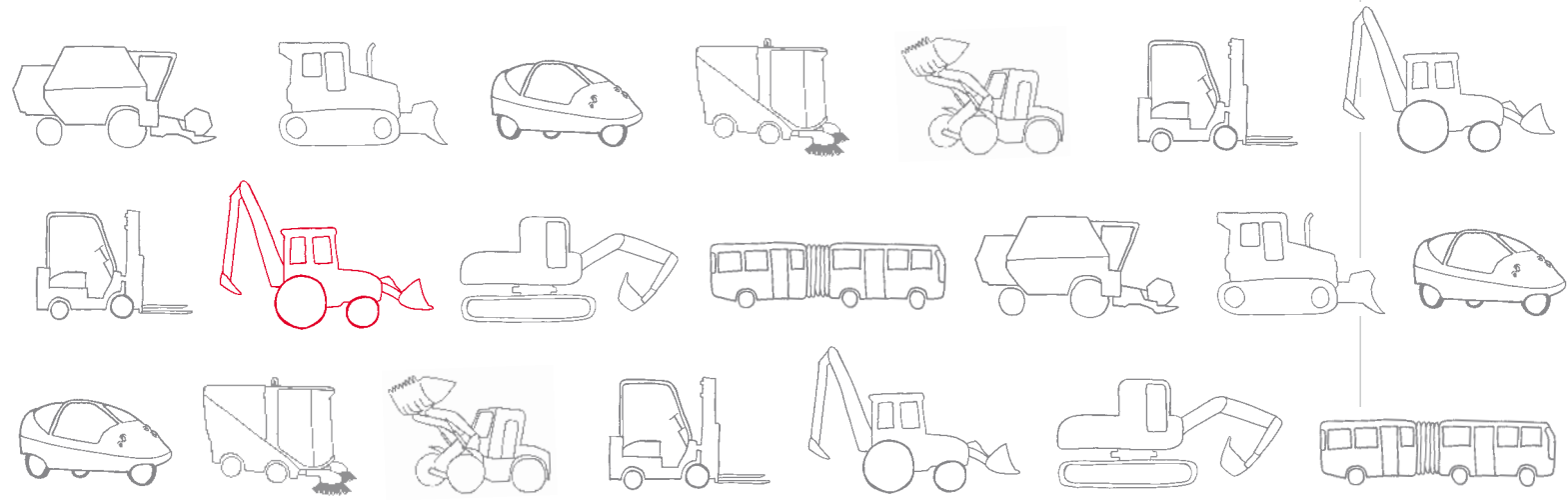


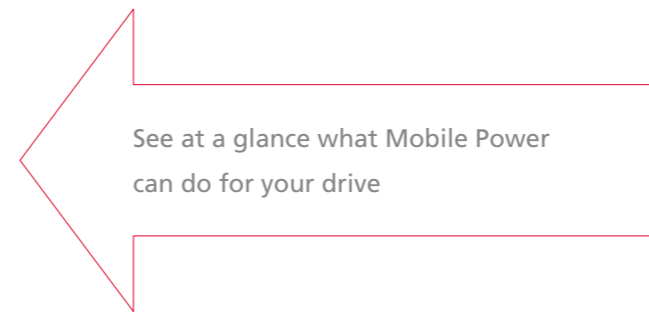
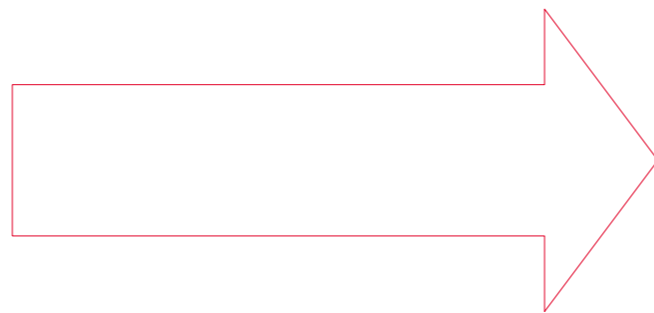
Mobile Power – custom-built efficiency

