CASE STUDY

1 | Challenge :
The electrification of intralogistic forklift truck fleet

More than four years ago, an international beverage manufacturer decided to convert its production and logistics forklift fleet. Gas and diesel engines were to be replaced by electrically powered forklift trucks in order to reduce emissions and costs.

The demands placed on modern intralogistics are forever changing. Increasing production output, improving working speed and general cost and resource savings are essential for companies. The beverage manufacturer was confronted with these challenges.

The trend to move away from combustion driven vehicles towards electrically driven vehicles is currently one of the most important developments in the industry. Industrial trucks such as electric forklifts are becoming ever more powerful and are advancing with ever greater load capacities into areas of applications that were previously reserved for machines with combustion engines. Electric industrial trucks work quietly and protect the environment and the health of our employees. This is especially true when working in enclosed areas, as they do not emit any harmful substances.

As there was no in-house expertise for electromobility, maintenance, care and infrastructure and there was the additional challenge of reacting very flexibly to major production fluctuations, the beverage manufacturer contacted HOPPECKE and agreed on a non-binding consultation.

5	8,000	200	3	100%
Locations	Employees	Heavy Duty Forklifts	Shift Operation	Combustion Engine Fleet

CASE STUDY

2 | Solution :
A full service model with consumption-based billing

Based on the requirements placed on it, HOPPECKE recommended to the beverage manufacturer its E-Fleet concept trak | ecomizer with consumption-dependent energy billing for greater cost transparency and planning security.

After completion of the initial requirements analysis, which took into account various factors such as the annual operating hours of the forklifts or seasonal peaks and troughs, the necessary maximum configuration was determined. The power and grid infrastructure, the equipment of the battery charging and changing stations, as well as the networked digital energy management system also played a decisive role in the overall calculation.

Full service by the HOPPECKE experts in combination with consumption-based recording and billing of the energy used, are the key factors in the overall calculation base of the trak ecomizer model. All provided components are networked with each other, every interaction between the chargers and batteries is tracked in a central remote system. The cumulated data forms the basis for the monthly billing and are available to the beverage manufacturer and HOPPECKE in a jointly usable online portal.

With the help of reports, key figures and remote monitoring, both HOPPECKE and the customer always have an overview of the condition of the equipment. KPIs can also be derived or any errors detected at an early stage. The monthly energy costs can be tracked at any time and correspond to the actual capacity utilization. As the operator and owner of the system, HOPPECKE guarantees a complete energy supply at all times, day and night.

"HOPPECKE takes care of the complete operation of the batteries for the electric forklifts – from the supply of the batteries and charging infrastructure, maintenance and servicing through to optimised fleet management. The focus on our own core business, energy consumption-based billing and total flexibility during peak demands are particularly important to our customer."

Sebastian Hoffmann
HOPPECKE Motive Power

CASE STUDY

2 | Solution : **Project process**

Consultation phase

- Initial consultation
- Data collection
- Initial cost calculation for customer review
- Calculation of cost savings
- Formulation of a recommended solution for the customer needs

Project phase:

- Detailed technical analysis
- Complex PID data acquisition
- Calculation of the needed charging stations
- Creation of charging station layout
- Scope of work of created for needed utilities
- Preparation of a detailed offer
- Detailed list of components required

Operating phase:

- Site management, planning and coordination
- Scheduling and logistics planning
- Review project order lists
- Inspection of incoming components
- Supervision of assembly and installation
- Evaluation of the project's success
- Ongoing advice on potential savings

Report operating phase:

Incorrect removal

In the initial phase of the project, it was often the case that during the night shift there were no fully charged batteries available. The charging station gives clear visual instructions as to which batteries may be removed and which are not yet ready to be taken. These were obviously not being observed by the forklift drivers. As a result, intermediate charging became necessary and unproductive downtimes were prolonged. On the basis of these. The report "Wrong Battery taken" in the following weeks did not show any more abnormalities. Also the early shift had less problems afterwards. This optimization led to a reduction in working hours, which amounts to several thousand euros per year.

Report operation phase:

Seasonal variations

The utilization of the beverage manufacturer's logistics capacity varies greatly depending on the season.
In the warm months, and in combination with the football World Cup, Olympic Games or other major events, the demand for cold soft drinks is regularly higher than in spring or autumn. During the winter months around Christmas, demand is generally also higher. These different peak loads must be taken into account in the logistics operation.

Usually, it is determined how many forklift trucks and industrial batteries are necessary to cope with the higher workload. However, this also means that there can be overcapacity in normal business operations, which costs money and is of little use. This does not apply to the business model of the HOPPECKE trak | ecomizer. Batteries and chargers are proactively made available to the customer exactly when they are needed. There are no investments to be made and protracted procurement processes are no longer necessary.

2 | Solution :
Results that convince

For five years the trak | ecomizer has been successfully in use for the international beverage manufacturer. With its help, the original plan to save operating and energy costs by retrofitting the forklift fleet could be implemented efficiently.

The charging infrastructure and batteries were provided at five locations. Conversion of the industrial trucks to electric operation resulted in tangible advantages for the customer. For example, reduction in CO_2 were achieved at each location.

At the same time, the trak | ecomizer with its energy availability guarantee, ensures that the safe and flexible supply of batteries and chargers is also guaranteed. A total of 60 trak | charger HF premium chargers ensure that the 40 new electric forklifts are quickly and safely supplied with sufficient energy on site.

Since the customer can acquire any equipment through HOPPECKE and does not have to procure it through its own investment, the costs are therefore spread over the entire contract term. Key figures such as the return on total capital are also increased, as no batteries or chargers are on the customer balance sheet. If existing batteries and chargers are owned by the customer, these can be taken over by HOPPECKE in the form of a one-off or compensation payments. These measures resulted in a reduction in energy usage and operating costs.

