

STILL Platform Trucks, Tractors and Tugger Trains.

Power in Motion.





STILL PARTNERPLAN .

## STILL PartnerPlan - we will show you the way!

The STILL PartnerPlan is a clear and transparently structured framework to help you find the perfect customised intralogistics solution. It includes our complete range of trucks, system solutions, services and financing options. The STILL PartnerPlan enables us to work together as partners and to create a bespoke package by producing a customised combination of individual components from our range. With the STILL PartnerPlan we will find a solution precisely tailored to your needs and requirements – from industrial trucks, automation and software solutions to services including genuine and original parts as well as the right financing solution for you. At the same time, you will benefit from a seamless integration of all STILL products. Optimum interaction is guaranteed and success can be planned. We will show you the way!

# STILL PartnerPlan

Transport	Electric trucks	Diesel and LPG trucks	Warehouse equipment	Platform trucks and tractors	Tugger trains	Used trucks
Systems	Intralogistics consulting	Rack systems	Warehouse software systems	Driver assistance systems	Automation systems	System integration
Service	Safety	ਨੂੰ ਸ਼੍ਰੇ ਹਾਂਤਾਜ਼ਾ Original parts	Diagnostics and repair	Maintenance and Full Service	Fleet Data Services	Training
Financing	Purchase	Hire-purchase	Leasing	Long-term rental	Short-term rental	Basic- Dynamic®

## Our electric platform trucks and tractors - always ready for duty.

Our fast and powerful electric tractors and electric platform trucks can be incorporated into your intralogistics set-up very quickly and easily. They are ideal for transporting materials internally over medium to long distances, with or without a trailer. They are typically used for moving materials between warehouses and production halls, for example in the automotive industry, at airports or as part of railway or mail logistics systems.

	LTX 20	LTX 50	LTX-FF 05/10	LTX 70/80	LXT 120-350	LXW 20/30
		Blue-Q/Li-Ion	Blue-Q/Li-Ion	Blue-Q	Li-lon	Li-lon
	Tractor	Tractor	Tractor with lift function	Tractor	Tractor	Platform truck
	2.0 t	5.0 t	5.0 t	8.0 t	35.0 t	6.0 t
i			0.5 t/1.0 t	0.15 t	0.3 t	3.0 t

#### Tugger train trailers for all eventualities - they certainly pull their weight.

Flexible material handling with an effective concept: easy handling of a wide variety of load carriers with STILL platform trucks and tractors in combination with LiftRunner components, with B-, C- and E-Frames as well as compatible trolleys.



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# STILL platform trucks and tractors - picking up speed

The power of good design: our engineers have been optimising and improving the systems and platforms of STILL's range of platform trucks and tractors for years. They integrate the latest developments in materials research, battery technology and control engineering and adapt them to meet the latest logistics and stock movement requirements. In consequence, our trucks and tractors achieve outstanding results on account of their features:

- + Flexible manoeuvrability in narrow aisles.
- + Speeds of up to 25 km/h.
- +Impressive ergonomics with safe and easy access and exit points.
- + Quick and easy battery changes.
- + Integrated writing desks, comfortable backrests and numerous other vehicle options.
- + Combined solution with forklift function (LTX-FF).
- + Various extensions, fittings and additional functions (e. g. crane unit, tipper or tarpaulin cover).



