

Drive Pioneering for electric mobility.

As easy as that.

1

Developing ideas

Are you looking to build the best vehicle possible and already have some initial ideas? Then get these down on paper together with us, starting with small innovative details and stretching all the way to completely new concepts for electric and hybrid vehicles. Working together, we will develop an intelligent and sustainable concept that is perfectly aligned with your specific requirements.

2

Drafting concepts

We see welcome challenges in your tasks, supporting you with our comprehensive expertise in electric mobility and providing valuable impetus for your innovations. We take a holistic view of the individual vehicle applications here, always keeping in mind the requirements for electric and hybrid vehicles, and draw up consistent, end-to-end drive solutions for you – keeping everything as easy as possible and as extensive as necessary.

Lenze makes many things easy for you.

With our motivated and committed approach, we work together with you to create the best possible solution and set your ideas in motion – whether you are looking to optimise an existing vehicle or develop a new concept for a vehicle with electrical drives. We always strive to make things easy and seek perfection therein. This is anchored in our thinking, in our services and in every detail of our products. It's as easy as that!

3

Implementing solutions

Our easy formula for satisfied customers is to establish an active partnership with fast decision-making processes and an individually tailored offer. We have been using this simple principle to meet the requirements for progressive solutions for electric and hybrid vehicles for many years now.

4

Implementing applications

Functional diversity in perfect harmony: as one of the few providers in the market, we can provide you with precisely those products that you actually need for any vehicle application – no more and no less. That's why with MOBILE, we have developed a catalogue-based modular system and a consistent product platform for implementing electric tasks in the field of automation.

5

Ensuring productivity

Security, reliability and new performance peaks on a daily basis – these are our key success factors for your vehicles. After delivery, we offer you cleverly devised service concepts to ensure continued safe operation. The primary focus here is on technical support, based on the excellent application expertise of our highly skilled and knowledgeable aftersales team.

From the
idea to
commissioning
and onwards.

The use of electric drives opens up an increasing number of possibilities for your forward-looking, green and economical vehicle concepts. Lenze Schmidhauser has been developing and producing energy-efficient and eco-friendly drive technology for around 25 years. The experience and know-how of our engineers and network of experts, who are showing the way forward in the area of mobile applications, are poured into all the work they do - from the concept stage to production. This ensures innovative, reliable and economically efficient solutions for both electric and hybrid drives.

Working in the field of mobile drives within the Lenze Group, Lenze Schmidhauser combines its innovative capacity and development expertise in electric mobility with the production skills Lenze possesses in the area of drive and automation solutions. You gain from our years of experience in the development and mass production of industrial inverters as well as electric and hybrid vehicles.

Electric and hybrid vehicles all over the world are already fitted with power electronics from Lenze Schmidhauser, and leading commercial vehicle manufacturers know that they can rely on the quality and performance of our mobile drives.

