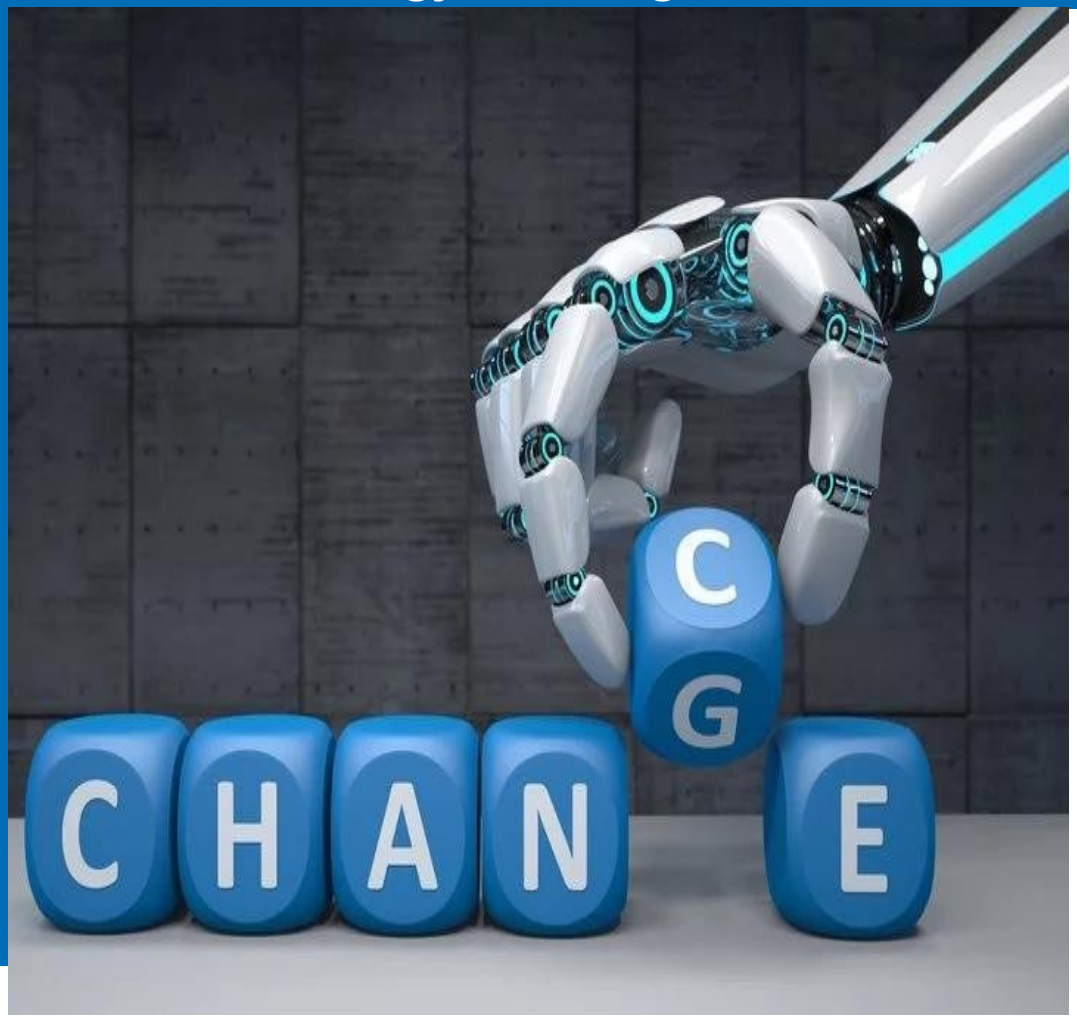
Triathlon - MDLOAD

New Technology Challenges



Inadequate network infrastructure (power outlets)

Overloaded trans-former systems

Mixed fleet for industrial trucks with manufacturer's own incompatible systems

Different charging systems with various plug connections

Electrification of the car and truck fleet by 2030

"Electrification" of Industrial Trucks

TRIATHLON Lithium-Ion battery Systems

TRIATHLON lithium-ion battery systems are designed to meet the high demands of tough industrial use. A complete system consists of Li-ion modules intelligent monitoring and control electronics, various safety components and a HF fast charger.

