



SAFE AND EFFICIENT FLEET MANAGEMENT



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Linde Connect

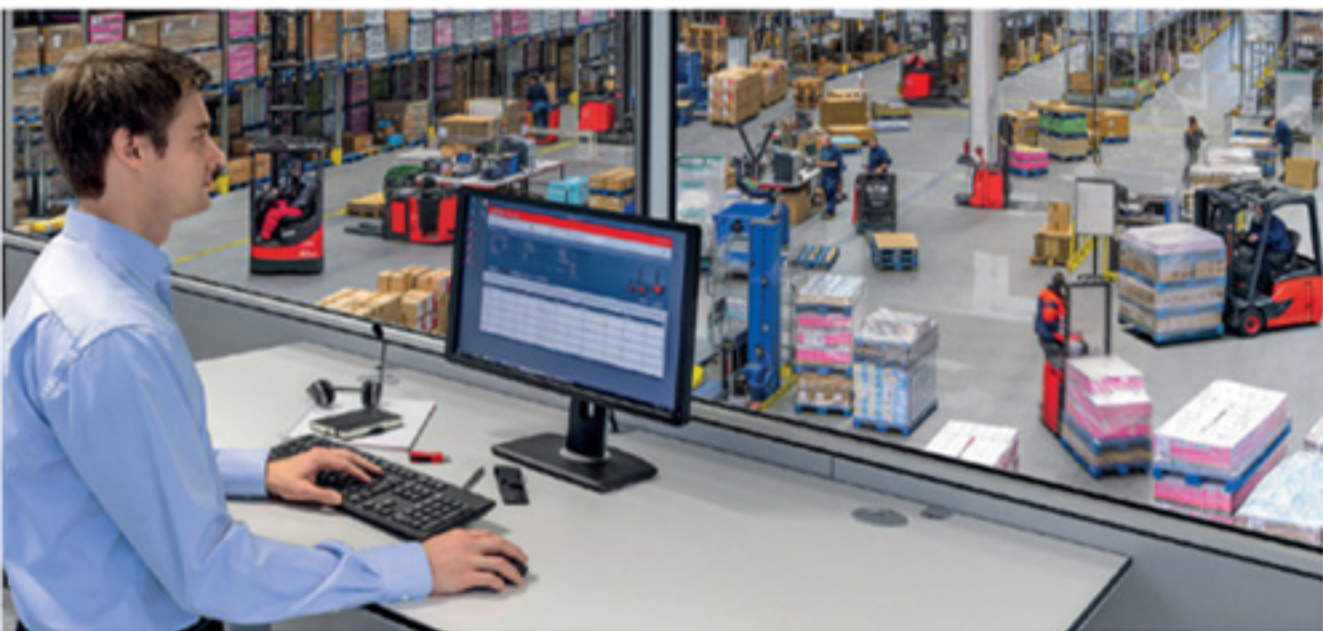
We make your fleet intelligent

Our software and hardware connect your vehicles and deliver comprehensive information, allowing you to make efficient use of your fleet.

Exploit the opportunities offered by digitization: Modern machinery constantly collects data that gives an insight into its state and its capacity utilization. We at Total Link make this data available to you locally or via the Internet. With the link product family, we have developed a fleet management solution that connects your vehicles and your staff, meaning you are always up to date on the status of your

logistics in your production plants or your warehouses. This transparency makes using your fleet safer and more economical, and increases the availability of each vehicle.

- Transparency
- Cost-effectiveness
- Security
- Service optimization



 Simple vehicle and driver management

 Effective access control

 More safety in traffic on premises

 **Linde Connect**

 Clear analysis of fleet usage

 Predictive maintenance

 Visible reduction of violent damage

Portfolio

How Total Link products interact to make your day-to-day work easier.

Infrastructure

Whether Bluetooth, Wi-Fi or mobile broadband technology, all the options are available for your fleet data communications.

Training

The Total link training offers courses for users focusing on a variety of subjects.

Hardware

Our hardware will reliably communicate with a vehicle, collate information, and transmit it wirelessly.

Software

Plan fleet usage, manage drivers' details, monitor and manage vehicles, analyze data, and generate reports: thanks to our programs, you can handle all of this effortlessly from your desk.

