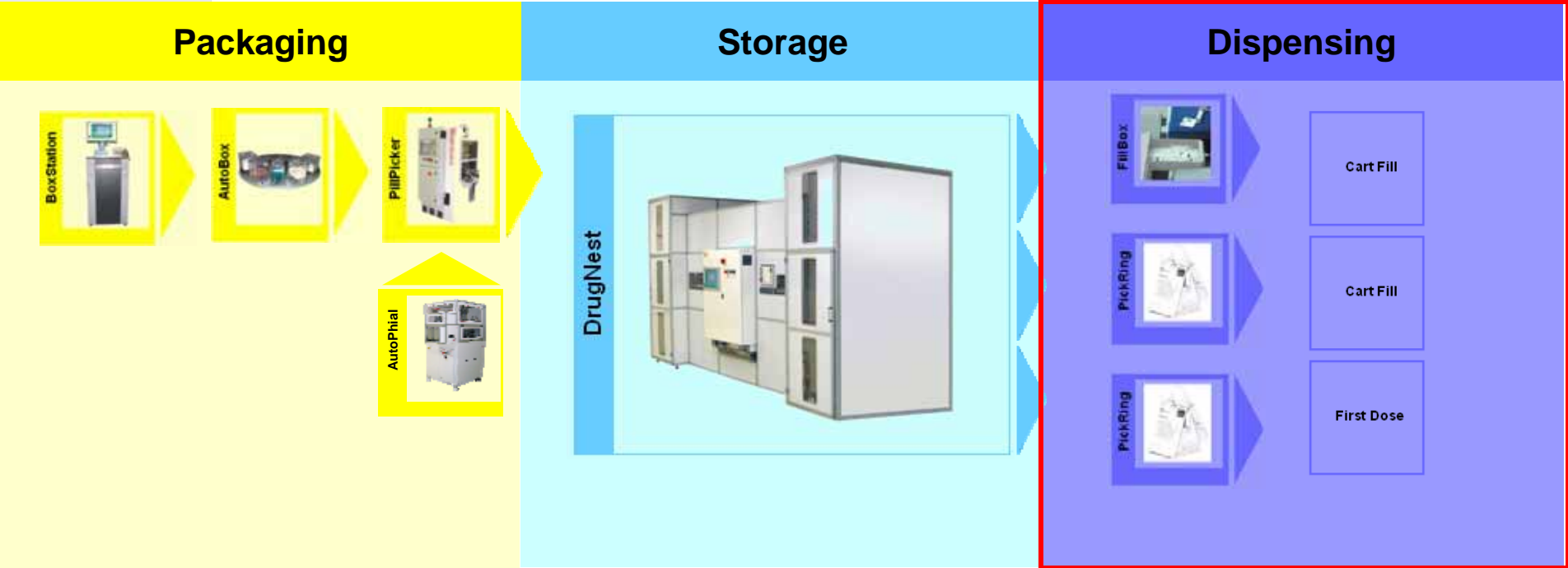
- ▶ High density robot, stores up to 54,000 unit doses, 5,400 types
- ▶ *Multi-tasking* with two robotic arms

Package

Store

Dispense

PillPick System Overview



Right Patient, Right Drug, Right Dose, Right Route, Right Time

PillPick: Automating Pharmacy Processes
PickRing

Package

Store

Dispense

Step 5

- ▶ Assembles bar coded unit doses onto a flexible ring **in order of medication or administration time**
- ▶ Content label on PickRing lists patient name, room number, ID, drug, dose, and administration time

- ▶ PickRing prepares you for bedside verification



Storage
DrugNest



**Patient-specific
Dispensing**
PickRing™

IE: 42	03/05/04
	1/1
THOMAS LARKIN	
Age: 51	
5 West	
Room/Bed: 21/1	
<input type="checkbox"/> 06:00 LASIX [®] 30CPR 25 MG	
<input type="checkbox"/> 08:00 DIFLUCAN [®] 10CPR 100 MG	
<input type="checkbox"/> 10:00 NIZAX [®] 20CPR 150 MG	
<input type="checkbox"/> 14:00 DIFLUCAN [®] 10CPR 100 MG	
<input type="checkbox"/> 16:00 NIZAX [®] 20CPR 150 MG	
<input type="checkbox"/> 18:00 LASIX [®] 30CPR 25 MG	
<input type="checkbox"/> 20:00 DIFLUCAN [®] 10CPR 100 MG	
<input type="checkbox"/> 22:00 NIZAX [®] 20CPR 150 MG	

Package

Store

Dispense

Package

Store

Dispense

Dispensing to Cassettes

Step 5A

- ▶ Opens, fills and closes cassette drawers. Automatically prints and places identifying adhesive labels on front of drawers & includes