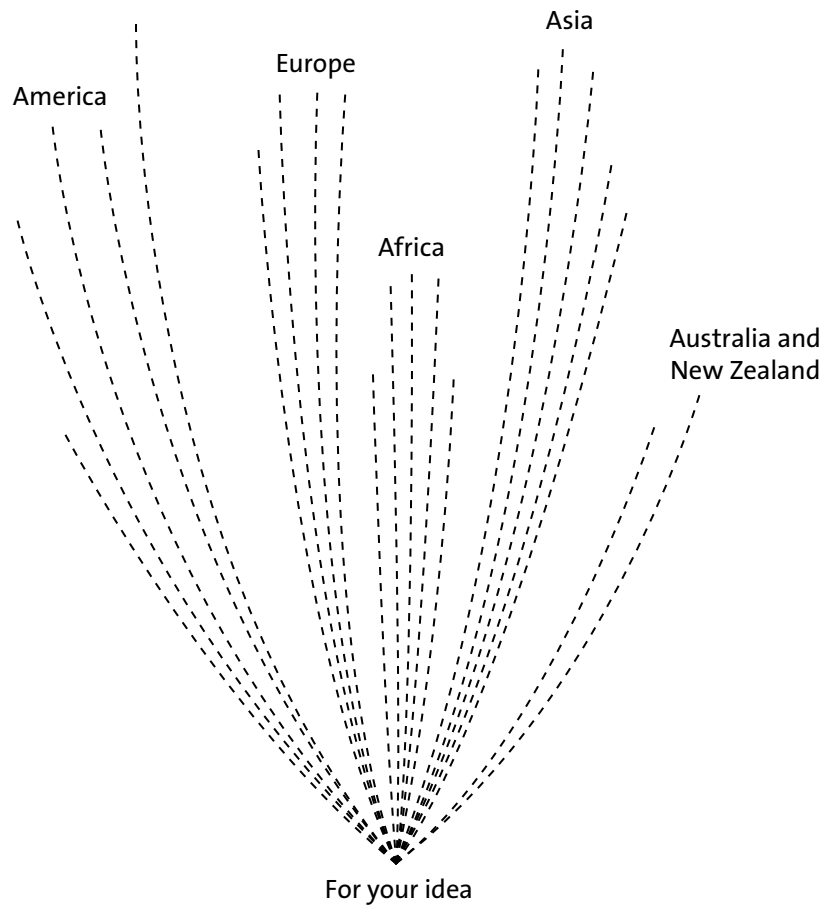
In 5 steps, ----->

we work together in order to set your idea for a forward-looking vehicle in motion, all the way through to the production phase. What's more, the sustainable solutions we offer make sure that you will always be one step ahead. We will also be more than happy to provide you with after-sales support whenever you need it.

Always
one idea
ahead.



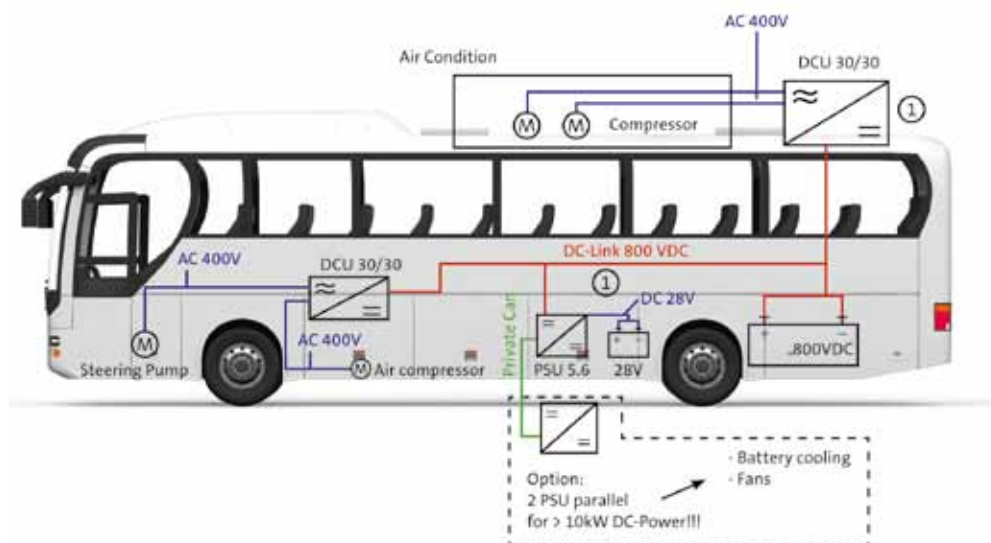
Lenze Schmidhauser lends wings to your ideas – as a strong engineering partner with many years of sound experience and globally correlated know-how in the field of mobile drive concepts. Our extensive network of experts encompasses numerous sales and application engineers, whose expertise is applied to every single solution. Outside the Lenze Group, we work with competent partners when necessary for purposes of cooperation and development.



This is where your vehicle concept begins.