Modular Concept

Load factor:
less than 1.03

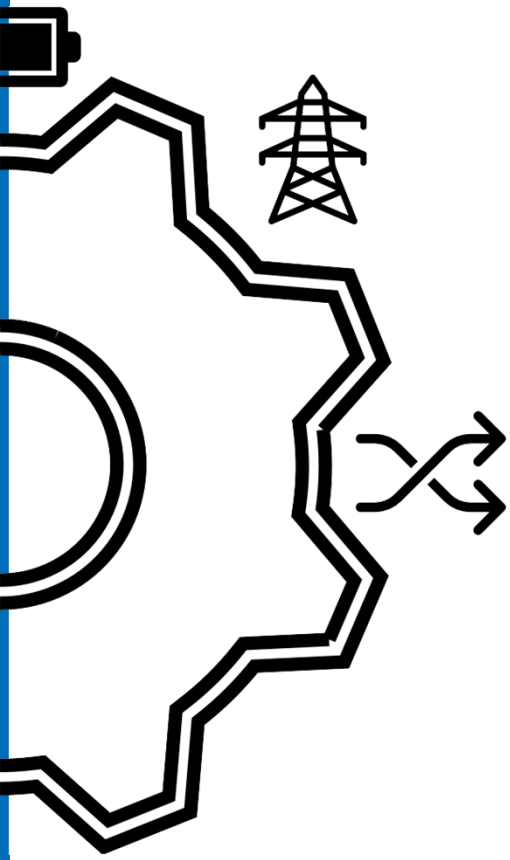
Voltage Range:
24-120 V

2nd & 3rd Life
Capable

Data Logger & Report Function
via USB Interface

Capacity from 74 to 2,368 Ah
in 74 Ah steps

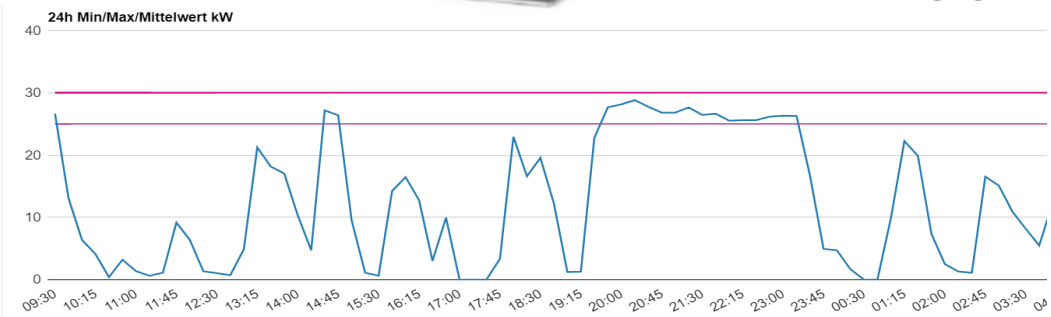
"Electrification" of Forklift Trucks



The innovative **MD LOAD Management** enables smart energy management with the aim of significantly reducing the grid connection capacity. An intelligent real-time algorithm controls the individual chargers and optimizes the power or current output.

- Supports avoidance of high infrastructure costs
- Significant operating cost savings due to lower power prices
- Enables highest fleet availability
- Live display of the individual chargers & SoC via TriVIEW
- Flexible control of the power limits
- Perfectly matched to TriCOM ion series chargers