Reports and Analysis

Make your fleet as efficient as possible. Over 15 different interactive reports are available for that purpose.

App

The link pre-op check app simplifies vehicle checks and simultaneously provides access control.

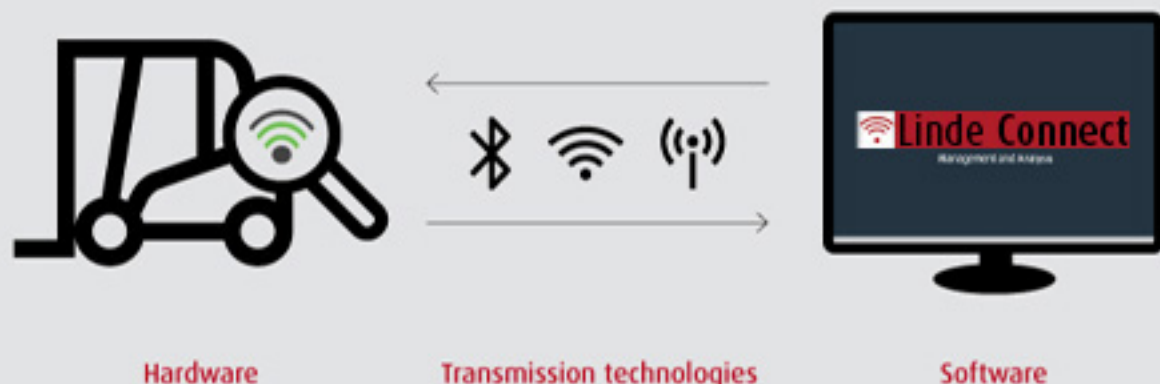
Functional

Our link portfolio is modular in design, allowing you to choose precisely the functions for your fleet that you actually need.

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MODULAR FLEET MANAGEMENT

Our fleet management solution consists of various hardware and software modules. Total Link offers you transparent data on usage and vehicle deployment, as well as an overview of planned service intervals and upcoming driver training. For you that means improved on-site traffic safety, higher vehicle availability and increased cost-effectiveness.



The total link hardware components connect your vehicles and databases using communication technology. The hardware collects data from sensors and control unit and passes it on.

Transmission technologies of the fleet management systems are diverse. According to requirements and equipment you can choose the technology that suits you best.

- Data transmission via GPRS, Bluetooth or Wi-Fi
- Wireless transmission of firmware and function updates
- Straightforward retrofitting of existing vehicles thanks to simple installation

The total link software gives you a clear view of all your fleet data. It is used to manage vehicle and driver data, and it makes it easy to generate reports.

- Data constantly updated
- Tailored and automated reporting
- Suitable for all fleet sizes
- A wide range of customization options and intuitive operation

Access control

With connect:ac, you can control access to your fleet: who is currently behind the wheel of which vehicle? This creates the basis for your planned fleet usage.

ac connect:ac	Electronic key
access control	
ac connect:ac	Pre-shift check via app
pre-operational check	

Vehicle data

connect:dt documents the usage of fleet vehicles: Has a vehicle been used a lot or has it often been idle? Have there been accidents? Is the vehicle functional?

dt connect:dt	Electronic damage monitor
crash detection	
dt connect:dt	Digital logbook
operating hours	
dt connect:dt	Automated error code transmission from truck
trouble codes	

Usage analysis

connect:an enables fleet managers to analyze and monitor the performance of their fleets: How often does a vehicle make a trip or lift something? How much energy does it consume?

an connect:an	Digital usage analysis
usage analysis	
an connect:an	Digital battery maintenance
battery management	

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SOFTWARE

Total Link – the data cockpit

The Total Link application is the centerpiece of our connect portfolio. This is where all the data collected by the hardware comes together and is analyzed and monitored. The software is used to manage the drivers, the vehicles, and the fleet as a whole, putting all the relevant information at your fingertips.