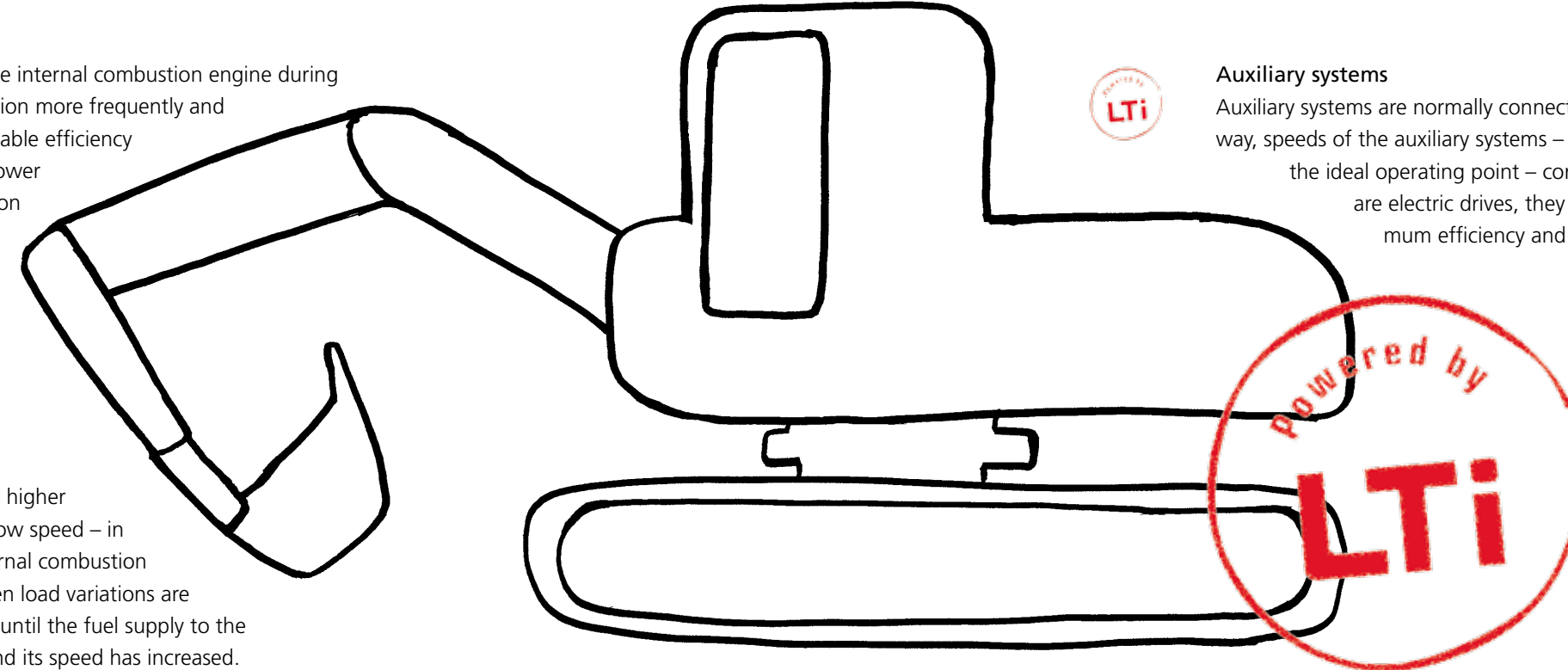
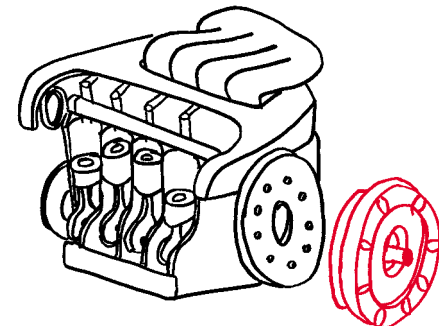
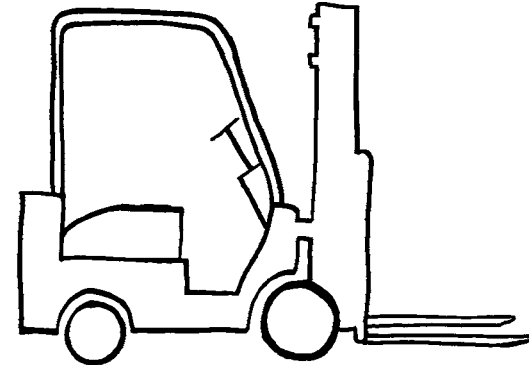
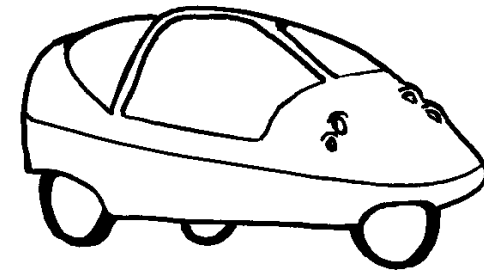
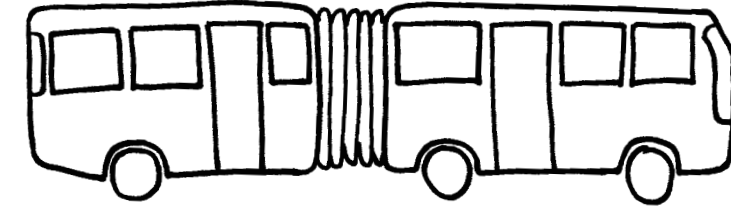
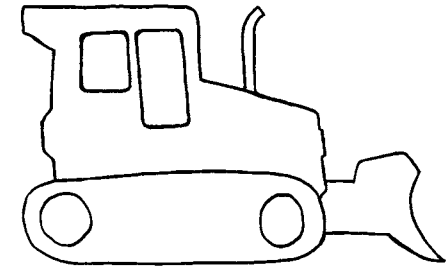


