

OPTIMIZED  
MEDICAL LOGISTICS  
WITH UNICAR

FAST AND SAFE  
AUTOMATED  
MATERIALS  
TRANSPORT



The World's Leading

# Medical Logistics Partner



**telelift**  
Innovation for *Logistic* Solutions

## Telelift — Your partner for hospital logistics

Leading technology, tailor-made solutions, and lifetime partnership are all part of our philosophy. Our service is your success.

Telelift is the leading manufacturer of electric track vehicle systems for the in-house transport of lightweight goods. We provide complete material-flow solutions for hospitals – from conception and planning right up to installation, implementation, and comprehensive life-cycle support.

### Inventors of the UniCar

In 1964, Telelift invented the electric track vehicle system UniCar (ETV) and further developed it into a state-of-the-art transportation system. Telelift has continuously been a technological leader and global market leader since then.

## Optimization of hospital logistics processes

Many countries are facing challenges to their health-care services due to tremendous changes within their environments. Changes such as rapidly aging populations, new medical procedures, and growing demands for health-care services lead to steadily increasing demands in quality.

In order to ensure high-quality and cost-effective health services for the entire population across all income groups, tight cost and quality controls in hospitals are becoming crucial.

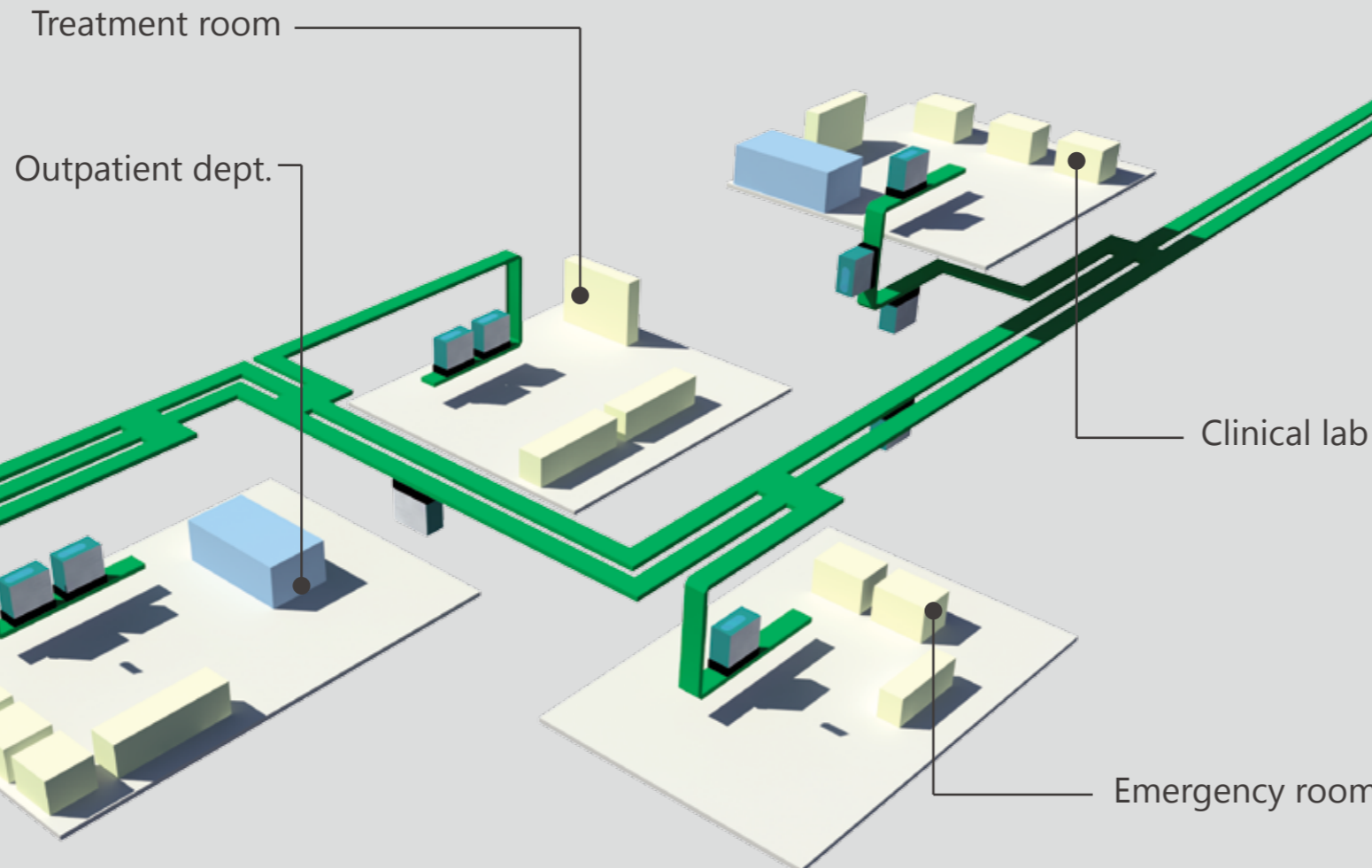
Experience shows that the optimization of logistics processes can lead to a substantial quality enhancement. And improving processes and quality in hospital logistics is our area of expertise. Telelift offers hospitals optimal solutions for their in-house logistics.

