



PERFORMANCE – that pulls its weight.

Boost your efficiency with tow tractors from Jungheinrich.



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02

Why choose tow tractors from Jungheinrich?

Our electric tow tractors promise smooth operations and well-thought-out processes.

In material handling, every movement counts – and this is exactly where our electric tow tractors excel. They transport goods efficiently, flexibly and safely – with zero emissions and low operating costs.

Whether it's a narrow production hall or a spacious factory site, Jungheinrich tow tractors use directionally stable trailers to transport your goods reliably to their destination. This process can even be fully automated if you like – thanks to smart components from our co-operating partners.

The main benefits at a glance:

- ▶ **Versatile tow tractor portfolio** for every requirement.
- ▶ **Up to 28 tonnes of drawbar pull.**
- ▶ **Energy efficiency** for sustainable operations and reduced costs.
- ▶ **Maximum availability** through unique **service and support.**
- ▶ **Flexible trailer concepts** for different loads and applications.
- ▶ **Ability to plan costs** with rental and service packages for the entire tow train.



More highlights of our tow tractors.

1.

Flexible combination.

For every task, there is a suitable trailer. Choose from a variety of solutions and optimise your material flow in no time.

2.

Comfort & safety.

Less physical strain, more comfort: our tow tractors reduce tiring activities, ensure a positive driving experience and lower the risk of accidents.

3.

Maximum reliability.

We develop and manufacture according to the highest quality standards. Our electric tow tractors are particularly low-maintenance, robust and reliable.

4.

Environmental friendliness.

Electric tow tractors are equipped with powerful, low-emission electric drives. This helps to reduce CO₂e emissions and supports companies in achieving their environmental goals.



03 Our expert in conversation.

// If the processes are stable, the tow train is almost always worthwhile. //

When is the right time for a company to consider introducing a tow train? Andreas F.:

As soon as material flows become more complex and there's a need for precise, flexible supply, it's worth considering tow trains – such as for just-in-time production, increasing transport volumes or changing production requirements. Considerations such as safety and sustainability also make a case for efficiently consolidating internal traffic. A process analysis and individual consulting can help to determine the optimal timing.

What is important for companies to consider when integrating tow tractors and tow trains into their material handling? Andreas F.:

Four points are important: which materials and loads are involved, how loading and unloading is carried out, whether there are bottlenecks and what the material flow looks like in detail. On this basis, we work with the customer to select the appropriate trailers and then the tow tractor. Additionally, the company needs a representative who actively supports the introduction and drives the logistics change.

How does the role of employees change when tow trains are introduced or automated? Andreas F.:

Employees benefit from structured processes and more relaxed working conditions, which noticeably increases job satisfaction. Tow trains bring clear processes, less rush and more safety – thanks to better oversight and less vehicle traffic, the risk of accidents is also reduced. There is often scepticism at first because familiar equipment is no longer available. But experience shows that once the benefits become apparent, acceptance grows rapidly.



Andreas Füchtmann
Product Manager at Jungheinrich

What service and support does Jungheinrich provide to help customers to optimise the deployment of tow tractors and tow trains?

Andreas F.: We support our customers throughout the entire life cycle of their tow train – from consulting to taking back the vehicles for a resource-saving second life as a Jungheinrich Jungstar. After implementation, we assist with optimisation, offer flexible financing (purchase, leasing, rental) for maximum planning security and ensure transparent costs and operational readiness with our full service. Additionally, our technical support minimises downtime.

Is there a project from your experience that particularly stands out in your memory?

Andreas F.: Many projects remain memorable – especially when the result clearly shows how much the customer benefits from the advantages of the tow train. I find projects particularly exciting where the switch from individual to collective delivery represents a real change in the logistics process. We often also support deployments outside production, for example in online trade or retail. There is still a lot of potential for tow trains, especially in order picking, where other trucks have often been used up to now.

What does the return on investment look like – when is a tow train economically viable? Andreas F.:

If the processes are stable, the tow train is almost always worthwhile. It saves on material usage, often reduces personnel requirements by up to 50 per cent and its cost-effectiveness can be quickly calculated. In addition, the tow train creates clear structures and is an important step towards automation – without removing people from the process. Often, there is additional potential for further optimisation that is not even considered in the initial business case.