- ✓ Patient Name
- ✓ Patient bar code
- ✓ Room number
- ✓ Nursing Unit



Storage
DrugNest



**Patient-specific
Dispensing**
PickRing



**Dispensing to
Cassette or Bin**
FillBox

Package

Store

Dispense

PillPick: Automating Pharmacy Processes Administration

Dispense

Step 6



PickRing
Patient-specific
dispensing



Dispensing to
Cart/Nurse Server
Fill or Cabinets



Bedside Verification

PillPick: Automating Pharmacy Processes

Returns

Package

- ▶ Automatically returns unit dose packages to robotic warehouse

- ▶ Unique inventory tracking number on package identifies unit dose and credits patient

- ▶ Safely purges:
 - ✓ Unrecognized products
 - ✓ Expired Medications
 - ✓ Recalls

Package

Store



Storage
DrugNest

Store


Dispense

Returns



Dispense

Benefits of Pillpick

Feature	Function	Benefit
Barcoding and RFID Tags 	Confirms 5 rights	Patient Safety
	100% unit dose bar coded tablets, capsules, vials, ampoules, cups, syringes and blisters	Patient Safety and partner to bedside verification
High capacity – 54,000 unit doses	High density and compact storage	Fewer restocking cycles, less labor
		Automate higher percentage of formulary
Automated Returns	Place returned drugs directly back on carousel	Free up resources for value add activity
	Credits patient and places medication back in stock in order of expiration date	Avoid loss of expired medications

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Benefits of Pillpick

Feature	Function	Benefit
Fully Automated	Minimizes human intervention	Patient Safety
		Divert resources to value added activity
Multi-tasking	Dual Robots	Compressed time for cart fill
		Can perform two task simultaneously – first dose/cart fill, returns/dispensing, packaging/dispensing
Inventory Management	Dispenses by expiration date - FIFO	Reduces loss of expired meds
	Allows pharmacy to buy in bulk and package	Reduces inventory expenses

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Benefits of PickRing



Organized	24 hrs of medication on PickRing in order of medication or administration time
Customizable	Card on PickRing details patient information, meds, administration times and items not on the ring
Accurate	PickRing is checked for accuracy before dispensing
Efficient	At busy med pass times nurse can grab the PickRing and go
Safe	Everything on PickRing is barcoded, ready for bedside verification
Tracking	Empty bags left on the PickRing shows what was previously given
Storage	Can store PickRing in med cart, dispensing cabinet or locked box in patients room

Questions to ask when Choosing a Robot

- ▶ Is it multi-tasking?
- ▶ How are returns tracked?
- ▶ What portion of the process is manual?
- ▶ What is the cost to package?
- ▶ How much of the formulary will fit in the robot?
- ▶ What are staffing implications?
- ▶ What other meds can be packaged besides tablets and capsules with one system?

For more information, please see Swisslog's [ADMS White Paper](#).

Healthcare Solutions



- ▶ Premier Southern US medical leader
- ▶ Pioneer nursing teaching institution
- ▶ 850 bed hospital
- ▶ Level 1 Trauma Center
- ▶ International leader in facial reconstruction
- ▶ Long standing partnership with University of Tennessee at Chattanooga & other colleges
- ▶ T.C. Thompson Children's – Area's leading pediatric institution



Case Study: Erlanger – Chattanooga, TN



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Healthcare Solutions



Case Study: Erlanger – Chattanooga, TN

- ▶ Pharmacy response enhanced – PillPick stores 4,400 unique drugs – 44,000 unit doses
- ▶ PillPick handles/dispenses 90% of all patient medications
- ▶ Pharmacy staff time increased for patient care focus
- ▶ Hands free automation improves medication accuracy from 96% to 99.9%
- ▶ Patient confidence and safety optimized
- ▶ Valuable physician & nursing staff time redirected to patients
- ▶ Modularity promotes future expansion



