

swisslog

Member of the KUKA Group



SWISSLOG HEALTHCARE

TRANSPONET™  
PNEUMATIC TUBE SYSTEMS



# OPTIMIZED WORKFLOW EFFICIENCY MEANS MORE TIME FOR PATIENTS

TranspoNet Pneumatic Tube Systems safely and reliably transport materials throughout the hospital, offering numerous benefits for health systems.



## INCREASE PROCESS EFFICIENCY

Healthcare facilities cannot always plan or predict transport needs. Automating spontaneous transports with a pneumatic tube system means reducing any process interruptions, and increasing efficiency.

## PROVIDE MORE TIME FOR PATIENTS

Pneumatic tube systems release staff from transport responsibilities. Instead of carrying out pick-up and delivery tasks, employees can concentrate on caring for patients.

## SPEED UP DIAGNOSIS AND TREATMENT

Pneumatic tube systems reliably transport goods in minutes – 24 hours a day, seven days a week. This saves valuable time and improves turnaround times. Laboratory results and medications are available faster.

## ACHIEVE FAST RETURNS ON INVESTMENT

Swisslog TranspoNet Pneumatic Tube Systems pay for themselves within one and a half to three years. In combination with improving process quality and patient care, the cost effectiveness of a pneumatic tube solution leads to significantly higher competitiveness.

## SUPPORT CHAIN OF CUSTODY FOR ULTIMATE SAFETY

TranspoNet Systems offer complete traceability of carriers and transported goods as part of its optional track-and-trace application. Access limitations and user authentication significantly increase transaction safety and security.

# CUSTOMER BENEFITS

## FOCUSING ON THE CORE BUSINESS

- Eliminate non-value-added work for professional staff
- Increase time available for patient care

## INVESTMENT FOR MORE COMPETITIVENESS

- Pays for itself quickly
- High flexibility and scalability
- Integration of additional solutions

## STREAMLINING PROCESSES

- Provide faster turnaround of data and goods for diagnosis and treatment

# SYSTEM OVERVIEW

## Goods for Transport

Laboratory samples, blood products, frozen section specimens, medications, infusion bags, documents, medicinal products, and other materials are transported via pneumatic tube systems.

## TranspoNet Stations

are used for receiving and sending carriers. Swisslog offers many different stations tailored to customers' needs.



## Tubes

can be installed on a single floor or on multiple levels, over short distances or across miles, through fire protection sections and across open-air areas, underground or in suspended ceilings, in existing buildings or in new construction.

## Medical Personnel

no longer need to carry out transportation tasks. Handling goods and working at an ergonomic height also increases employee satisfaction.

## Carriers

transport goods throughout the healthcare facility. Carriers are designed for specific requirements, such as LeakProof Carrier for safe transport of fluids and the SmartOpen Carrier for automated unloading in the laboratory.



## USING TRANSPONET PNEUMATIC TUBE SYSTEMS FOR BLOOD TRANSPORT

**TranspoNet meets the high demands of blood banks and laboratories for safe handling and traceability.**

Blood Banks have three main requirements. Quick availability, traceability across the transport path and visibility and documentation:

- Chain-of-Custody solution enables complete monitoring of all handling and transport activities across the supply chain
- Costs are accurately determined and documented and can be allocated to specialist departments and/or patients with precision

For labs, fast sample transport and efficient handling is key:

- The PowerLine™ System ensures fast transport
- Stations specially developed for laboratories ensure that samples are transported and received with care
- Integrated, customer-specific laboratory solutions such as the TranspoNet TubeUnloader, TranspoNet Laboratory Stations and automated machines optimize process workflows



### THE TRANSPONET TUBEUNLOADER

Unique Solution for Automated Unloading of Blood Samples from Carriers

Optimize laboratory workflows with the TubeUnloader - carriers are automatically opened, unloaded, closed and sent back.

- Increase throughput up to 7,200 samples per hour
- Decrease in laboratory peak times
- 24/7 operation