Advantages of MD Load Management



Dynamic Priority List

Fallback Value in case of error

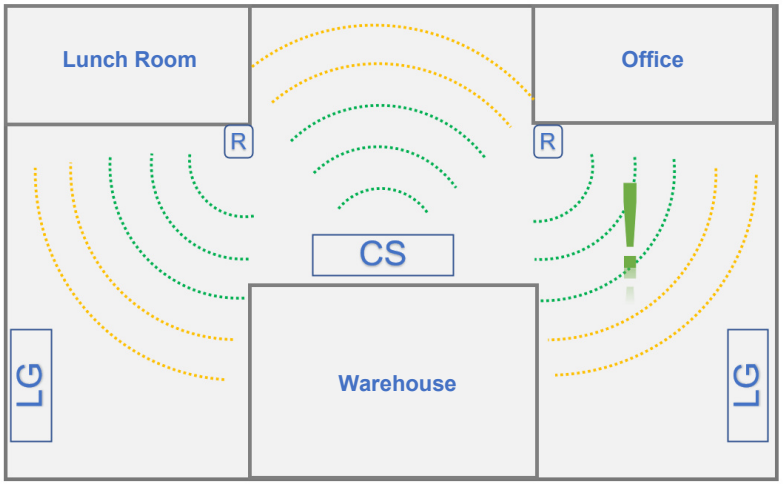
Integration of Wallboxes

Decentralized Charging Stations

Up to 50 chargers per control center

Funkverbindung zwischen Steuerzentrale und Ladegeräten (Frequenz 868MHz)

Facility Considerations



Range (150m) Extendable with repeater

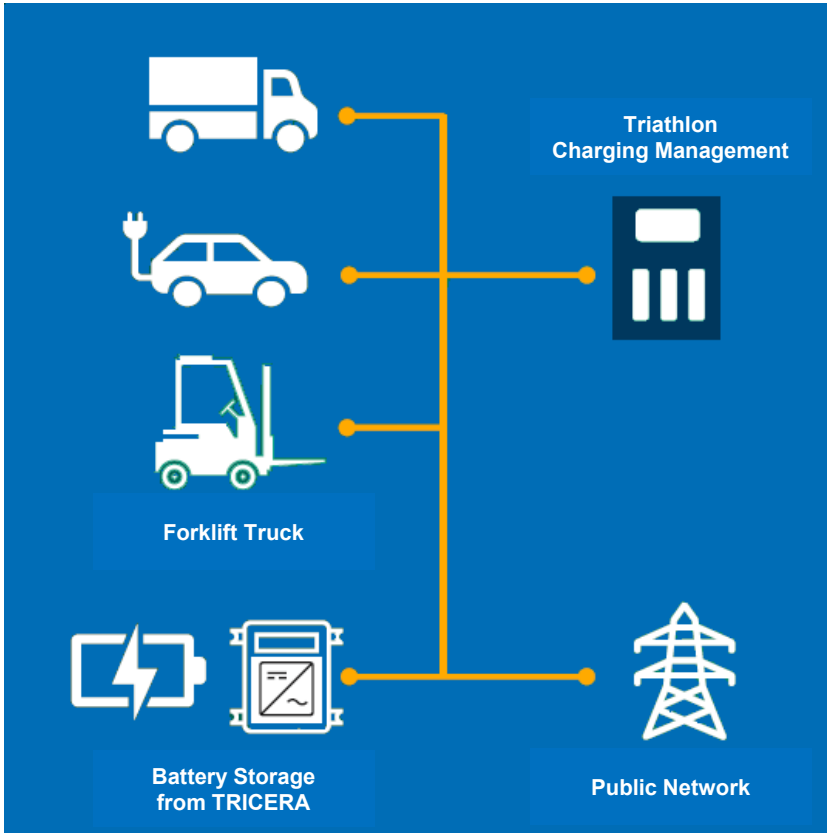
Radio Frequency Shadow

Sockets for chargers & control unit

Charger Pand Mounting

Internet connection and port sharing for TriView

Versatility from a Single Source



Photovoltaic System

Load & energy management (peak shaving / self-consumption optimization

Scalable energy storage (buffer battery)

Simulation & Design (Planning to completion)

MD-Load Project ID - Logistics – Kleinostheim (in Germany)