The best vehicles share a common origin: the perfect idea. If you already have an initial idea for a new vehicle concept or for optimising an existing vehicle, come to us and we will help you to put it all down on paper. We will then work with you closely to develop an intelligent, sustainable

concept for using power electronics for auxiliary drives in hybrid and electric vehicles in particular, making sure that this concept exactly matches your requirements, whether the latter concern highly detailed, small innovative steps or completely new vehicles.





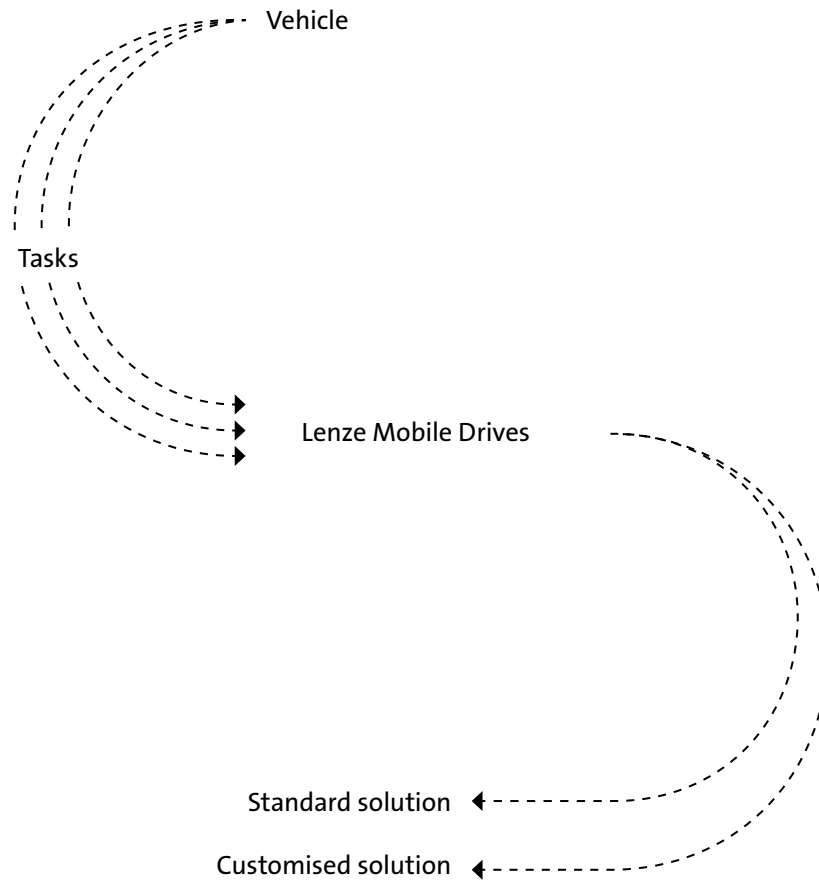
Based on our many years of experience, we can quickly understand both the technical and the economic implications of your ideas, then convert these ideas into functioning concepts in no time at all.

Profit from our comprehensive competence and our international experience, both of which are reflected by our reference projects in the field. For you, this means:

- Energy-efficient solutions with extremely efficient electric and electronic modules
- Optimised support all the way from the concept/prototype phase through to the start of production

**Straight to
the heart of
innovation.**





We see welcome challenges in your vehicle tasks, based on the particularities of the application area and the corresponding tasks and requirements. We take a holistic view of the individual drive and control functions here and draw up consistent,

end-to-end drive and automation solutions for your applications. With a whole range of standard and individual possibilities for differentiation, we always make this as easy as possible and as extensive as necessary.

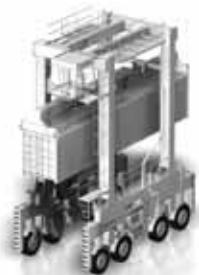
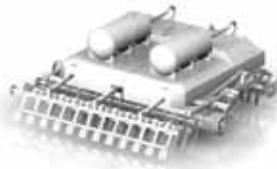
Lenze makes your engineering easy.

