

K.HARTWALL

Logistics Efficiency through Innovation



LIFTLINER®

Say goodbye to forklifts

WHAT DO YOU WANT TO ACHIEVE?



Implement forklift-free operations?



Improve the efficiency of an existing tugging train system?



Improve ergonomics and health & safety?



Find a solution to support new production layout?



Move to partial or fully automated operations?



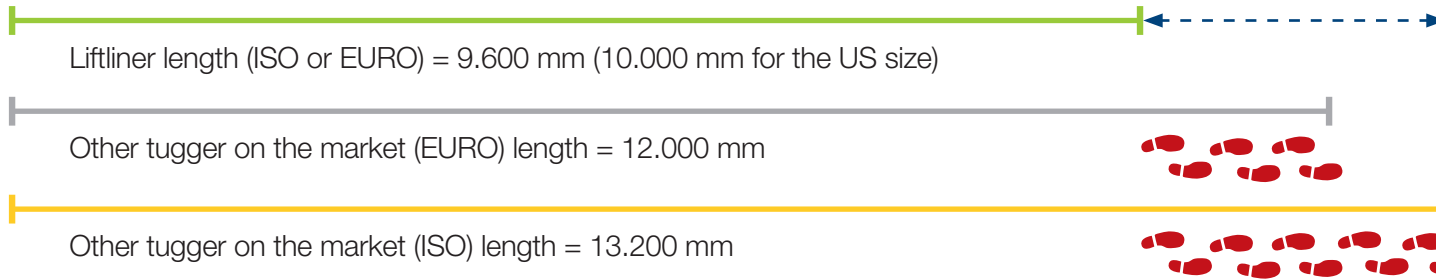
LIFTLINER®



Extremely space-efficient & agile



27%
Shorter



- ✓ Shorter train and excellent tracking – less space required for transportation...save the space for production!
- ✓ Shorter train equals less walking & handling time

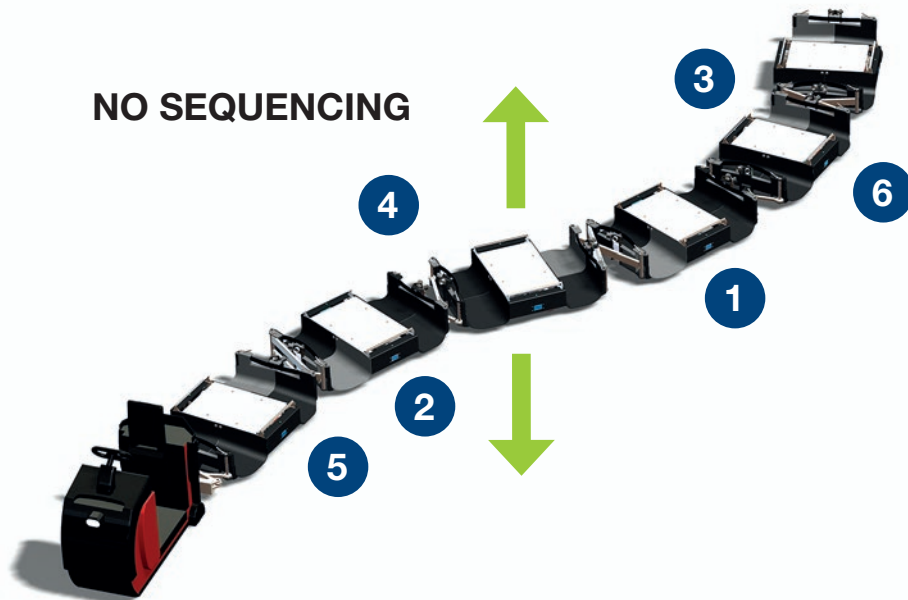



Save the space for what generates revenue





Loading and unloading from either side




< 3 SECONDS
Time to lift
1 tonne

- ✓ Load/unload from either side
- ✓ No need to U-Turn
- ✓ Create the fastest and most efficient routes through your facility without any worry of sequencing deliveries

 **Save time of the operator**



Best ergonomics, improve Health & Safety

HEALTH AND SAFETY

- ✓ Walk-through between mother carts prevented
- ✓ Train doesn't move if carts are not locked
- ✓ Excellent tracking creates a safe work environment
- ✓ Smooth rounded corners of the carts a safe work environment

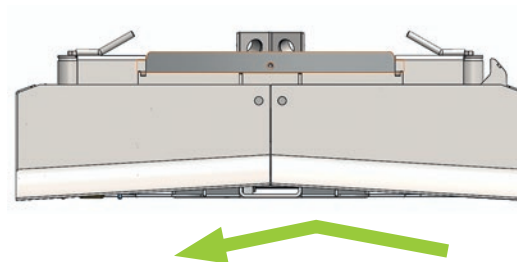


ERGONOMICS

- ✓ Ergonomic handling of up to 1.000 kg per cart!
- ✓ The load tilts toward the operator when unloading
- ✓ Rooftop shape of the frame for the most ergonomic loading
- ✓ Daughter Cart wheels turn automatically in rolling direction when tilting