0 %
Co_2 Emissions

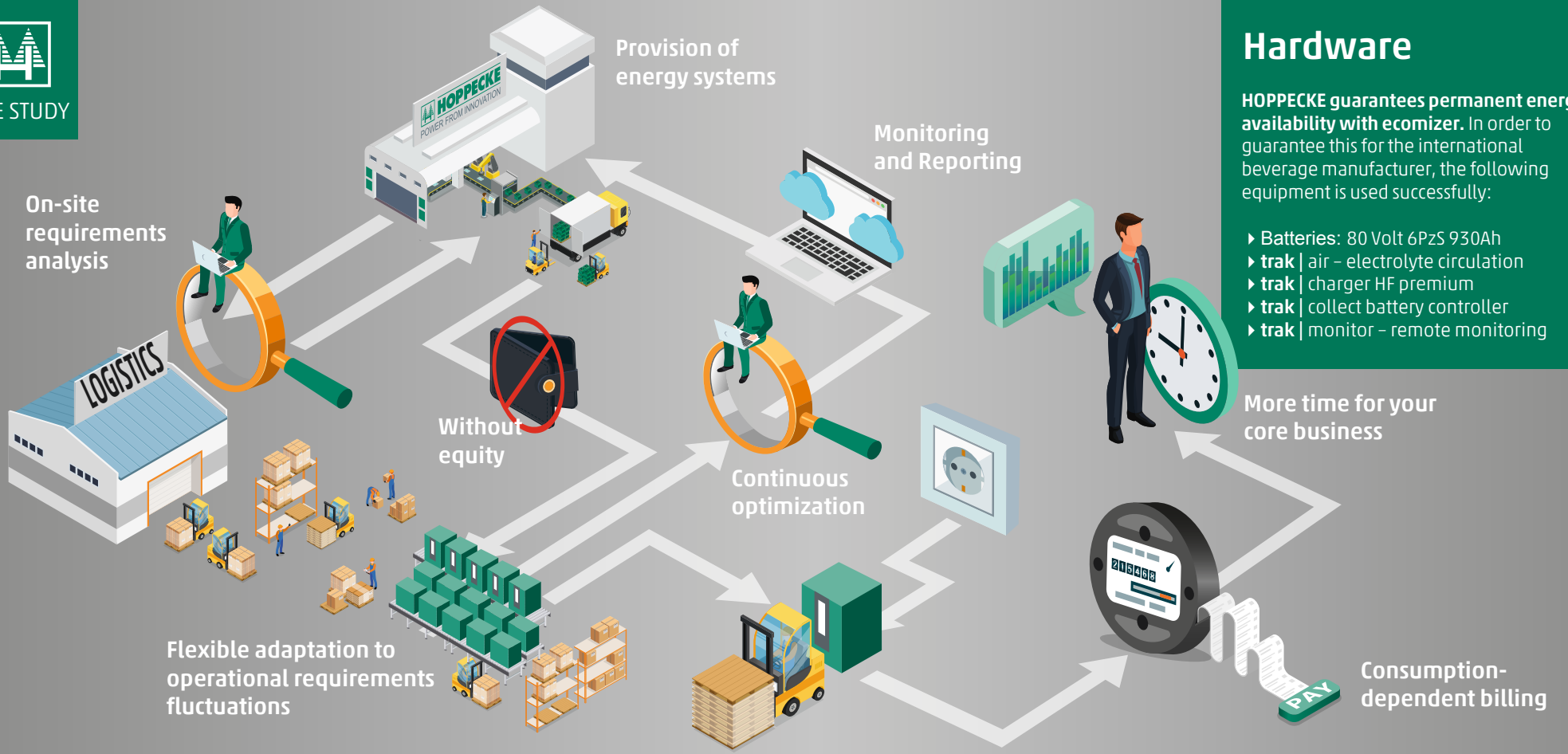
100%
Energy Availability

0 %
Investment Cost

100 %
Cost Control

0 %
Risk

CASE STUDY



Hardware

HOPPECKE guarantees permanent energy availability with ecomizer. In order to guarantee this for the international beverage manufacturer, the following equipment is used successfully:

- Batteries: 80 Volt 6PzS 930Ah
- **trak** | air – electrolyte circulation
- **trak** | charger HF premium
- **trak** | collect battery controller
- **trak** | monitor – remote monitoring

3 | Products : **trak** | **ecomizer**

With trak | ecomizer - investment in traction batteries and charging equipment belongs in the past. Instead of a high capital investment, the customer pays a monthly fee which is flexible amount - depending upon the customers requirements. We guarantee that there will always be sufficient drive energy available which adapts to the customers requirements.

First, we analyze the energy demand and create an offer that is based on the monthly consumption. So the customer has the highest cost transparency. Optimization of the battery supply then follows. The customer does not need to have the battery know-how in regards to his own operation. HOPPECKE Replaces defective batteries and recycles them in an environmentally friendly way. Batteries, chargers and charging stations are provided as required - on the basis of operational Peak loads, which can be reacted to, flexibly at any time.

We will organize replacement batteries, stock of spare batteries for battery changing applications, and will carry out regular planned maintenance.
HOPPECKE permanently evaluates via remote monitoring; the utilization, service life and readiness of the batteries. The customer receives tangible Key figures (capacity utilization, cycle numbers, number of incorrect battery taken, consumed AH), to optimize its processes. The customer therefore saves time and money, and can concentrate on its core business.

HOPPECKE
POWER FROM INNOVATION

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