05 Tow trains make the difference.



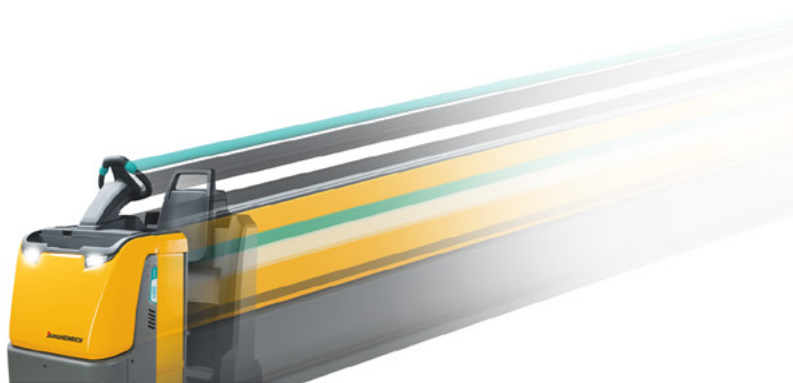
When are tow tractors or tow trains the optimal solution?

Our tow tractors play a central role, especially in industry, but the demand for tow train solutions is also steadily growing in other areas. Wherever large quantities of material regularly need to be transported efficiently over long distances, tow trains offer decisive advantages:

- ▶ Materials can be picked and transported collectively.
- ▶ Warehouse materials (e.g. small load carriers) reach the production site just-in-time or via Kanban control.
- ▶ Goods are picked up at several stations and transported further.
- ▶ Finished products (e.g. large load carriers) are reliably transported to the warehouse.

More efficiency, less traffic.

In warehouse and production halls, several trucks are often in deployment simultaneously. Tow trains consolidate transports, reduce truck requirements and optimise material flows. This saves costs, reduces traffic and increases safety through directionally stable, clearly defined routes.



Achieve more with tow trains.

While forklift trucks excel in the flexible lifting and moving of individual loads, tow tractors with tow trains demonstrate their strengths on long transport routes.

More is more – tow trains mean an **INCREASE** in:

- ...**TRANSPORT CAPACITY:** more goods in one transport.
- ...**FLEXIBILITY:** different load carriers in one transport.
- ...**SAFETY:** fewer accidents due to defined routes.
- ...**SECURITY OF SUPPLY:** punctual material supply
- ...**PROCESS CONTROL:** greater transparency and predictability.
- ...**ERGONOMICS:** reduces the load on employees.

Less is more – tow trains mean a **REDUCTION** in:

- ...**TRIPS:** fewer trips mean reduced CO2e emissions.
- ...**INDUSTRIAL TRUCKS:** one tow train replaces several individual trips.
- ...**DOWNTIMES:** optimised route planning prevents empty runs.
- ...**COSTS:** lower acquisition, personnel and operating costs.
- ...**STOCK:** just-in-time instead of overstocking.