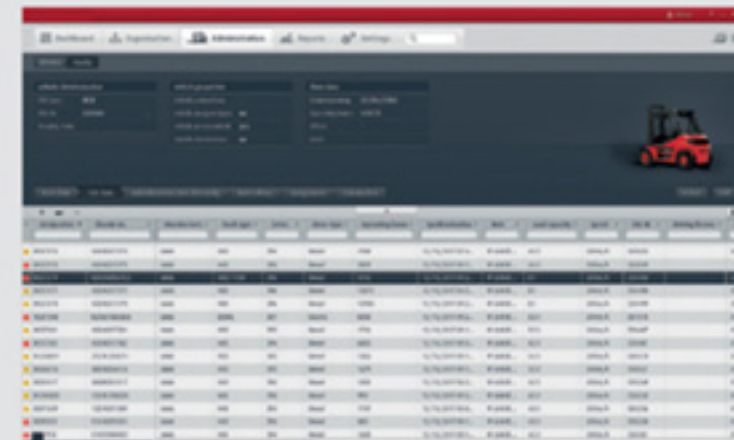


Organized

Total Link displays information broken down by company organization and assigns the drivers accordingly.

Planned

Total Link reminds you about regular fleet maintenance and driver training, and assists you in planning work rotas to accommodate these measures.



Transparent

Total Link presents you with the key vehicle data, clearly displayed on a customized dashboard – or in the form of detailed analyses and reports relating to individual vehicles, drivers, or divisions.

Number of users and features of the software are fully scalable and the user interface is intuitive. Total Link is therefore equally suited to vehicle fleets both large and small. Not only experienced fleet managers with complex tasks, but also occasional users who only need individual functions find it easy to use.

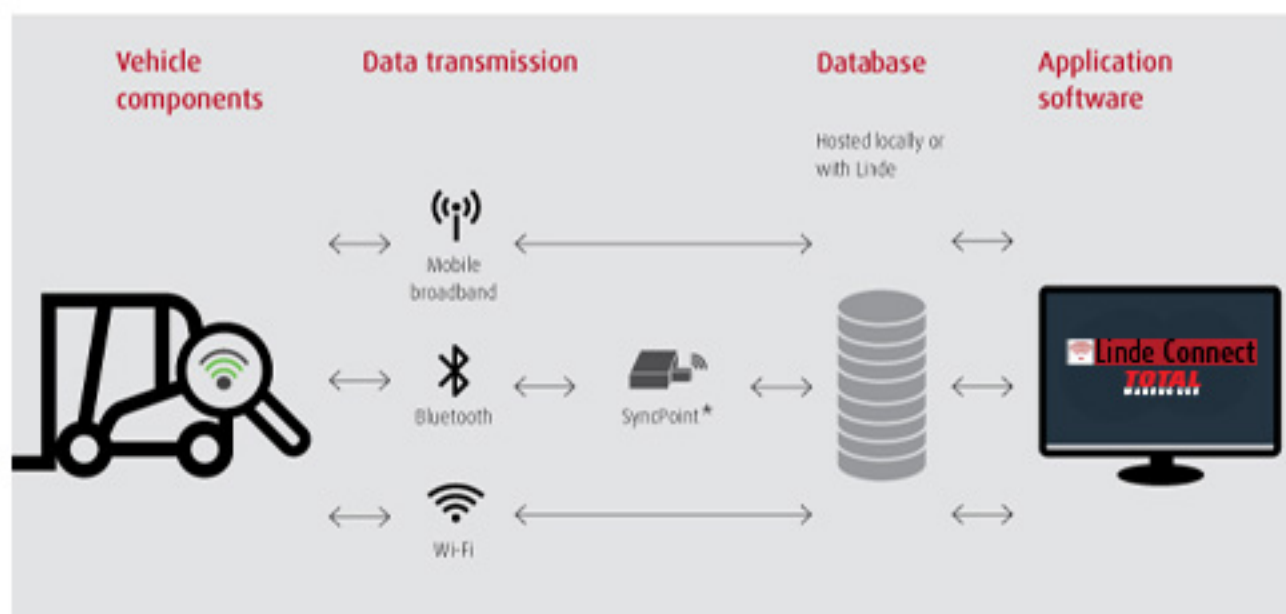
Total Link is normally installed on a PC or tablet or notebook. There is also an optional browser version. Simply ask your dealer about it. The database can be hosted on a local server or at Total Warehouse. This gives you full control of your data. Any number of users can be incorporated, and their access rights and available functions can be configured individually.