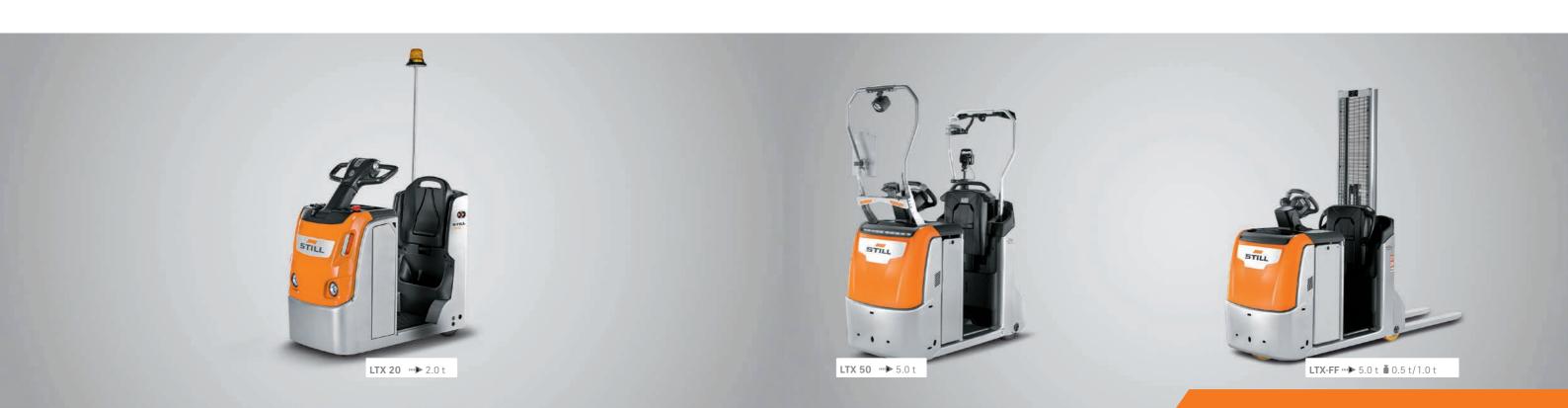


LTX 20. With a width of only 600 mm, the tractor is agile and compact even in the tightest of spaces and provides comfortable working conditions thanks to its low entry and large footwell. An ergonomic backrest with integrated folding seat and a sprung and cushioned driver's cab make driving comfortable and efficient.

Real hard workers: The LTX 20 tows loads of up to two tonnes and impresses with excellent acceleration. With a top speed of up to 8 km/h, it gets the job done in record time. Additional options are also available for even better efficiency, such as pedestrian operation and lateral battery change.

LTX 50. If an application specifically requires the driver to constantly mount and dismount the vehicle, the stand-on tractor LTX 50 with a low access step is the perfect solution. When used as a tugger train in combination with various different trailers, the LTX 50 also efficiently supplies assembly lines and is perfect for transporting loads over longer distances. A comfortable backrest, a range of driving modes and many other options to choose from make it a reliable partner for many areas of your company. The LTX 50 pulls up to five tonnes from A to B, both efficiently and comfortably.

LTX-FF. LTX-FF is the ultimate production supply vehicle in terms of modern lean production techniques or the 'kanban' system: it combines two essential functions, namely powerful towing of trailers and stacking of goods. Thanks to a powerful drive, it pulls up to five tonnes but is also capable of stacking and reloading goods. With an integrated mast, it lifts goods of up to one tonne up to a height of 1,800 mm. The extremely dynamic 3-kW three-phase motor allows for a top speed of 13 km/h while the compact design makes it easily manoeuvrable even in narrow aisles.





LTX 70. Would you like some more? The LTX 70 even makes light work of transporting heavy goods. Up to seven tonnes and more can be attached to the tractor, naturally also when used as a tugger train. The modern vehicle design combined with excellent driver comfort and an LED daytime driving light make the LTX 70 an indispensable assistant even for the most challenging of operations. Due to a low energy consumption the batteries last for a long time. Pedestrian operation meanwhile enables you to carry out production supplies and goods

deliveries in next to no time. Be it inside or out, when starting up ramps or when dismounting - the LTX 70 is full of strenghts: the automatic parking brake, for example, is activated as soon as the driver leaves the vehicle. The STILL Ramp Indicator also informs the driver of the current gradient, making the LTX 70 a reliable partner even in tricky situations. Comfortable driving over long distances, even on a bumpy road: the optimally cushioned driver's seat keeps the driver comfortable on horizontal transports over long distances.