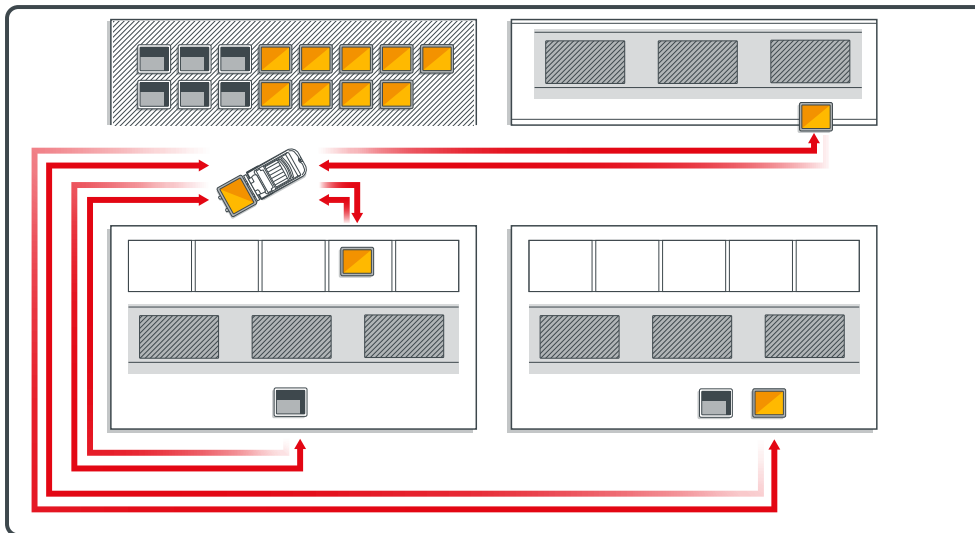


06 Tow trains make the difference.

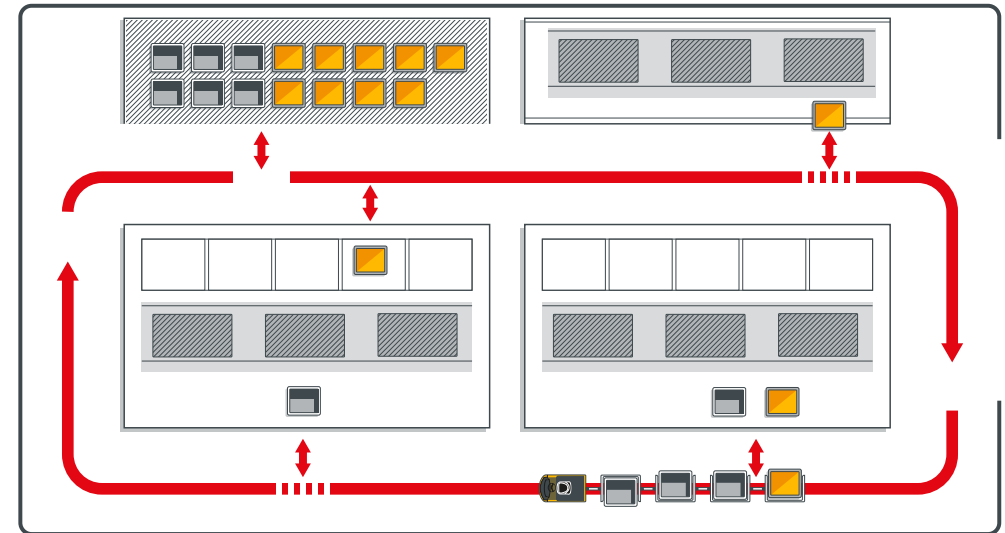


A tow train delivers: directly and reliably.

The advantages of a tow tractor with a tow train can be easily illustrated with an example: while forklift trucks individually supply the three assembly lines (left), the tow train supplies several lines in one cycle (right). This reduces distances, here, for example, 1.8 km instead of 4.2 km. It also saves time and increases efficiency in internal transport.



Typical factory layout in mechanical engineering with three assembly lines, supply with forklift trucks



Solution using tow tractor and tow train



07 The right trailer for every load.

These trailers master every transport.



We will find the ideal solution for your material flow – thanks to our broad portfolio of trailer types and partner companies.

Shelf trolley

Multiple levels, in a tow train or manually, can be loaded and unloaded from both sides.

Taxiliner

Ideal for transporting small load carrier box stacks in the milk run train – can be loaded and unloaded from both sides.

B-Frame

Ideal for tow trains, highly manoeuvrable, can be loaded and unloaded from both sides.

E-Frame

Easy insertion of the trolley into the trailers – good directional stability.

C-Frame

High capacity – for indoor and outdoor use.

Portal trailer

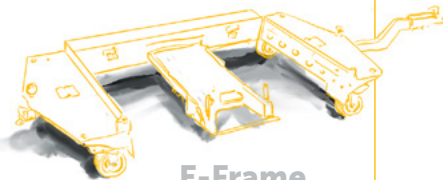
Can be loaded and unloaded from both sides – very high directional stability thanks to all-wheel steering.

Platform trailer

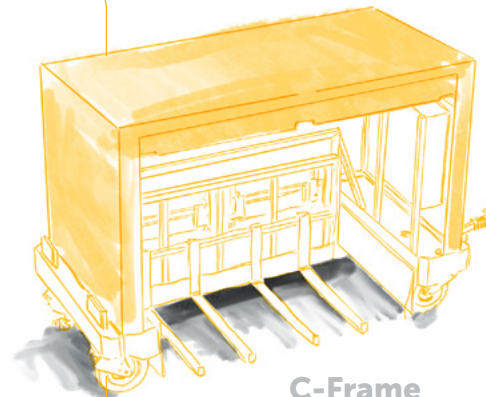
Can be moved by towing vehicle or by hand – loading and unloading from both sides.