Telelift UniCar is the perfect solution for providing fast and reliable transport between operating rooms, laboratories, pharmacies, storage areas, and wards in hospitals.

Telelift UniCar is a high-performance electric track vehicle system with containers for 10 kg and 15 kg loads for all of the transportation needs of a hospital's logistics environment. The system is tamper-resistant and 100 % process monitored.

### TELELIFT UNICAR PROVIDES EXCELLENT PERFORMANCE IN SUPPORTING HOSPITAL LOGISTIC PROCESSES:

- > Logistics of pharmaceuticals and medical goods
- > Logistics of intravenous medications
- > Logistics of blood and laboratory specimens
- > Handling of medical records and documents
- > Transport of sterile goods and surgical instruments
- > All other routine deliveries
- > Safe transport of morphine and other highly effective drugs



## Telelift advantages

- > Almost half a century of experience
- > Competitive edge in technology
- > First-hand conceptual design, planning, installation, and lifetime partnership
- > Global market leader with more than 1,200 installations
- > Worldwide distributor network and customer care

## Preventive hygiene — arguments for the Telelift UniCar

Hospital infections have been a problem for centuries and have intensified due to resistant pathogens and high-tech medicine. These infections need to be reduced – or better yet, completely avoided – through infection prevention. Whether used for blood or laboratory samples, sterile products, medication or IV bags, our specially developed transport containers ensure safe transport and comply with hospitals' stringent hygiene regulations.

In terms of function and structure, primary transport flows are kept short. The automated Telelift UniCar forms the necessary transport network between laboratories/operating rooms/pharmacies and bed stations for goods up to 15 kg. In terms of operation and organization, the UniCar replaces messenger services.

In terms of supply and technology, sealed transport containers provide hygienic, safe transport from the point of departure to the destination with complete transport documentation.



## ✔ Customer benefits



### More time for employees to concentrate on their area of expertise – taking care of the patient:

- > Saves time as departments are directly connected
- > 24-hour operating state
- > Faster availability of test results
- > Minimizes of manual transport
- > Fewer damaged goods
- > Fewer transport errors
- > Enhances workplace safety
- > Efficient material flow due to automated and optimised transport system
- > Reduces in the circulation times of surgical instruments
- > Contributes to cost savings and quality assurance
- > Meets stringent hygiene regulations

Task

# Material handling process with UniCar

In hospitals the Telelift UniCar is typically used for 24/7 transportation of small and medium-sized goods. The Telelift UniCar supersedes manual transportation tasks, and connects the individual stations quickly and reliably.

Highly frequented departments such as laboratories, pharmacies, and special wards have Telelift UniCar through stations with high throughput capacity.

Less frequented stations are equipped with re-entry stations. Highly versatile containers transport blood samples, vials, and lab specimens. With a special insert, the containers are able to transport liquids with the utmost care. Other transportable goods include cassettes, patient files, sterile goods, IV bags, and pharmaceuticals.

High hygiene standards can be met by cooperating with processes such as automated ultraviolet disinfection or wet cleaning.

# 1 Transportation of sterile goods and surgical instruments

Telelift UniCar is a perfect way to transport sterile goods and surgical instruments and to link operation rooms and the sterilization services department.

Designed with the minimal height in mind, the Telelift UniCar enables space-saving transportation solutions by linking operating rooms, treatment areas, and the central sterilization services department (CSSD). The system enables transportation both horizontally and vertically, either suspended or with bidirectional movement.