- Maps the organizational structures of individual divisions or of the entire company
- Assignment of drivers and vehicles to one or more organizational levels
- Management of access rights based on the vehicle type, driver's license, and period of validity
- Planning and monitoring of vehicle maintenance
- Planning of training and refresher courses
- Digital archiving driver and vehicle documents
- Generating interactive reports in the form of tables and diagrams
- Generating analyses of fleet optimization and vehicle usage
- Automatic e-mail dispatch of individually configured reports and messages

INFRASTRUCTURE

Data Communication

Communication between the vehicle and Total Link can be realized with various systems. You can choose the best way to transmit your data: Bluetooth, Wi-Fi or mobile broadband.



Which requirements determine your infrastructure?

Choose the perfect transmission technology for your needs. You do not have to worry about other processes! All three transmission methods automatically run in the background without the driver or fleet manager actively having to play a part. Incidentally, all three options can be combined and used in one fleet. The data can be hosted locally with you or at Total Warehouse.

★ SyncPoints

... are industrial computers or PCs with a Total Link Bluetooth stick that collect data from vehicles via Bluetooth. The software controls communication, processes the data and delivers it to the database so that it is available in Total Link.



When the vehicle comes within range of a SyncPoint, data is automatically accessed and transmitted via Bluetooth.



Data is transferred directly from the vehicle to the database within the wireless network.



Data is transmitted to the database over the mobile broadband network.

Your benefits at a glance

- | | | |
|---|---|--|
| → No interference in Wi-Fi network | → Data security: Data remains inside the company. | → No infrastructure required: No hardware is required on company premises. |
| → Cost-effective: As a rule, already factory installed. A few SyncPoints on your company grounds are already sufficient for data transmission. | → No new infrastructure required: connect uses the existing Wi-Fi network within the company. | → Indoor and outdoor coverage: Vehicles can transmit data indoors and outdoors. The strength of the connection depends on the network of the mobile broadband operator. |
| → Data security: Data remains inside the company. | → Current data: Blanket coverage enables data to be transferred regularly and kept up-to-date in connect-desk. | → Fast and simple installation: The data unit is easy to retrofit on older vehicles. |
| | → Authentication on basis of IT standards: Authentication is carried out with WPA2 (password) or WPA2-Enterprise (certificates). | |

Vehicle components

- **Retrofit kit.** The Bluetooth retrofit kit is available for older vehicles that do not have Bluetooth. It can be ordered from Total Warehouse.
- The vehicle has to be equipped with a **Wi-Fi box**, which is available as a retrofit kit.
- Almost all new vehicles can be ordered with an online box fitted in the factory.
- Retrofit kits are available for many older vehicle models; they can be fitted in a few simple steps.

On-site infrastructure

- **SynCPoints** are installed at favourable locations in the plant where trucks always pass (e.g. at charging stations, traffic hubs or parking spaces).
- Experts from connect carry out the **one-time setup** procedure on site.
- **Cooperation** with the company's IT department is necessary to implement Wi-Fi transmission.
- **No additional infrastructure**, such as SynCPoints or Wi-Fi hotspots, is required for data transmission.

REPORTS AND ANALYSIS

More than 15 interactive reports about your fleet

The Total Link software enables you to access over 15 different interactive reports on the entire fleet and individual areas, vehicles or drivers. The data is represented in easy-to-understand diagrams and tables. You will always know exactly who used which truck when and how.

These categories of reports are available:



Logbook

List of all recorded events for each vehicle



Usage

Overview of usage and utilization of all vehicles



Service

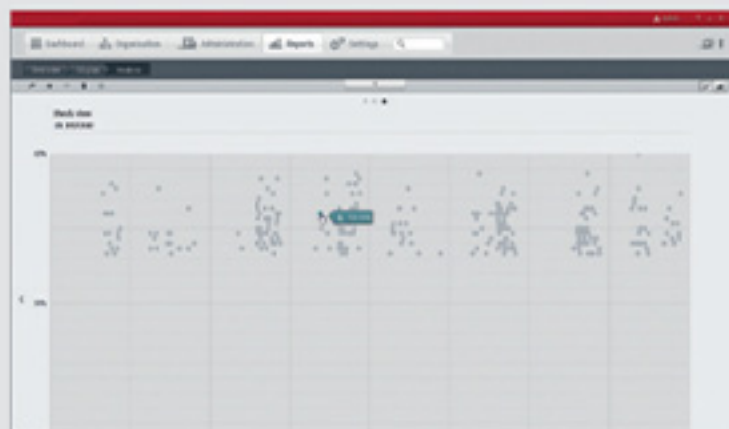
Service and maintenance schedules of all vehicles at a glance