Electrification of power trains

Mobile Power of LTi stands for
in mobile machines and electric

the electrification of power trains
vehicles





Boosting

In boost operation, the electric motor supports the internal combustion engine – the torques of both motor and engine are combined. The power for the electric motor is supplied from an energy storage system.



Downsizing

The electric motor supports the internal combustion engine during acceleration – allowing operation more frequently and for a longer period in a favourable efficiency range. With the addition of power and torque, internal combustion engine sizes can be reduced. This offers consumption, weight and cost advantages.



Downspeeding

With the addition of torque, a higher torque is available already at low speed – in this way the speed of the internal combustion engine can be reduced. Sudden load variations are handled by the electric motor until the fuel supply to the internal combustion engine and its speed has increased.



Recuperation

By means of the electric motor and drive electronics, excess kinetic energy is converted into electrical energy and supplied to the energy storage system. This energy can subsequently be used to drive the electric motor.



Start and stop

In start/stop operation, the internal combustion engine is automatically switched off when the vehicle stops – in this way, no fuel is consumed or emissions produced. The internal combustion engine is automatically restarted with the aid of the electric motor when the accelerator is depressed to move forward.



Auxiliary systems

Auxiliary systems are normally connected rigidly to the internal combustion engine. In this way, speeds of the auxiliary systems – irrespective of the actual demand and independent of the ideal operating point – corresponds to the motor speed. Where auxiliary systems are electric drives, they are only active on demand, can be operated at optimum efficiency and have a virtually constant speed over a wide range.



Emission reduction

Hybrid drives make a noteworthy contribution towards the reduction of CO₂ emissions. Potential savings are between 5 and 25% depending on the type and driving cycle.

Dynamics and efficiency

By combining the torques of an electric motor and an internal combustion engine, it is possible to achieve a fuel reduction of 25 % and more without having to compromise power train dynamics. With Mobile Power technology, LTI offers integrated electric drive systems for mobile machines and electric vehicles.

Integration and sustainability

Since 1998, we have been developing and mass producing customised solutions using high volt drive components for use in industrial trucks. Mobile Power stands for mobile drive solutions that can easily be integrated in existing commercial, construction and agricultural vehicles and machinery platforms – and withstand the extreme ambient temperatures and vibrations. Apart from the high degree of protection, the integration of established vehicle-bus technologies and protocols is an important part of the Mobile Power concept, to ensure that the software tools you use in development, production and service are fully compatible.

Mobile Power – platform for efficient solution concepts

Existing hard and software solutions form the basis of our tailor-made Mobile Power concepts that include either only the main power train or also the electrical supply of all auxiliary systems. The flexibility of our concept also allows existing hydraulic drives to be replaced with electric drives, as these are far more energy-efficient and built to last.