LXT and LXW. The LXT and LXW tractors and platform trucks are reliable partners for all applications, even harsh working environments. Thanks to the hydraulic braking system for the front and rear axles, the two vehicles are as safe as they are efficient. The Descent Speed Regulation (DSR) intelligent assistance system takes your handling capacity to a whole new level. As soon as you reach a slope, the DSR determines the tilt angle and towing load and automatically adjusts the driving speed. Both vehicles also impress in terms of their comfort and ergonomics. The operator's cab can be configured in many ways and provides optimal all-round visibility. With STILL Easy Control, the operator always has an overview of all the important information.

**LXT.** The LXT pulls loads of up to 35 tonnes at up to 25 km/h, not only at airports and train stations, but also in more awkward environments. The LXT can also transport up to 300 kg on its truck bed.

**LXW.** The LXW tows loads of six tonnes and can transport up to three tonnes on its truck bed. The transport platform is equipped with lashing eyes as standard and can optionally be equipped with fold-out side panels all the way round, enabling safe transport of goods and providing a solid base for other structures.



# Perfectly designed for transporting goods from A to B.

A direct connection to the warehouse and lean production processes are central to today's production systems. Therefore, STILL provides flexible and combinable tugger train systems to meet the requirements of modern logistics concepts. Ease of operation, variant diversity, good manoeuvrability, and low wear and tear aim for an optimal use of the resources space and time.

Further benefits of STILL tugger train systems:

- + Extremely high process efficiency.
- + Fewer staff required in materials supply.
- + Numerous possible applications thanks to flexible combination of tractors and trolleys.
- + Excellent driving characteristics and directional stability.
- + Low level driving noise and low wear and tear.
- + Ease of operation for all applications thanks to an extremely wide range of versions and combination options.
- + Easy handling, even of heavy loads, thanks to specially developed ejector system.





# Analysis and consulting: the perfect starting point.

Before implementing a tugger train system, we assist you by carrying out an extensive analysis of current and future processes. As a proficient and professional partner, STILL can advise you on suitable goods and material flows as well as on which tugger train systems are most suited to meet your specific requirements. As often the case, the whole is greater than the sum of its parts, which is why, at every stage of the project, we always involve the departments and functional areas involved at your company in the process. Because only by jointly developing smart solutions will they be successful.

**Customer-specific solutions:** designed for material flows and combined with corresponding technology.

We provide consulting in the following areas:

- + Potential applications for tugger trains.
- + Combination options for tugger train components.
- + Material flow concepts and automation.

Together we standardise your processes and put together the right combination of tractors, trailers, trolleys and carriers. We will assist you from the necessary change process right through to commissioning and staff training (e. g. for production, logistics, and IT).



The background: A company manufactures both micro transmission systems and large components for wind turbines. The problem: A diverse range of carriers and production parts have to go through several departments located in different areas before they reach production. Supplies are delivered to the production line three times a day by truck. Accordingly, a number of optimisation possibilities appear in terms of time and logistics.

**Our solution:** Following an extensive analysis, the entire material flow was streamlined and synchronised more accurately with tugger trains. The use of LTX tractors, E-Frames and corresponding trolleys put an end to time-consuming loading

and unloading with forklift trucks. Also, lean training sessions were provided for company employees. Overall, there was a considerable efficiency gain for the customer's intra-company logistics.

REAL-LIFE EXAMPLE 15

# All benefits at a glance:

- +Stabilisation and speed-up of entire production supply.
- +Reduction of fleet vehicles, number of employees, energy consumption and costs.
- + Massive reduction in material stock.
- +Increase in ease of operation through use of ergonomic LTX tractors.



# Smart combination of all components.

The fact that STILL's tugger trains can be extended on a modular basis makes them the ideal flexible intra-company logistics system. We have the perfect LiftRunner carrier for every application. The patented transport and removal system and the exceptional ease of operation are the great benefits of the LiftRunner. Regardless of whether you use B-, C- or E-Frames in the train, all components can be combined easily and thus play out their individual advantages.