We offer you the best combination of know-how and product expertise when it comes to the electrification of your specific vehicle tasks.

Lenze mobile drives are designed specifically for automotive applications. For example, we provide you with power electronics up to large-scale production, particularly for auxiliary drives of hybrid and purely electric commercial vehicles. These are used in generators, traction motors, battery and super-cap actuators, blowers, steering help pumps, air conditioning compressors, onboard converters and sockets for commercial vehicles.

In addition, we make your engineering easy by applying the customary communication standards for the market and using smart tools. In all phases of development, from planning to implementation, these indicate potential for improvement right down to the smallest detail. This ensures a convincing overall result.

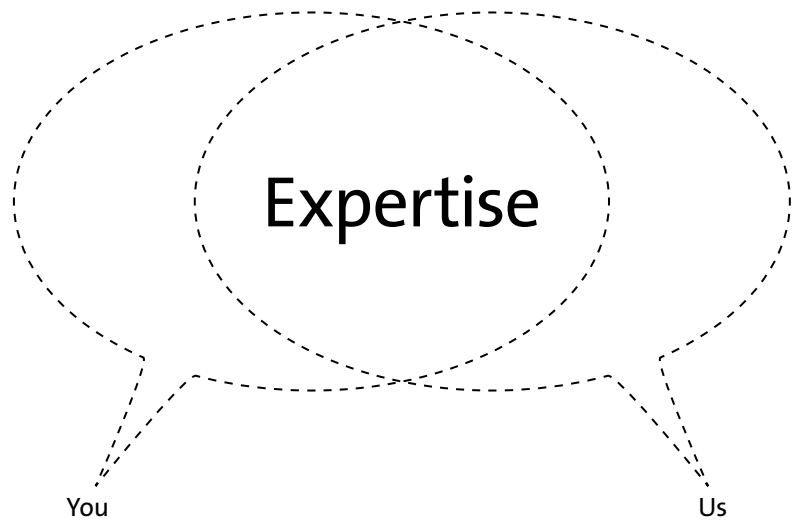
In order to guarantee glitch-free processes, outstanding quality and a long service life, we make prototypes, build test installations, train your operating personnel and support you with the commissioning process. We are also on hand to help you optimise your concept.



Together
we develop
solutions.



Our formula for satisfied customers is to establish an active partnership with fast decision making processes and an individually tailored offer. We know the automotive processes and have been using this easy principle to meet the ever more specialised customer requirements in the field of electric mobility for many years.



Always with an eye for the best solution.

Working together with you, we always choose the right solution for your application. A holistic concept is then used to integrate this solution into the vehicle with ease.

Design concept

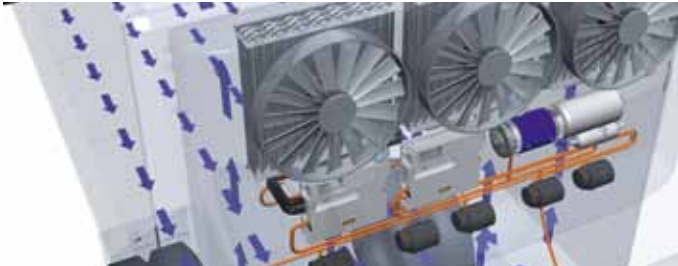
- Same housing and structure for inverter (DCU) and DC/DC converter (PSU)

Connection system

- All connections are protected from spray water using a cover
- Devices are stackable and provide the highest integration density