Mobile Power – scalable hard and software platforms

The tailor-made solutions we offer are based on a modular concept and scalable hard and software platforms. The hardware at control level allows the use of standard microprocessors in the automotive sector and offers options such as:

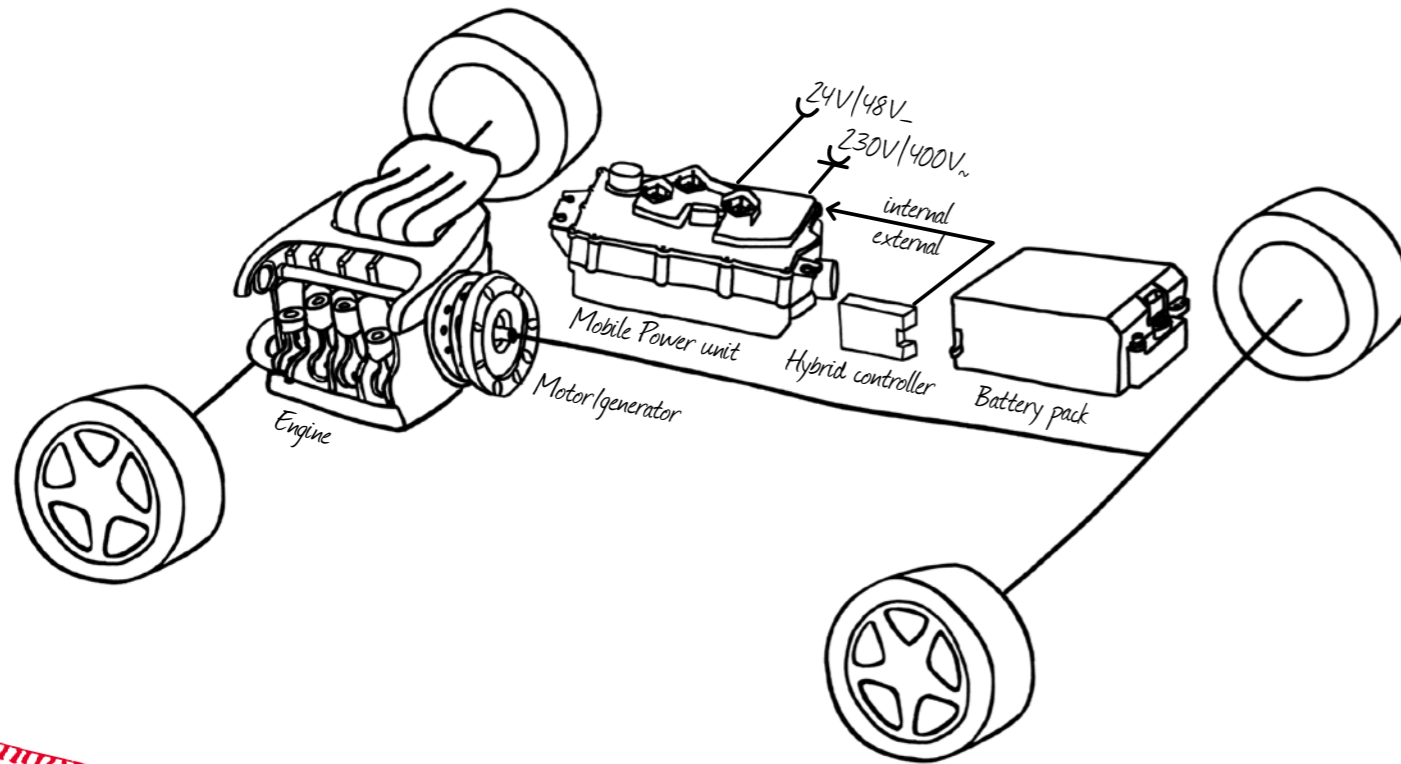
- Integration of functional customer software/software sharing
- Use of existing bus technologies and protocols such as CAN protocol RJ 1939, XCP or KWP2000
- Support of your employed development and service environment

LTi offers the option of individual hardware design using a variable housing concept through the integration of drive electronics and subsystems such as:

- Main units and auxiliary systems
- DC/DC converters
- Earth-leakage monitors
- Hybrid control devices (HyCu)

Further features of the Mobile Power platform are:

- Connection and support of 12 V/24 V vehicle electrical systems
- Graded inverter rating to suit individual requirements up to 350 kW
- Use of connectors, cables, and components as employed in the automotive sector
- Air or liquid cooling
- High degree of protection
- Integration of battery management system in the drive electronics
- Control of synchronous and asynchronous motors