## Challenges with sterile goods supply

- > Generally limited space available
- > High hygiene requirements
- > Easily damaged surgical instruments
- > Limited quantity of surgical instruments available
- > Long circulation times of surgical instruments

## Telelift UniCar performance features

- > Flexible routing
- > Transportation of loads weighing up to 15 kg
- > Transportation volume of up to 45 l
- > Speeds of up to 0.6 m/sec
- > Quiet
- > Space-saving transportation routes



## Example of material handling process



Sterile goods

## Benefits

- > Reduction of damage to sterile goods
- > Reduction of circulation times
- > Flexible use for scheduled and unscheduled transportation
- > Reduction of cross-contamination
- > Implementation possible even in complex building structures
- > Increase of workplace safety
- > Increase in transparency with regard to material flow
- > Security mode available
- > 24-hour system availability
- > Peak transport times can be compensated for with additional containers



## 2 Transportation of pharmaceuticals and IV bags

A major demand for patient medication is the quick, smooth, and reliable supply of ordered pharmaceuticals and IV (intravenous drip bags) from pharmacies to the wards.

Telelift UniCar's gentle and quick mode of transportation combined with a security mode and the ability to track transport loads enables wards to be supplied with large volumes of pharmaceuticals and IV bags – safely and reliably.

### Challenges with pharmaceutical supplies and IV bags

- > Generally limited space available
- > High hygiene requirements
- > Easily damaged IV bags
- > Frothing of IV liquids
- > Demand for high transport capacity per medication charge and per ward
- > Heavy liquid goods

### Performance features

- > Flexible routing
- > Transportation of loads weighing up to 15 kg
- > Up to 45 l transportation volume
- > Speeds of up to 0.6 m/sec

### Benefits

- > Reduction of damage to fragile goods and IV bags
- > Flexible use for scheduled and unscheduled transportation
- > Gentle and smooth transportation of goods
- > Implementation possible even in complex building structures
- > Coordination of bulk transport loads for individual wards
- > Increase in transparency with regard to material flow
- > Security mode available
- > 24-hour system availability



UniCar with IV bags

## 3 Transportation of small goods

Due to limited storage space, wards sometimes run out of consumable supplies. At that moment, the rapid provision of the missing goods is crucial for patient care.

Small hospital goods such as syringes, injection devices, and dressing material have to be sent frequently or at unscheduled times from the storage area to the wards. Telelift UniCar is designed to transport all kinds of small hospital goods. These items can be sent spontaneously or at scheduled times, safely and quickly from the storage area to the wards.

### Challenges with small goods

- > Quick availability required
- > Easily damaged fragile goods
- > High hygiene requirements
- > Transport of sensitive or valuable goods
- > Demand for high transport capacity

### Performance features

- > Transportation of loads weighing up to 15 kg
- > Up to 45 l transportation volume
- > Speeds of up to 0.6 m/sec
- > Security code locking
- > PIN coding available for confidential transport

### Benefits

- > Reduction of damage to fragile goods
- > Flexible use for scheduled and unscheduled transportation
- > Gentle and smooth transportation of goods
- > High transport capacity per job
- > 24-hour system availability



Customized container inlets for UniCar



## 4 Transportation of lab specimens and blood samples

Patient examinations and operations need quick test results from lab specimens and blood samples.

Blood samples and other fluids must be transported smoothly in order to avoid frothing. UniCar's quick and gentle transportation combined with its tracking system allows a safe, quick, and reliable transport of lab specimens from wards and operating rooms to laboratories.

### Challenges with laboratory specimens and blood samples

- > Generally limited space available
- > High hygiene requirements
- > Easily damaged fragile goods and blood vials
- > Frothing of blood and fluids
- > Demand for high transport capacity
- > Heavy liquid goods

### Performance features

- > Flexible routing and quiet
- > Transportation of loads weighing up to 15 kg
- > Up to 45 l transportation volume
- > Speeds of up to 0.6 m/sec
- > Quiet

### Benefits

- > Prevention of damage to fragile goods
- > Flexible use for scheduled and unscheduled transportation
- > Gentle and smooth transportation of goods
- > Implementation possible even in complex building structures
- > Reduction in cross-contamination
- > Increase in workplace safety
- > Increase in transparency
- > Security mode available
- > 24-hour system availability



## 5 UniCar container for all transportation tasks in the hospital



## UniCar system components

## Components

## Chassis and container

The standard Telelift chassis is equipped with its own drive mechanism and a collision control system. For hospital use, the chassis is equipped with a special container type and is controlled by the most up-to-date microprocessor technology.