Shelf trolley



E-Frame



C-Frame

For a larger selection of trailer types and individual solutions, simply contact your experienced Jungheinrich consultant.



08

Five steps to the perfect tow tractor.



The easy route to a tow tractor – from the load to the solution.

Jungheinrich will find the right combination of tow tractor and trailer type for you – in five simple steps:

1.

PLANNING.

We analyse your transport processes: What loads? What quantities? Which stations?

2.

TRAILER SELECTION.

Based on these requirements, we recommend the appropriate trailer types.

3.

TOW TRACTOR SELECTION.

Only now do we discuss the right electric tow tractor, tailored to loads, distances, the required draw-bar pull and deployment conditions.

4.

INTEGRATION.

Thanks to our experience, the transition becomes effortless – you will immediately save time and money.

5.

FUTURE.

We remain your contact – with our reliable service, we minimise downtimes and will continue to support you with further optimisations in the future.





Electric tow tractors for your material handling



10 Deployment for Liebherr at the Bischofshofen plant.

Long transport distances are no problem for our electric tow tractors.

CHALLENGES:

- ▶ Connection of the new automated container and pallet warehouse for production supply.
- ▶ Long transport routes on the factory premises for just-in-time supply of production.
- ▶ High traffic volume on the transport routes.
- ▶ Switching between indoor and outdoor use requires optimal manoeuvrability and maximum weather protection.

SOLUTIONS:

- ▶ Tow train solution for the safe transport of large amounts of material.
- ▶ The EZS 7280 tow tractor pulls the tow train with outdoor trailers.
- ▶ Together with the Industry Train trailer system, they form a directionally stable and agile train.
- ▶ Lithium-ion technology for maximum availability.

RESULTS:

- ▶ Increased number of transport movements is avoided.
- ▶ Fewer transports mean fewer accidents and lower energy costs.
- ▶ Massive increase in supply frequency through the deployment of the tow train.
- ▶ The Jungheinrich on-site service impresses the customer with short response times and the highest service quality.



// The safety and directional stability help us to manoeuvre well in tight conditions and, of course, also guarantees a high level of occupational safety. //



11

Great satisfaction, lower costs – our tow tractors prove their worth.

We are optimising material handling in the new Bosch Rexroth plant.

CHALLENGES:

- Consolidation of three locations into one central location in Brnik near Ljubljana.
- High expectations for a reliable and robust fleet of industrial trucks and warehouse technology.
- Need for flexible, modern solutions to optimise internal material flow and minimise downtimes.
- Planning and implementation of a comprehensive and cost-effective rental model for the forklift truck fleet.
- Ensuring fast and high-quality services.

SOLUTIONS:

- A tailored rental fleet consisting of 24 Jungheinrich trucks, including electric forklift trucks, reach trucks, pallet trucks and stacker trucks with lithium-ion batteries.
- Deployment of tow trains with Jungheinrich EZS 350 tow tractors and LiftLiner® trailers for optimised material flow.
- Use of lithium-ion technology for higher energy efficiency and truck availability.
- Regular exchange with Bosch Rexroth for the ongoing adaptation of the fleet and the racking system to production requirements.
- Fast, comprehensive service from globally present technical service specialists to minimise downtimes.



RESULTS:

- Optimised material flow and shorter throughput times thanks to tow trains and a modern truck fleet.
- Reduced operating costs thanks to the flexible rental fleet.
- Higher efficiency and availability through lithium-ion technology.
- High satisfaction at Bosch Rexroth thanks to durable machines and reliable service from Jungheinrich.
- Increase in warehouse capacity to 3,000 pallet storage locations through a custom racking system.

// The transport is very user friendly, for logistics and production. //



12 The portfolio that pulls its weight.

Discover precisely the tow tractor that you need.



PEDESTRIAN-CONTROLLED TOW TRACTORS.

Ideal for smaller loads over short distances: our agile pedestrian-controlled tow tractors can be turned on the spot and, thanks to various coupling systems, are flexible in use with different trailer systems.