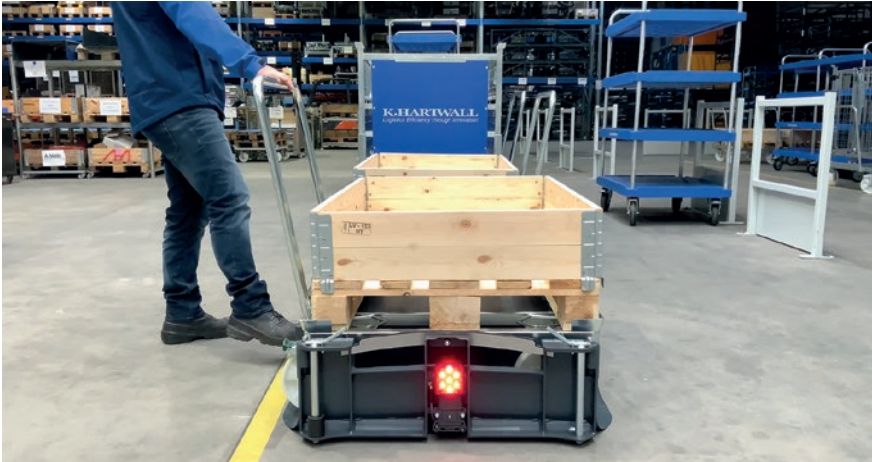


Save sick leave costs





Flexible unit for different loads and processes



FLEXIBILITY

- ✓ Carries multiple cart sizes without losing train capacity
- ✓ Compatible with all standard tuggers



FIT FOR AUTOMATION

- ✓ Compatible with automated tuggers – future proof
- ✓ The LiftLiner can communicate with the AGV tugger
- ✓ High safety standard for AGV communication (PLd)



Reduced manpower, traffic and number of trains needed, supports standardization



Benefits

Distance: 1.200 m – Time: 10.3 minutes



BE MORE EFFICIENT
6 FORKLIFTS = 1 LIFTLINER TRAIN



Distance: 300 m – Time: 2.6 minutes



 **LIFTLINER**®



MILKRUN SYSTEM VS FORKLIFT

BENEFIT 1

✓ Less waiting times and less accidents

BENEFIT 2

✓ Fight against labor shortage: LiftLiner can replace 3–6 forklifts and drivers



Datasheet



LIFTLINER®

External width	1000 mm
External length	3200 mm
Tare weight	350 kg
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Max load per mother cart	1000 kg
Wheel material	Polyurethane
Wheel size	200 mm
Lifting range	60 mm
Train length with 3 Liftliner®	9600 mm
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Maximum train speed	
3 LiftLiner pairs	8 km/h
4 LiftLiner pairs (max length)	6 km/h
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U turn radius with 3 Liftliner	4500 mm
Ground clearance	0/60 mm
Maximum slope	10 %
Coupling system	Crossbar system

LiftLiner® is made out of a pair of 2 mother carts. Each mother cart carries a daughter cart or an elephantboard.



ELEPHANTBOARD®

External dimensions

- EURO	1220 x 820 x 1810 mm
- ISO	

Working load capacity 500–1000 kg

Shelf material Heavy-duty plastic

Number of shelves 1–6

Distance between shelves 228–365 mm

Tare weight 65 kg

Wheel combination 4 swivel

Wheel material Polyamide

Wheel size 200 mm

Surface treatment -



DAUGHTER CART

1240 x 840 x 318 mm
1240 x 840 x 318 mm

Working load capacity 1000 kg

Shelf material -

Number of shelves -

Distance between shelves -

Tare weight 29 kg

Wheel combination 4 swivel

Wheel material Polyamide

Wheel size 200 mm

Surface treatment Blue zinc plated

The LiftLiner® can carry daughter carts sized:
800 x 600 mm
1200 x 1000 mm
1200 x 800 mm



Fully electric



Improves employee safety



AGV compatible



25% more space-efficient compared to other tugger trains



Lifts in 3 seconds and carries 1 tonne per loading position



They are already using LiftLiner®



BOSCH



“We always look for ways to improve our operations. With the LiftLiner® our internal logistics is handled in a more efficient and ergonomic way.

The fact that the LiftLiner® is very compact has also enabled us to reserve more space for our production line.”



IDEAL APPLICATIONS

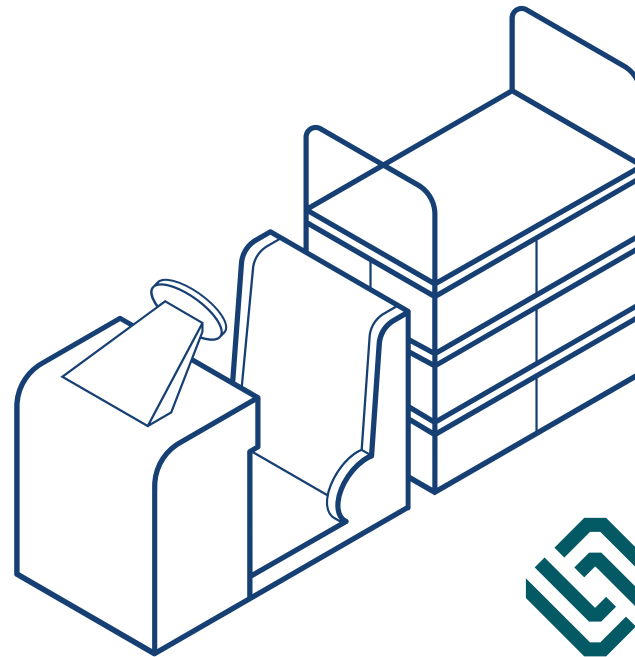
- + Retail
- + E-commerce
- + Warehousing
- + Manufacturing
- + Automotive
- + Postal & Parcel
- + DIY

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Watch
the video



LIFTLINER[®]

**MAKE THE NEXT
SMART MOVE
IN LOGISTICS**