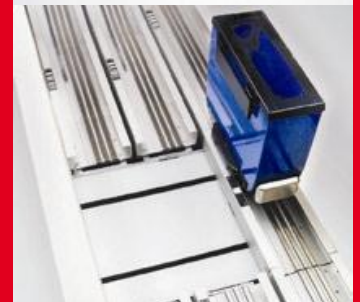


Hospital Logistics in the modern Healthcare Facility

Swisslog Healthcare Solutions

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Swisslog at a glance

- Swisslog is a global provider of logistics solutions for warehouses, distribution centers and hospitals.
- 40 Years of hospital experience, we support you to optimize processes.
- Founded in 1898 (formerly Sprecher & Schuh AG) and headquartered in Buchs/Aarau, Switzerland.
- Swisslog Holding AG is listed on the SWX Swiss Exchange.
- Turnover in 2010 of MEuro 473 and 2'043 employees in more than 20 countries worldwide.



HCS - Business focus & products

Business Focus

- Logistics automation for hospitals
- Hospital logistics consulting
- Planning & engineering
- Implementation
- Customer support

Products

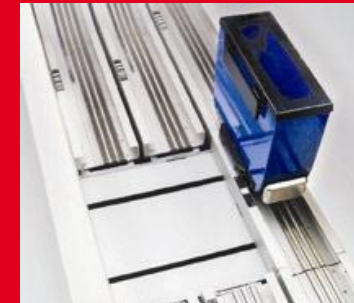
Automated Drug Management Systems



Pneumatic Tube Systems PTS



Automated Guided Vehicle AGV



Electric Track Vehicle ETV

Spontaneous transports with pneumatic tube systems

TranspoNet

- For spontaneous, non-planned transports
- Fully automated, Computer controlled
- Transport of goods up to kg in special carriers
- Specific tube diameter and tube network
- High speed transport through individually designed systems of tubes, facilitated by forced pressure
- Minimal maintenance requirements
- Gentle and safe handling of sensitive medical items



TranspoNet - Benefits

- Time saving due to direct connection of departments
- “24/7” operating state
- Faster availability of test results
- Reduction of cost-intensive portering activities, so that hospital employees can focus on their core business
- Reduction of transport errors and reliable delivery
- Divert function, access lock, tracking and tracing of the sends and transported goods.
- Better service for patients due to speed and accuracy



Planned transports with Automated guided vehicles

TransCar

- Planned transport of containers weighing up to 500 kg
- Fully automated transport with up to 2 m/s
- Predefined, customer specific of route throughout corridors and lifts of a facility
- High security standard due to on-board laser guidance system
- Secure vehicle navigation on its way through the building; obstacles detection
- Easy system adjustment and extensions
- Low maintenance requirements



TransCar - Benefits

- Reduction of staff dealing with manual transport
- Minimising manual transport by professional hospital staff so they can focus on their core business
- 24h operating state
- Reduction of transport errors
- Reduction of transport damage to facility and carriers
- Optimization of transport flows (reduction of bottle-necks)
- Enhanced workplace safety



Drug management – Unit Dose

PillPick®

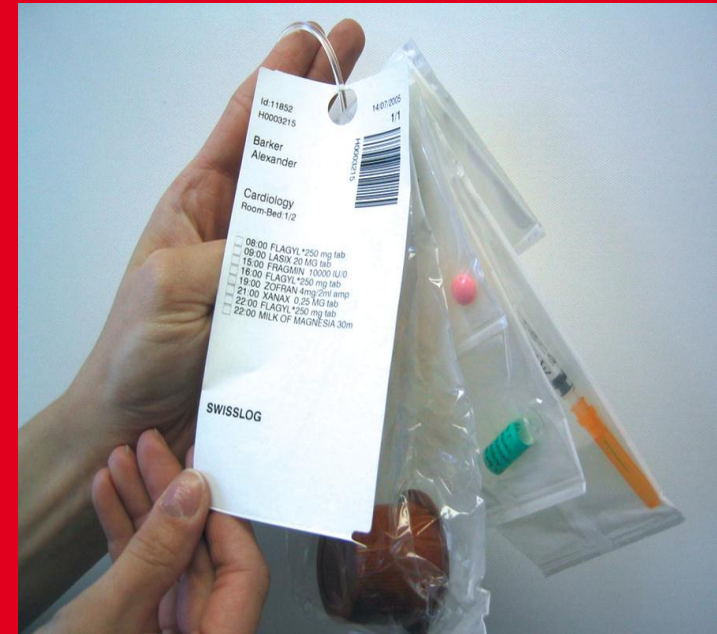
- PillPicker: Automated drug packing unit
- PillPick Manager: System management and interface to clinical information system
- BoxStation: Managing and filling of drug boxes
- AutoBox: Automated delivery of drug boxes into the PillPicker
- AutoPhial: Delivery unit for ampoules, blisters and syringes into the PillPicker
- DrugNest: Central storage of the unit doses
- PickRing: Manufacture of the patient related drug therapy



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Benefits – PillPick (ADMS)

- Lowering of peripheral drug storage
- Reduction of use of pharmaceutical products and therefore reduction of cost for drugs between 10 – 30 %
- Massive increase in safety of the entire drug management process (bar codes)
- Increase in transparency of drug management and drug consumption
- Shift of drug picking from ward to the hospital pharmacy
- PickRing is a patented, flexible plastic ring which organizes unit doses in any desired order



Benefits – BoxPicker (ADMS)

- Increased quality of commissioning
- Decrease of required space
- Optimized stock management
- Decrease of expired drugs



Nye Ahus



- Construction start: 1. March 2004
- Operation: 1. October 2008
- Net area: 137 000 square meters
- Number of beds: 615 (570 in new building)
- Financials: 8,01 billion (2007)
- Constructor: Health Region East RHF v/ Nye Ahus
- Architect: C.F. Møller
- University hospital for 340.000 inhabitants

Reason new drug management chain at Nye Ahus

- Need for improved logistics
 - Irrational stock management, loss of drugs and lack of overview
 - Capital intensive local stock
 - Work intensive processes (stock, glass, pill, cup, tray to patient)
 - Possibility of errors on medication due to manual process:
 - Error in ordering, errors in drug handling, wrong patient
 - 18% of hospital deaths caused by errors in medication (Ebbesen,2001)
 - Lack of user support for clinical personnel
 - Alternative technology is available
- ❖ **New hospital is planned with minimum local stock, automation of production and delivery including digitalized work processes**

Main process at Nye Ahus



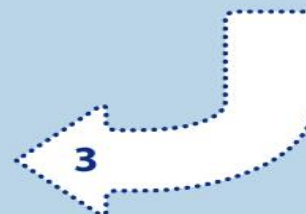
Rekvirering



**Farmasøyt /
Produksjonskontroll**



Produksjon



Rørpost



Administrering

REFERENCES WORLDWIDE

North America



Europe



Asia



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