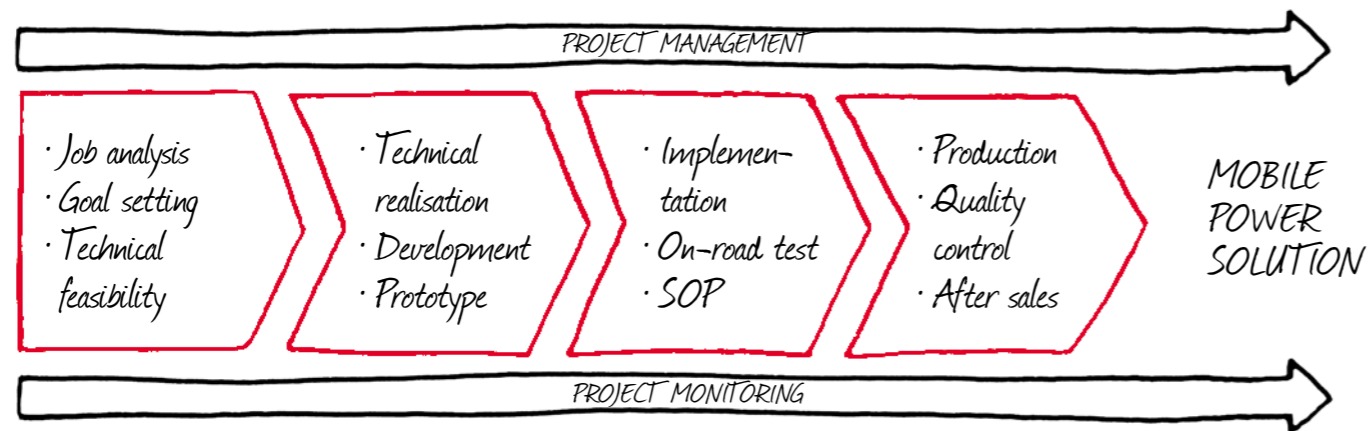
Mobile Power – custom-built efficiency

Tailor-made solutions can only be created in close partnership between us and our customers.

Joint task analysis and clear definition of the derived objectives is always a prerequisite for successful cooperation. To us it is important that not only the requirements of our customers are met in all respects, but also that the requirements are weighed up against the technological feasibility of the concept, until the best solution is found in terms of efficiency and technical sophistication. This phase of the project in particular determines the commercial success of a product.

Efficiency: Our many years of experience in the handling of complex projects in close cooperation with our customers play an important role in the realisation phase. Our project management competence, accompanying project controlling and not least our wealth of expertise guarantee that project targets are met on time.

The decision for a new product takes place from technical, commercial and time aspects – derived from this is whether your new Mobile Power product is realised as a customised development or on the basis of existing LTi product portfolios. Either way, the final result is a highly successful tried and tested Mobile Power product.