Leading edge technology with two isolated controllers for

- Motor controller
- Application controller



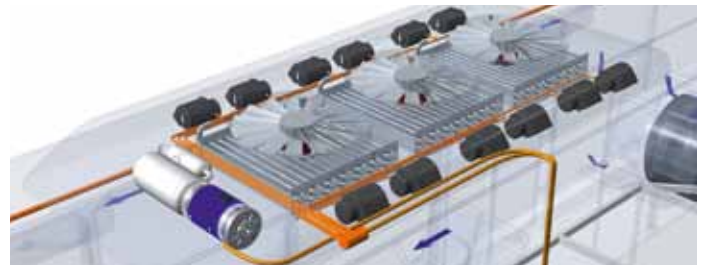
DCU: Refrigerator trailer – compressors and fans



DCU: Demand controlled electric air compressor



PSU: Battery charging



DCU/PSU: Controlling the compressor and the ventilation system



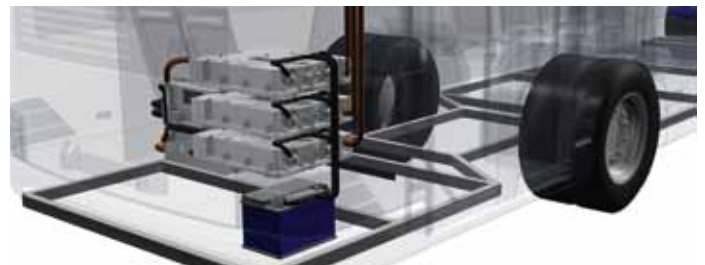
DCU: Controlling the winding process



DCU: Demand controlled steering help pump



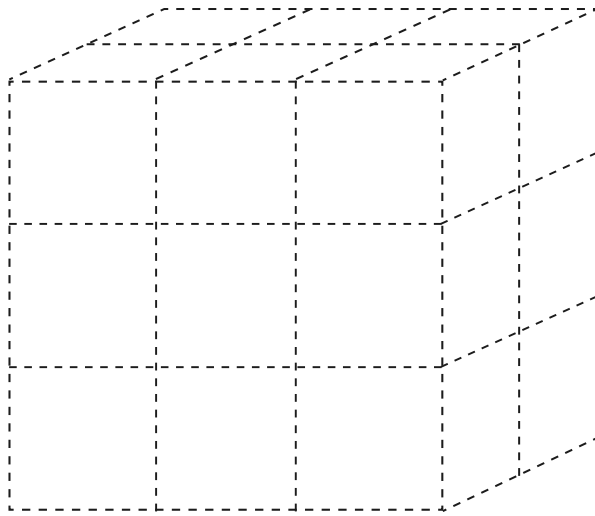
DCU: Lifting device – Position controlled system



PSU: On board power supply

We
produce
satisfaction.





When looking for the right products to suit your requirements, you have the option of choosing an electric modular drive system for applications in commercial vehicles.

You can find the right product type for your application with ease thanks to the catalogue-based approach of the MOBILE Advanced and MOBILE Basic product lines, which are optimised for individual applications. In addition, the scalability covers a wide power range with identical external dimensions.

The principle is quite simple: catalogue-based modular drive systems.

Based on its many years of experience, Lenze Schmidhauser has developed the new, compact MOBILE product platform with multi-inverters and DC/DC converters – for successful application in your vehicles.

Whether you are a vehicle manufacturer or a supplier, our modular drive systems help you put together and implement optimally tailored drive solutions for the task at hand both quickly and with ease.