Coordination

Overview of driver data and vehicle availability and distribution

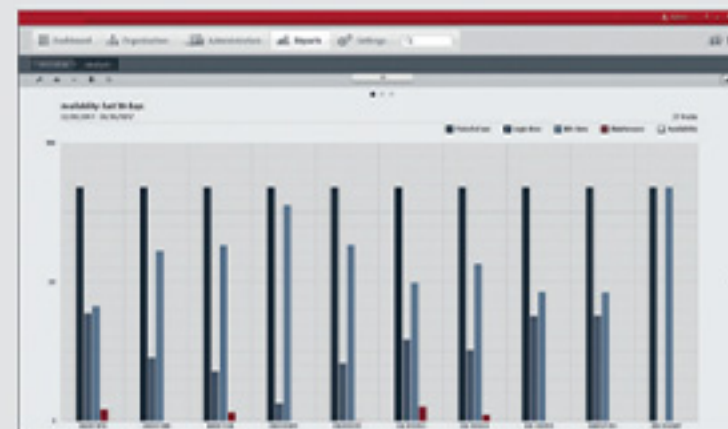
The most important reports at a glance:



Shocks: The shock data enables you to find out when a driver has given a vehicle a jolt – e.g. caused by a collision or a pothole. This increases drivers' sense of responsibility.



Operating hours forecast: Expected fleet operating hours are calculated on the basis of real vehicle usage data. You can determine whether the system should predict the number of operating hours up to a specific time or the time at which a specific number of operating hours is reached.



Availability: This diagram shows whether vehicles are being used, have been parked or are being serviced or repaired. The bars indicate how much potential operational capacity individual vehicles and the entire fleet still have.



Truck usage: Here you will find detailed information about how a vehicle is used: How long is a driver logged in? How high is the proportion of journeys and lifts during that time?

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APP

Vehicle check via smartphone

Simplify the vehicle check before each shift and at the same time create effective access control – with the aid of the pre-op check app and the connect:ac pre-operational check function.

Completing a smartphone checklist ensures that the truck can only be started when a check has been carried out and the vehicle is fully operational. Damage or irregularities can be documented with a photo and immediately reported to the fleet manager.



The checklist configurator allows the fleet manager to freely define the desired questions on vehicle condition to suit the requirements of the job or the location. It is also possible to specify when a check is successful and the vehicle can be started, as well as the conditions under which it shuts down or requires a photo to be taken for documentation purposes.

- Improved safety on company grounds
- Automatic email report of the checklist results in real time
- Photographic record of vehicle damage or irregularities
- Regular survey of vehicle condition
- Freely definable questions
- Recording of questions and answers for later analysis possible

HARDWARE

Teaching your forklift to talk

The various connect hardware components are the link between your fleet, the database, and the Total Link software. They collect and transfer control and sensor data or serve as an electronic ignition switch. Our hardware components can be ordered ex works with new vehicles or are available as a retrofit kit.



1 connect:access unit (CAM)

The access unit (CAM) is available in two different versions: drivers can identify themselves to a vehicle either by means of a personal PIN or using an RFID chip. Vehicle data such as shock readings are transmitted to the SynPoints via Bluetooth. This unit is likewise available as a retrofit solution.

2 Connectivity retrofit kits

is part of your fleet not equipped with your chosen transmission technology? Then it is easy to upgrade to wireless data communications with the appropriate retrofit kit for Bluetooth, Wi-Fi or mobile broadband.

3 connect:data unit (CDX)

The data unit (CDX) logs the data on the vehicle and transmits it to the Linde cloud via the cell phone network. It can also send commands back to the vehicle controls. The unit also downloads firmware updates and additional functions via the cell phone network.

Retrofitting the connect:data unit is easy and takes very little time. The unit is directly connected to the vehicle controls and is operational immediately.