## B-Frame - the flexible solution.

Maximum flexibility thanks to the fact that it can be loaded and unloaded from both sides without de-coupling the frames makes the B-Frame the perfect assistant for achieving lean logistics. The trolley loading sections are extremely dynamic and can supply two opposite-facing production lines within one journey or be used on alternative routes with no further effort required. This allows you to utilise the full available space at your company's premises. With its load capacity of up to 1,000 kg and as the only design of its kind on the market, the B-Frame is also perfect for very long and wide carriers. The automatic lifting and lowering mechanism, which works when the driver mounts or dismounts the towing truck, makes the B-Frame extremely safe and efficient.

#### C-Frame - the strong solution.

The innovative design and a maximum load capacity of 1,600 kg make the C-Frame a real expert at handling large and heavy goods. Thanks to the adjustable prongs, it is especially versatile when attaching different trolleys: the size and load capacity of the frame can be adapted to the goods that need to be transported specifically for the customer. The C-Frame is also ideally suited for outdoor use thanks to its super-elastic tyres that compensate for uneven ground surfaces. As the steering is transmitted to all four wheels, the C-Frame remains stable even at high speeds and sudden braking actions.

## E-Frame - the swift solution.

As the two-wheeled E-Frame is extremely manoeuvrable and steered through a central axis, it is able to retain its manoeuvrability and dynamic qualities even at high speeds. Always on track, with excellent directional stability even when braking, it always reliably delivers loads of up to 1,000 kg to the specified location. Safe and smart: the loaded trolleys are slid into the lowered E-Frame and secured by an automatic mechanism. They can be loaded and unloaded from the left or right, depending on the course of the docking direction – this allows them to react flexibly to new requirements. The autonomous version of the E-Frame runs without any hydraulics at all for the lifting mechanism: the required energy is generated during the journey itself.







Pallet and rack trolleys. Trolleys are the mobile link between the goods and the tugger train trailer. Using these, the operator can transport the goods to the specified location without the need for any pallet trucks or forklift trucks. STILL offers an extensive range of different trolleys, which can also be customised to customers' particular requirements in terms of application and load carrier. Pallet trolleys are compatible with B-, C- and E-Frames and are predominantly used for Euro pallets and grid boxes. Steel rack trolleys with fixed vertical partitioning are especially suited to heavy loads. The steel mesh shelves are sturdy and prevent dirt build-up. Aluminium rack trolleys, on the other hand, are lighter and therefore easier to manoeuvre. The shelves can also be set to different heights. In addition,

STILL offers a range of accessories such as an electric push and pull mechanism that makes it easy to manoeuvre heavily laden trolleys.

BaseRunner and RackRunner. The steel BaseRunners by STILL make large load carriers easy to transport. Thanks to the easy-to-operate coupling systems, several trailers can be effortlessly connected within one train, with a maximum total train weight of 3,000 kg. Small load carriers and boxes of any kind can be transported with ease using the steel or aluminium RackRunners by STILL. The height of the aluminium shelves is also adjustable. All STILL BaseRunners and RackRunners can be adapted for the STILL LiftRunner tugger train system with minimal effort.





**The background:** The challenge was to switch a vehicle manufacturer's entire parts supply from front loader operations to a circulation system (milk run).

Our solution: Following a fixed itinerary, a tugger train supplies 19 vertical carousels in the assembly hall every hour with up to 445 items in accordance with the 'kanban' principle. The new flexible system with up to five E-Frames and one large or two small trolleys allows for unloading items either from the left or the right at the vertical carousels. The tractor used is extremely ergonomic thanks to the cushioned driver stand-on platform and low access point. The tugger train and trailer combination is only

800 mm wide with a turning circle of less than four metres and a trailer load of up to four tonnes.

## All benefits at a glance:

- +92% energy saving compared to the use of forklift trucks.
- +58% reduction in material supply costs.
- + Considerable improvement in ergonomics for employees thanks to cushioned driver stand-on platform.
- + Maximum flexibility and combination options within the system thanks to easy plug couplings.



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STILL is certified in the following areas: Quality management, occupational safety, environmental protection and energy management.