27x Linde T20 AP
BR1153

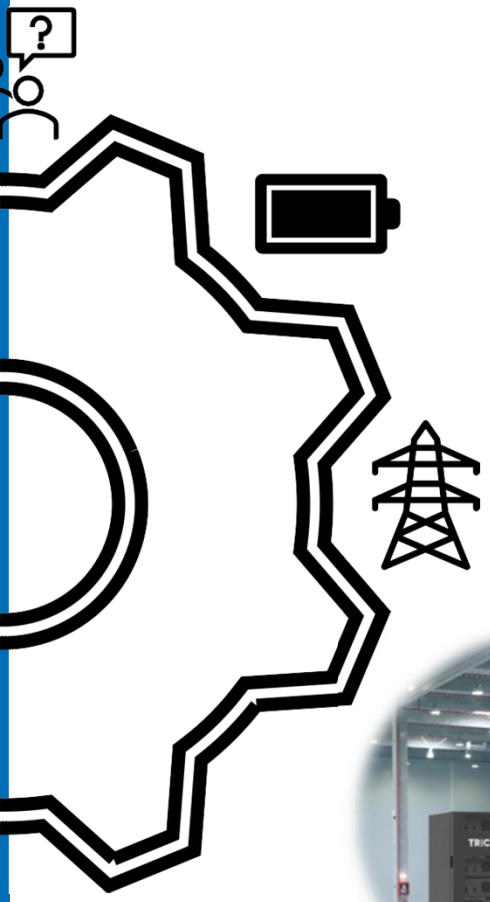
27x Lithium-ion battery + charger 24V 100A (3,2kVA) from AIM Frankfurt

Load peak without MD load 86.4 kV
Load peak with MD load 30 kVA

Annual savings at 100€ per kVA on the power price: 5.640€.

Further potential for savings with complete conversion to the Triathlon lithium system incl. MD load management

"Electrification" of the Grid Infrastructure



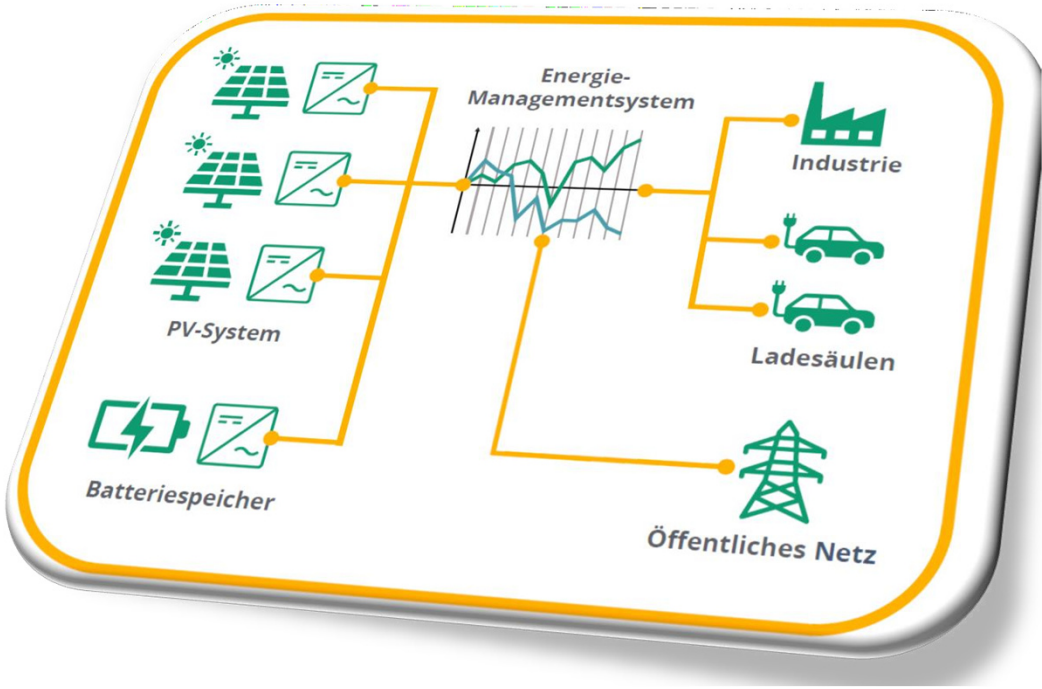
Construction of photovoltaic systems with energy storage systems.