LTi – Partners for the future

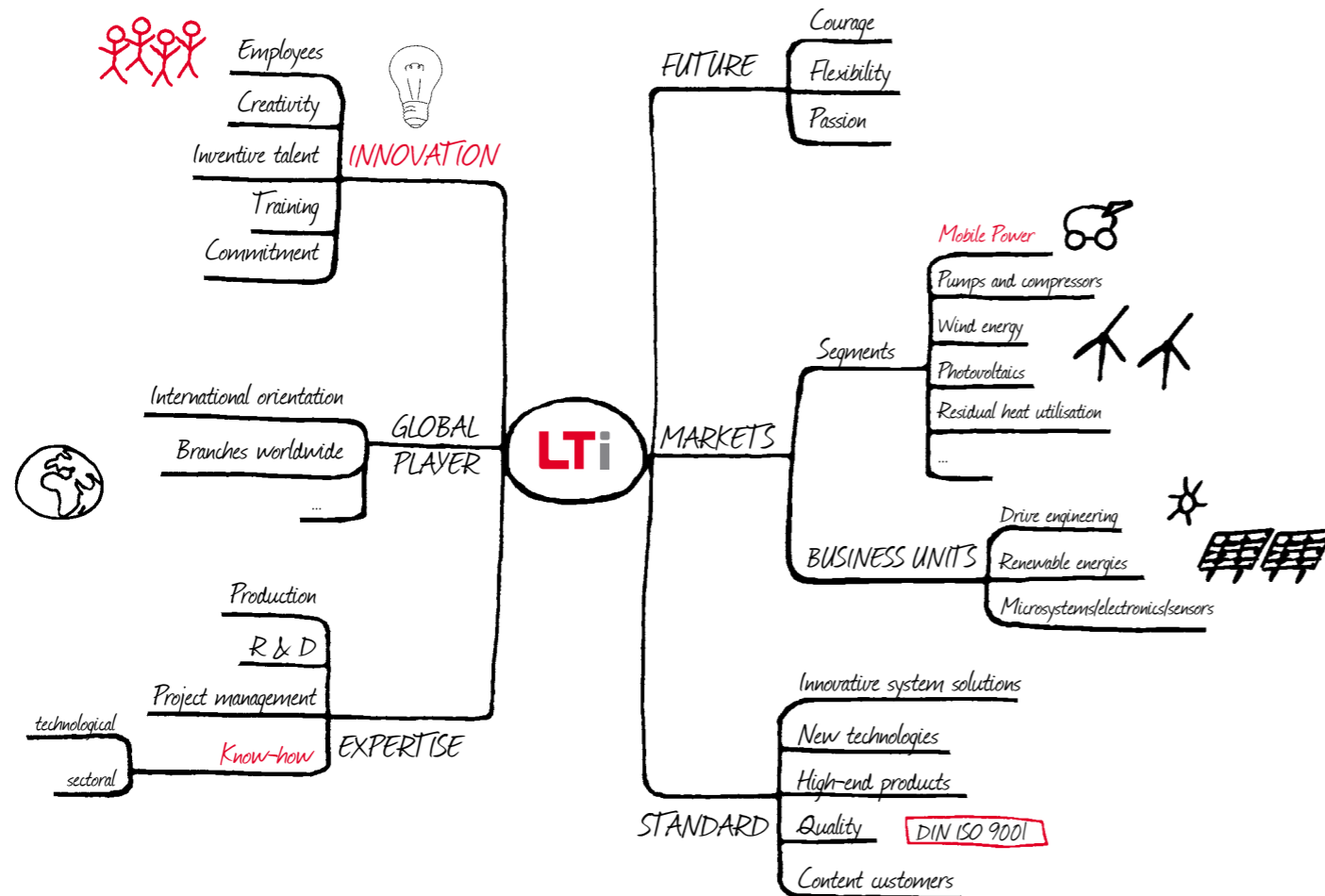
For nearly four decades, the LTi company group has been developing and producing innovative solutions in the areas of drive and automation engineering, renewable energies and microsystems/electronics/sensor systems. With over 800 employees and branches on three continents as well as 30 sales and service centres worldwide LTi is organized internationally.

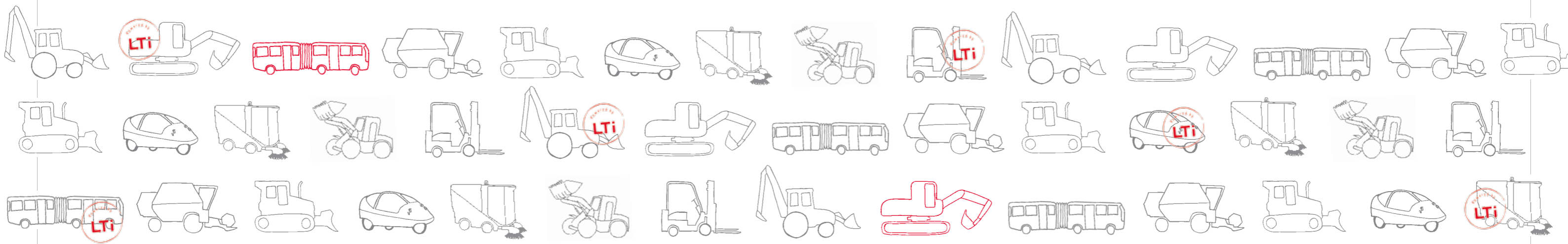
Customer satisfaction is in the focus of our acting. Our high demand for quality is backed up by our quality management according to DIN ISO 9001, incorporating continuous improvement and development of our processes as well as a comprehensive back-up program featuring flexible, international service and support concepts.

Innovative, qualified and dedicated – the team of LTi

Leading technological competence and a wealth of experience ensure the production of unique and economically attractive products created on the basis of innovation and great commitment in research and development together with a highly qualified team of employees in Germany.

See for yourself – and look to the future with us!





Your road to Power Mobile leads via LTI.

Contact us – we look forward to meeting your Mobile Power requirements!

Everything for your success

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