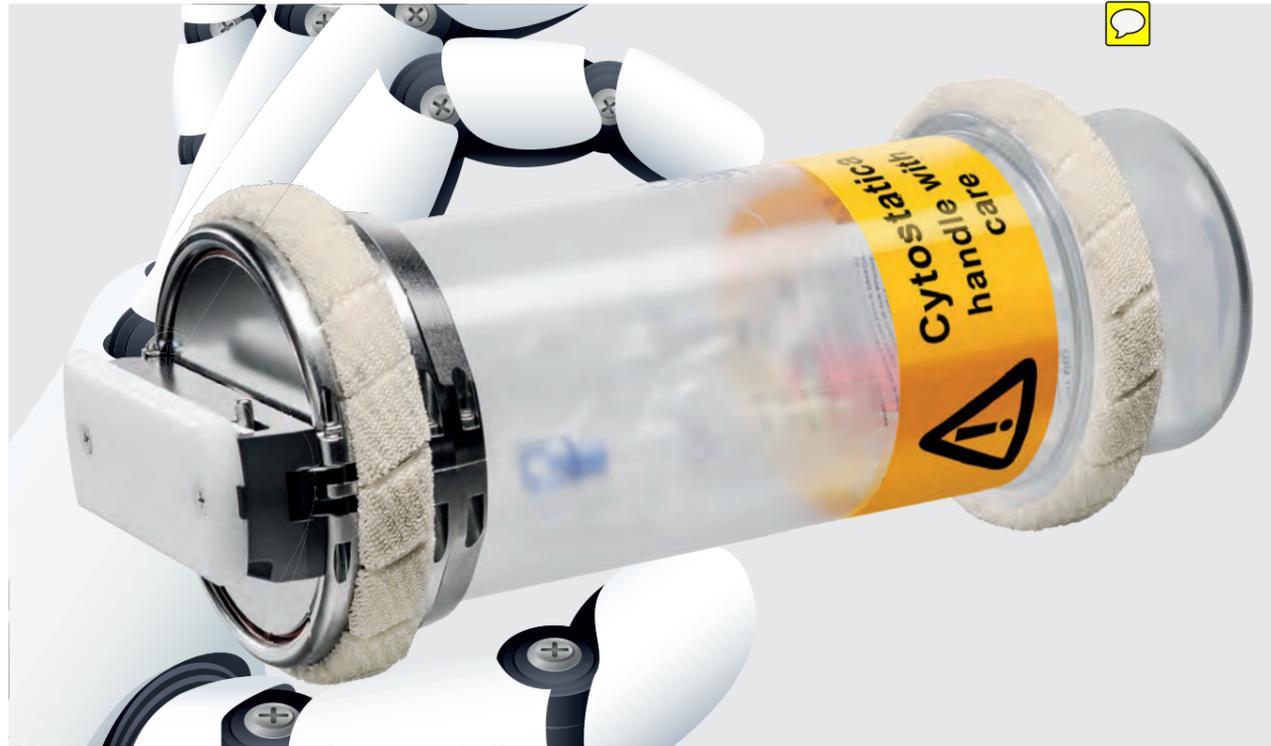


### BEST PRACTICE: BLOOD BANK CENTER (EFS), LILLE, FRANCE

How can we avoid incorrect or late deliveries, double orders, and long transport times with donated blood? This was the question the blood bank that supplies the University Clinic of Lille with labile blood products was faced with.

A solution from Swisslog provided the remedy – when blood products are requested from wards, they leave the blood bank via a pneumatic tube system and are sent to the respective storage unit for blood products that is located closest to the ward requesting the product. The hospital information system generates a message that the blood product is available at the storage unit. As soon as the patient requires the blood, it can be retrieved at the receiving station using the patient-specific barcode. This way, blood products are available quickly and the handling and transport path are traceable and documented.

# GREATER SECURITY FOR CYTOSTATIC TRANSPORT



Using leak-proof carriers, TranspoNet Pneumatic Tube Systems safely transport cytostatics and other contaminants.

- Reduce the risk of environmental contamination through automated handling of cytostatics and their removal in leak-proof pneumatic tube carriers
- Record all procedures in a seamlessly traceable manner
- Streamline workflow processes and increase production of cytostatics

## Customer Benefits in the Oscar Lambret Cancer Treatment Center, Lille



Prior to the introduction of automated solutions, the cytostatic laboratory of the hospital in Lille had been faced with numerous challenges: Capacity bottlenecks, more patients, and a greater need to have therapies on stock. To meet these challenges and comply with the changing conditions over the long term, Swisslog was tasked with implementing an automated solution. It keeps cytostatics ready in cooled and room-temperature storage facilities and transports them

automatically to the ward when needed. This solution for handling up to 35,000 cytostatic bags annually has the following advantages:

- Avoid peak order times through warehousing
- Reduce wait times for patients and thus higher satisfaction for patients and staff
- Improve patient care and reduce hospital stays by delivering medication without delays

# MORE EFFICIENCY IN THE PHARMACY

Ideally, a pneumatic tube system connects all wards and functional departments of a healthcare facility with the pharmacy. This way, medications can be transported to their destinations in system carriers. Since pharmacy employees no longer have to run errands, they can concentrate on their clinical tasks.