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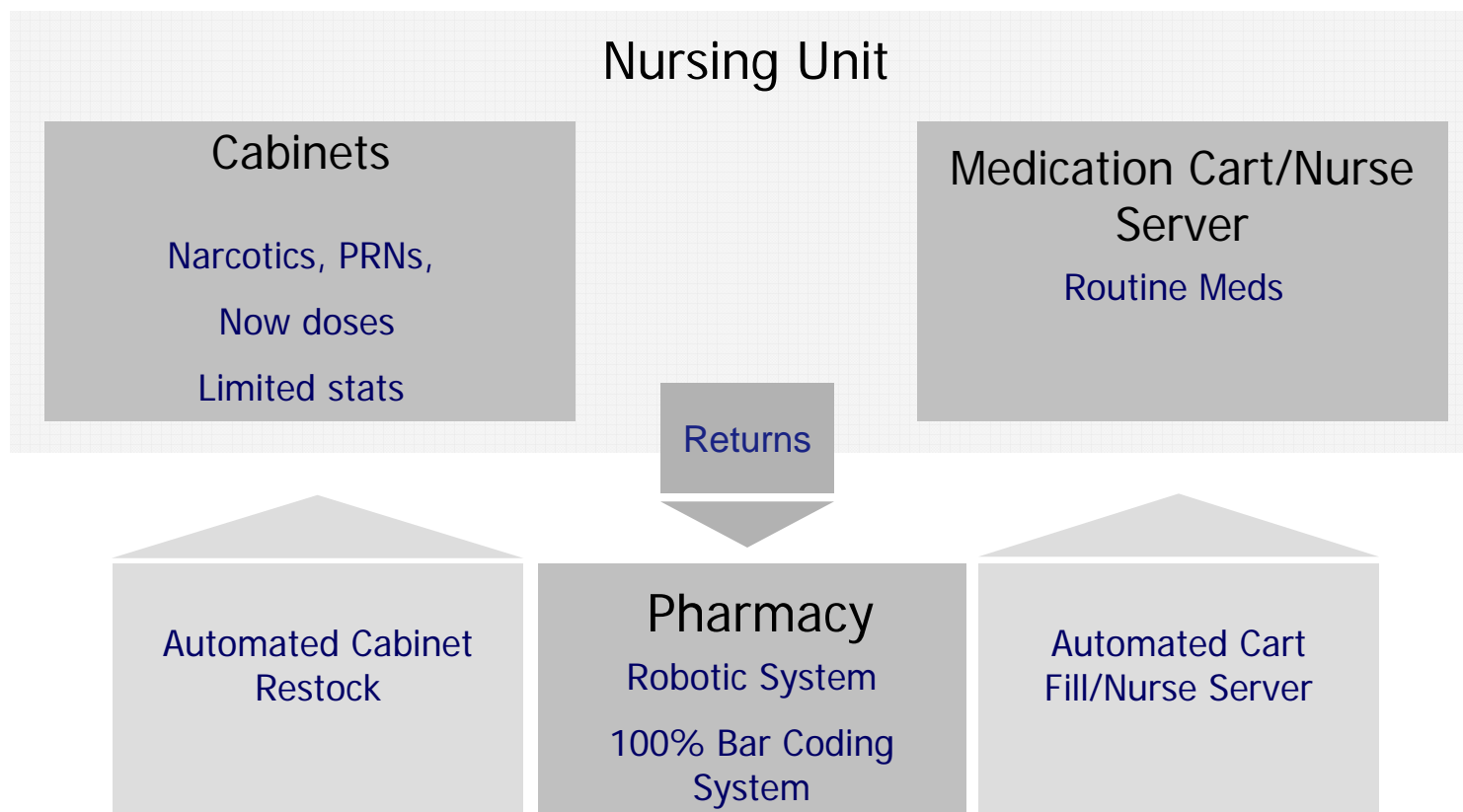
Pharmacy Operations

- ▶ Decentralized Model
- ▶ Centralized Model
- ▶ Hybrid Model
- ▶ Remote Packaging for Multiple Facilities

Swisslog's products support the optimum process for your facility

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“Hybrid” Model



Hybrid Benefits for Nursing

Nursing	
Efficiency	Decrease wait time at crucial med pass time
Accuracy	Narcotic counts automated Bar Codes confirm the 5 rights
Pharmacy response time	Pharmacy can respond faster with automation
PickRing	Enhances organization and the ability to locate meds quickly

Hybrid Benefits for Pharmacy

Automating Pharmacy	
Accuracy	Bar coding and RFID confirm the 5 Rights
Efficiency	Robot automates packaging, picking, checking, labeling and dispensing of cart fill/nurse server, first doses,stats, and cabinet restock orders
Inventory	Less duplication of stock
Flexibility	Freedom to grow and change

Pharmacy Services

- ▶ Consulting
 - Staff Pharmacist, Operational Review
 - ROI Analysis
- ▶ Needs Assessment Surveys
 - Pharmacy
 - Nursing
- ▶ Guide Specifications
- ▶ Case Studies
- ▶ Site Visits



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The Swisslog Advantage

- ▶ Enhanced Patient Safety
- ▶ Supports Optimum Process of Pharmacy
- ▶ Flexible
- ▶ Supports Nursing
- ▶ Facility Friendly
- ▶ Reliable
- ▶ Superior Customer Support

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