Self-Consumption Optimization

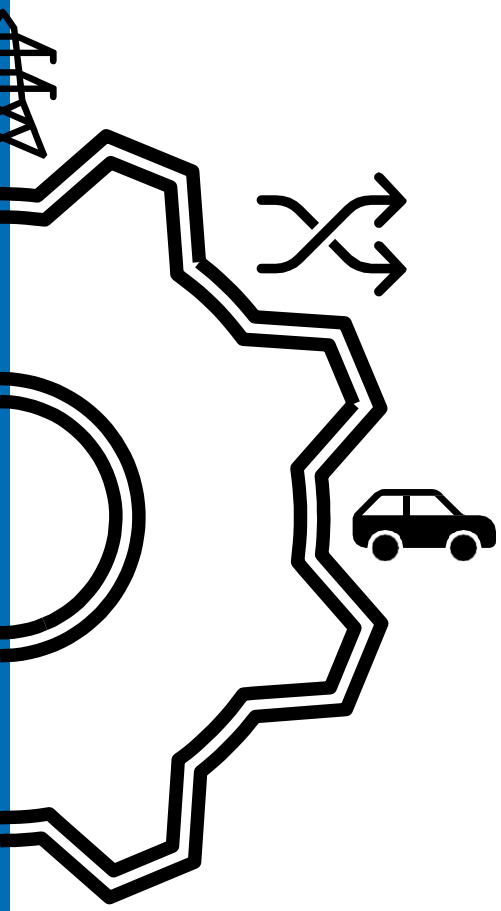
Energy Cost Reduction

Peak Shaving

Energy storage serves as a buffer battery (transformer replacement)