### Configure Connections Specific to Your Needs

Swisslog offers tailored solutions that meet individual needs to ensure electronically prescribed medications leave the pharmacy immediately after the prescription is received.

### Interface with Packaging and Dispensing Systems

Swisslog offers an interface for the pneumatic tube solution to automated medication packing and picking solutions. Medications transfer automatically to the carrier and the interface connects with the pneumatic tube system for secure transport of patient-specific medications to the ward.

## Swisslog Vision of The Closed Loop

Automated solutions for hospital pharmacies optimize medication management and distribution. They ensure that the right medications reach the right patients at the right time.

## Integration with the Pneumatic Tube System for Greater Efficiency and Seamless Traceability

Integrating automated solutions allows the seamless connection of employees, technologies and goods for transport at all levels. Combined with an automated solution for the medication management, patient-specific therapies can be transported after acceptance of goods via the pharmacy and ward and delivered to the patient's bed seamlessly.

# CHAIN-OF-CUSTODY SOLUTIONS FOR PNEUMATIC TUBE SYSTEMS



Swisslog Chain-of-Custody applications for health facilities have developed into a complex solution with a major benefit for customers. Its implementation combines both the interaction of staff and technologies as well as operations in diverse processes between the care and specialist departments. Correctly and consistently implemented, the Chain-of-Custody solution increases profitability by lowering process costs while improving process quality at the same time.



Chain of Custody provides information on how a carrier transports goods and monitors each individual transport. By identifying, tracking and monitoring operations, technology ensures transport times are improved, e.g. from the pharmacy to the laboratory or from the blood bank to the patient. Finally, the Chain of Custody enables the facility to create seamless, efficient processes.

# "THE PNEUMATIC TUBE TRANSPORT SYSTEM IS A QUANTUM LEAP FOR US."

PETRA SAILE, SCHWARZWALD-BAAR CLINIC IN VILLINGEN-SCHWENNINGEN, BADEN-WÜRTTEMBERG, GERMANY



SCHWARZWALD-BAAR CLINIC, VILLINGEN-SCHWENNINGEN, GERMANY

By implementing a TranspoNet pneumatic tube system, the hospital's vision of short transport distances was made a reality at the 46,000 m<sup>2</sup> large campus. The pneumatic tube system connects individual wards, departments, and clinics with the central laboratory as well as with the pathology and cardiology departments. As a result, laboratory samples, frozen section specimens and cardiology findings can be transported quickly, safely and efficiently. Now, medical staff can concentrate on caring for the 190,000 inpatients and outpatients annually instead of transporting samples.

#### More Time for Patients

*"I am grateful that we now have more time for meaningful tasks, such as caring for our patients. After seeing how fast and easy it is, I would not want to work in a hospital without a pneumatic tube system ever again."*

Dominique Müller, Pediatric Nurse

#### Cost-Effectiveness

*"It goes without saying that we analyzed cost-effectiveness before installing the pneumatic tube system. And thanks to the system, we are now clearly operating in a more cost-effective manner."*

Dr. Matthias Geiser, Managing Director

#### Faster Results

*"Before, nursing staff would have to physically bring the samples to us, spending long periods of time walking around the hospital. Now, the samples get to the laboratory faster – currently, delivery times are between two and three minutes at most. As a result, not only can we work with the samples faster, but the results are now also available more quickly."*

Petra Saile, Laboratory Director

#### Satisfied Employees

*"The pneumatic tube system was popular right from the beginning. In the old clinics, employees had to spend up to ten minutes delivering the samples to the laboratory by hand, and had to make these trips three to four times a day. Now the employees can spend their time with the patients and they also really like the pneumatic tube system because it is so easy to use."*

Christa Dietel, Director of Nursing



BUMRUNGRAD HOSPITAL, BANGKOK

With 580 beds and over 1.1 million outpatients annually, the clinic accredited by the Joint Commission International is the global leader in patient safety. Over 80 wards and all functional departments are connected to each other via a TranspoNet pneumatic tube system. Additional integration is achieved by the connection of the pneumatic tube system to the Swisslog automated pharmacy solutions at the facility.



ST. OLAVS HOSPITAL, TRONDHEIM, NORWAY

St. Olavs Hospital, a 1,000-bed university hospital, is truly a Swisslog Hospital, fully equipped with an integration of Swisslog automation solutions. The PillPick® Automated Drug Management System packs, stores and dispenses patient-specific medication in unit-dose form, our TranspoNet™ Pneumatic Tube System manages transportation of STAT medication to wards and samples to the laboratory. As a part of Swisslog automation solutions, TransCar® Automated Guided Vehicles manages bulky and scheduled transportation of meals and linen to the wards from kitchen and laundry departments of the hospital.