STAND-ON TOW TRACTORS.

Powerful, compact and ergonomic: our stand-on tow tractors ensure efficient load transport in tow trains or with various trailers. The well-thought-out design of the tow tractors enables comfortable working and maximum travel safety.

SIT-ON TOW TRACTORS.

Dynamics meet comfort: with a fully sprung chassis, powerful acceleration and high top speeds, our sit-on tow tractors can handle loads of up to 28 tonnes even over longer distances – both indoors and outdoors. The comfortable operator position combines sufficient legroom with easily accessible controls.



EZS 010



EZS 130



EZS C40



EZS 350



EZS 7280



EZS 590

13 **Talk to our experts today:**



WE WILL BE HAPPY TO ADVISE YOU

Make an appointment now!

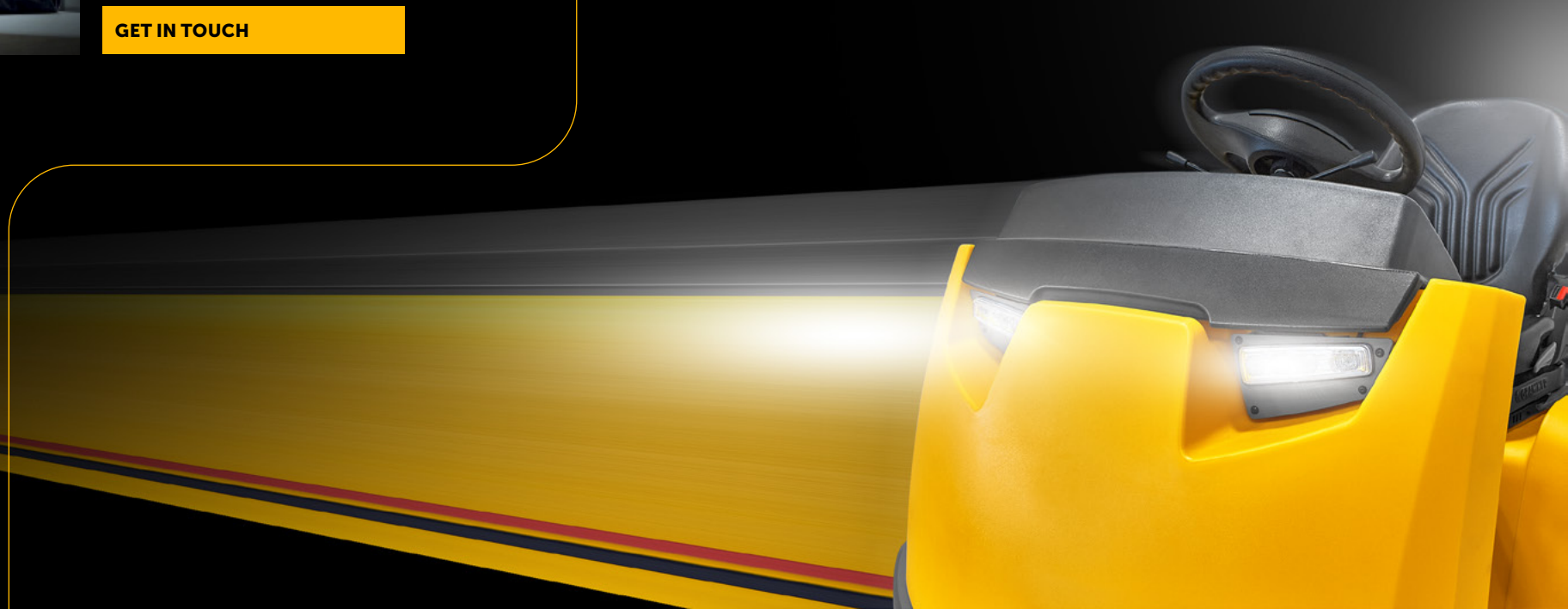


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GET IN TOUCH





Certified information security ISO/IEC 27001:
The highest security standards apply to
the development and operation of our digital
solutions to protect your information.

ISO 9001
ISO 14001

The German production facilities
in Norderstedt, Moosburg, Landsberg
and Kaltenkirchen are certified.



Jungheinrich trucks
conform to the European
Safety Requirements.

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