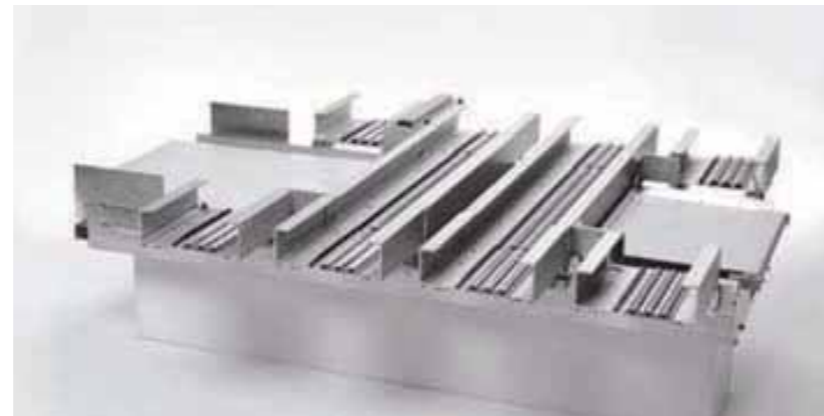
The Telelift vehicle is designed for transport loads weighing up to 15 kg and can reach speeds of up to 0.6m/sec.



## Switches

Switches with one or two movable tracks guarantee the most efficient transfer of containers between all areas of the track system. To enable the highest possible number of containers to pass one another, the connection between the individual tracks is executed by a single switch movement.

Movements of switch carriages are controlled by the acceleration and deceleration cycles in order to move the transported goods gently.



## Fire protection

UniCar meets all safety standards. Fire compartments can be protected by using motor-driven fire doors or, alternatively, fire flaps for secure fire protection.

In comparison with other similar technologies, UniCar has low wiring exposure and, therefore, a low fire load.



## Track network

The standard aluminum track provides contact rails for the power supply and control communication. The route consists of horizontal, vertical, and curved tracks. Due to its tight radii, the system is very compact and can be installed in new and existing buildings.

A further advantage is the system's light weight, which allows for installation suspended on ceilings. U-shaped rails surround the chassis and ensure safe transport.



## TELELIFT – AN ECO-FRIENDLY AND SUSTAINABLE TRANSPORT SOLUTION



- > Low energy consumption for transport (only those vehicles being used require energy)
- > Systems have a long service life – some systems have been in use for more than 40 years
- > Older systems can be modernized
- > Long-term availability of replacement parts and working parts

- > No poisonous gases are released in the case of a fire (when, for instance, PVC burns in a pneumatic tube system, it releases hydrogen chloride and dioxins)
- > Recyclable – Telelift systems primarily comprise aluminum and high-quality metals that can be recycled
- > No problematic waste resulting from PVC materials
- > No additional waste-disposal requirements

## Control center

The Telelift system is controlled by a specially designed control system that is expandable via Ethernet and CAN bus. Central access to all active modules and visualization allow all requirements for modern logistics processes to be met with the highest standards in quality and reliability. This makes maintenance work much easier and significantly minimizes operating costs.



# We keep your goods moving

The high availability of transport systems and the satisfaction of our customers are always in our focus. Whether it is routine maintenance, repair, procurement of spare parts, or modernization, use our service for your success.

# Service

## Structural planning



This task determines the track layout. Telelift conveyor systems link up workstations in buildings and production facilities, regardless of the specific architecture. Thanks to its flexibility and versatility, the UniCar rail-based transport system is designed for highly effective operation in almost any environment.

## Project execution

The implementation of a logistics project is a complex process. The supplier's project managers and quality managers have to be committed experts and enjoy the support of their teams at all levels. At Telelift we are proud of our project managers, who combine excellent management skills with in-depth technical expertise – whether it's in engineering mechanics, project planning, control equipment, or software development. The result is more efficient communication with customers, more direct implementation of their wishes, and a shorter time to turn-key project completion.



## System layout

The modular construction of the rail system enables horizontal, vertical, and overhead travel – whether integrally planned in new buildings or installed later in existing facilities. Telelift systems solve logistics tasks reliably with the minimum space requirement.



## Maintenance and training



To maintain the constant availability of the transport systems, their components are checked by service technicians at regular intervals. Upon request we offer a full service that covers all maintenance and repair costs, as well as material costs. We also offer our customers training during commissioning, and we educate and train specialists.



Medical

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