# DELIVERING RESULTS QUICKLY, INCLUDING 118,000 ADDITIONAL HOURS FOR PATIENT CARE

How often does an employee need to leave their department in order to collect or deliver patient samples? How much time can be saved through the installation of a pneumatic tube system and is the investment worth it?

#### Third-Party Transport Study

In 2008, the consulting company SWECO carried out a transport study for Karolinska Hospital in Stockholm. The goal of the study was to quantify the current and future material flows, e.g., laboratory samples, blood and frozen section specimens, as well as the transport times associated with these. The hypothesis of the study: A lot of working time allocated for patient care is lost because employees are taking on transport responsibilities.

#### Results

As part of its study, SWECO recorded 800 employees transporting blood, samples, and small materials daily. They found that 400 hours per day were lost. For the hospital,

SWECO calculated 50 full-time equivalent focused on transport activities. In addition, it became clear that when including preparation time, post-processing time and time waiting for elevators, each transport took at least 30 minutes to carry out.

#### Installing a Pneumatic Tube System

After the transport study provided clarity regarding the enormous amount of time used for transport tasks, the decision was made to install a pneumatic tube system. In 2009, hospital management selected the Swisslog TranspoNet Pneumatic Tube System.

*"We save 1.5 hours of working time per shift – time that we can use to concentrate on our job: caring for patients."*

Kitti Szöke, head of the emergency surgical unit, Karolinska University Hospital, Huddinge

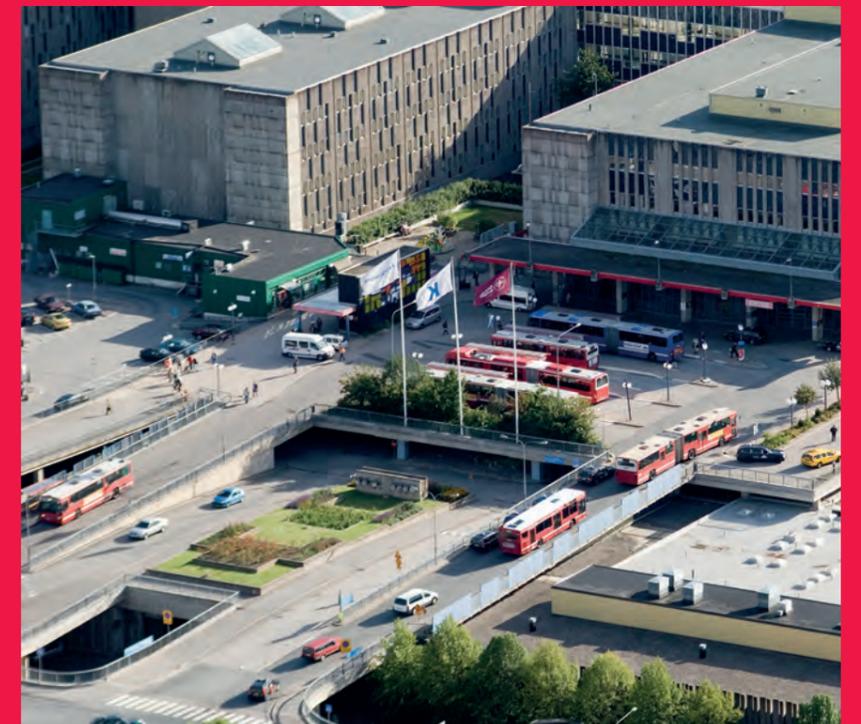
#### Are you interested in the transport study?

We would be happy to provide it to you. Simply write an e-mail to [healthcare.de@swisslog.com](mailto:healthcare.de@swisslog.com) with the keyword "Huddinge Transport Study."

## KAROLINSKA UNIVERSITY HOSPITAL, HUDDINGE, SWEDEN

Karolinska University Hospital located in Stockholm, Sweden is one of Scandinavia's leading medical centers. Thanks to its medical departments, the hospital takes a leading scientific role in Sweden and is also a top-rated patient-care facility.

Research, training and development of medical personnel are concentrated in two medical centers: Huddinge in the south and Solna in the north of Stockholm. By introducing a Swisslog pneumatic tube system, the Huddinge hospital saves 118,000 working hours annually.



#### THE PNEUMATIC TUBE SOLUTION FOR THE SCHWARZWALD-BAAR CLINIC ON YOUTUBE

Scan the QR code and learn more about the Swisslog Pneumatic Tube System in Villingen-Schwenningen on YouTube.