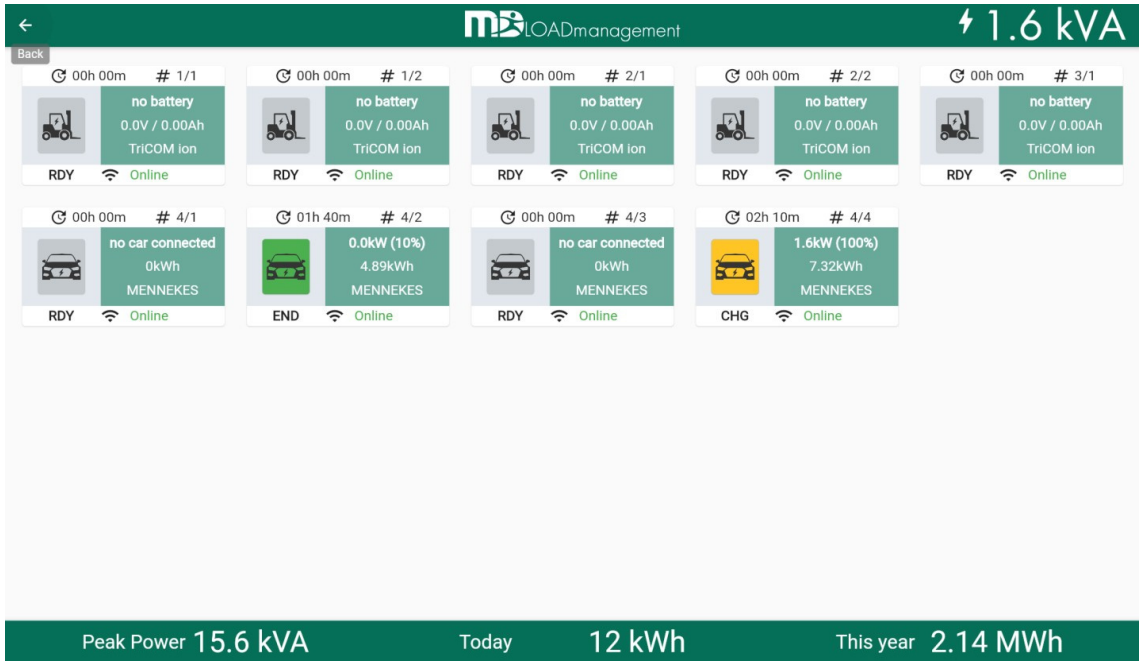


"Electrification" of the Car and Truck Fleet

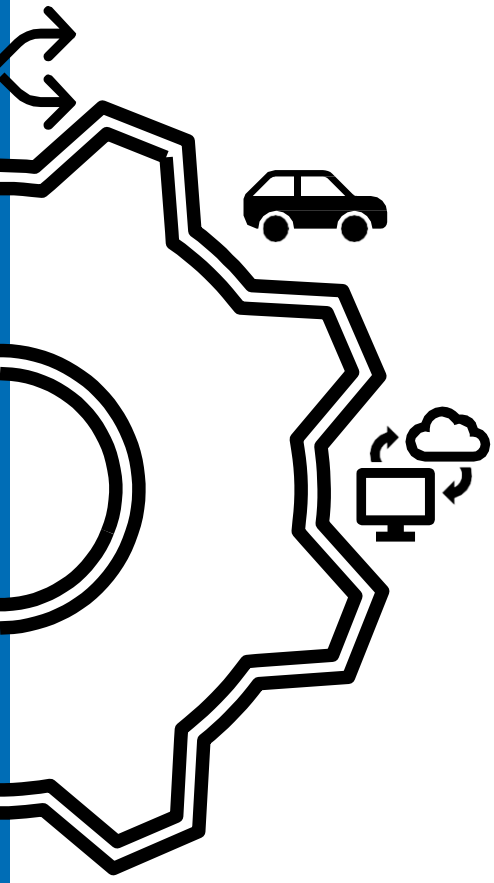


MD Load Management System
also for Wallboxes
(charging columns)

Networking and control of over
150 Electric Vehicle and FFZ
charging stations



"Electrification" visualized by TriView



Our cloud-based TriVIEW platform bundles a variety of functions into a single web portal to view and manage ongoing contracts within a fleet. In this way, the dashboard enables the control and monitoring of various applications.

Overview of the Entire Fleet

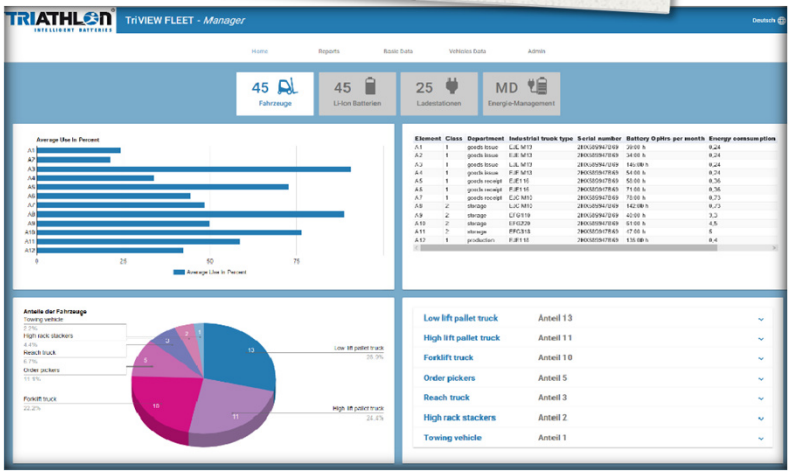
Overview of Maintenance Intervals

Cloud-Based Data Storage

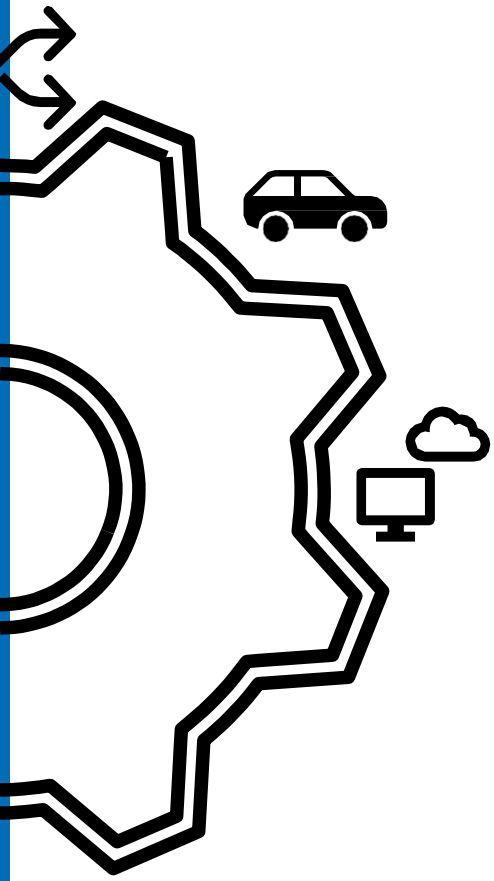
Minimization of energy & investment costs

View & Commission Service Orders

Statistics-Based Analysis & Management Tools



"Electrification" of the Charging Stations



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Mountable Everywhere

Klar strukturiert & platzsparend

Perfectly approachable for forklift trucks

Enables high working ergonomics, e.g. through intermediate loads

No fire protection or ventilation systems required