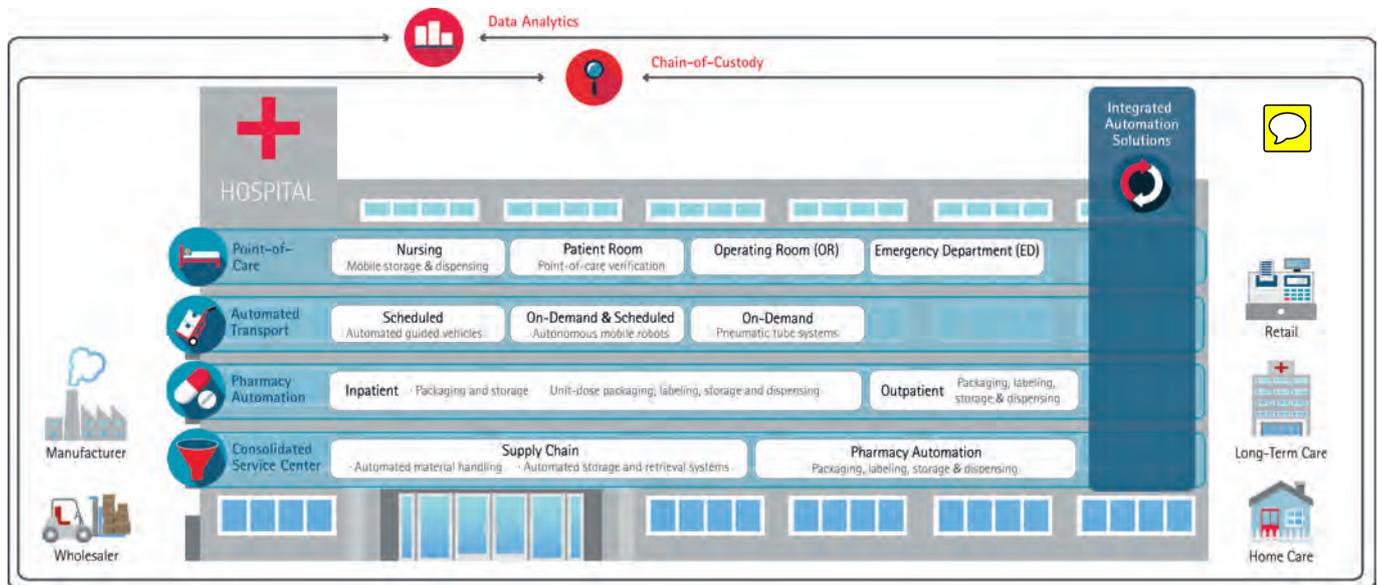


# SWISSLOG HEALTHCARE DELIVERS SUPPLY CHAIN AND MEDICATION MANAGEMENT SERVICES AND SOLUTIONS TO INCREASE EFFICIENCY AND ENHANCE THE PATIENT EXPERIENCE IN FORWARD-THINKING HEALTH SYSTEMS.

Swisslog has installed automation systems in more than 3,000 hospitals worldwide. The synergy of our industry expertise and our focus on healthcare has made us a leader in delivering best-in-class solutions for secure transaction management.

Swisslog Healthcare offers total system design, manufacturing, installation and customer support – providing an integrated solution for lean workflow and transportation that enhances information access, patient safety, and cost efficiency.

## DELIVERING CHAIN OF CUSTODY ACROSS THE CONTINUUM OF CARE



**CONTACT US FOR FOR ADDITIONAL INFORMATION REGARDING OUR TAILORED AUTOMATED SOLUTIONS**

Swisslog Pte Ltd  
9, Tampines Grande #04-12  
Singapore 528735

Swisslog Pte Ltd (Malaysia Branch Office)  
B-13-01, Menara Amfirst 2, Jalana SS 7/15  
(Jalan Stadium), Kelana Jaya, 47301, Petaling  
Jaya, Malaysia

Swisslog Korea Co., Ltd  
#305, 36, Jungdong-ro 254 beon-gil,  
Bucheon-si, Gyeonggi-do, 14548 Korea

Tel: +65 6280 0600  
Fax: +65 6286 8100

Tel: +60 3 7492 0303  
Fax: +60 3 7492 0660

Tel: +82 (0) 32 326 2888  
Fax: +82 (0) 32 326 2488

healthcare.sg@swisslog.com

healthcare.my@swisslog.com

healthcare.kr@swisslog.com



Member of the KUKA Group

[swisslog.com/healthcare](http://swisslog.com/healthcare)