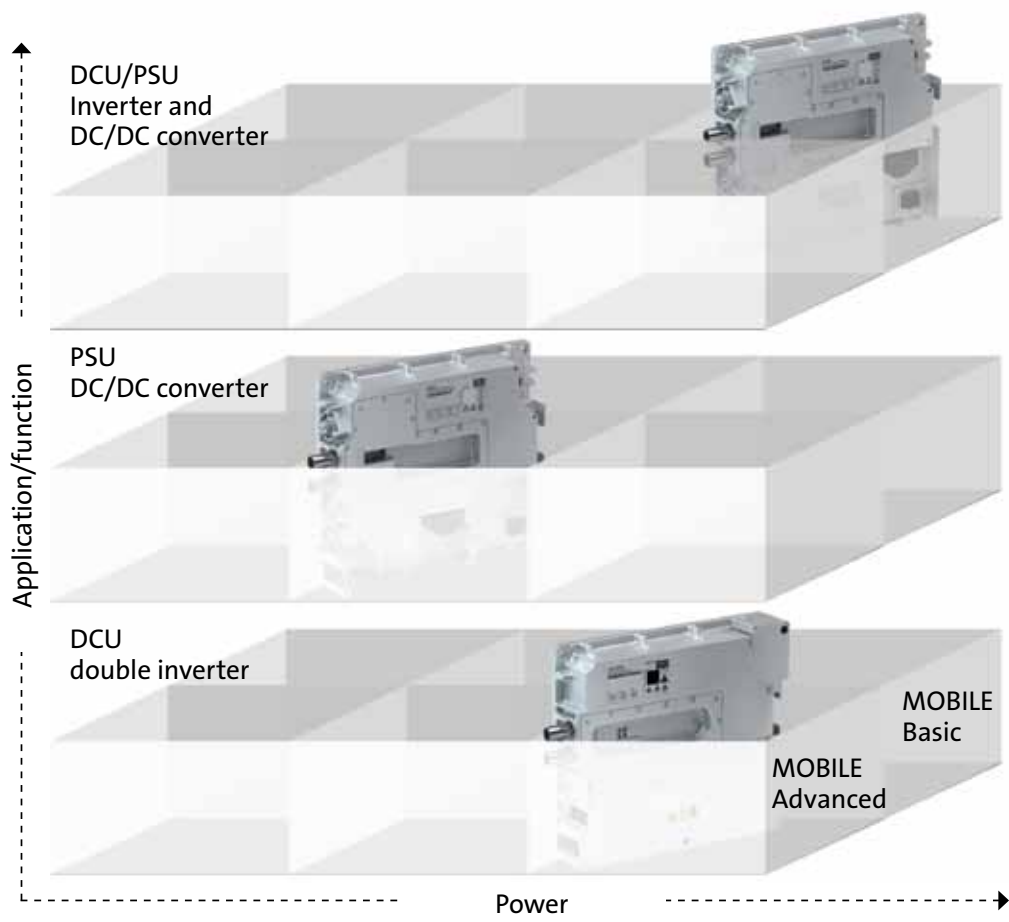
MOBILE DCU
double inverter



MOBILE PSU
DC/DC converter

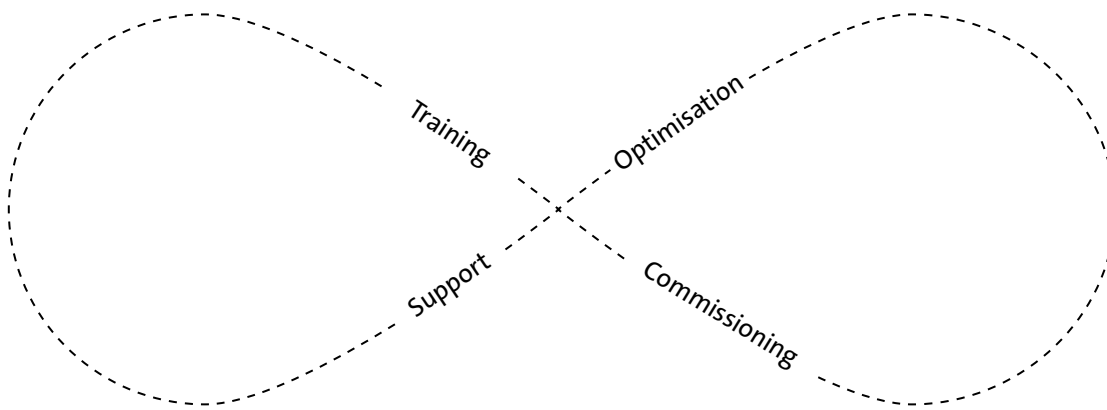


MOBILE DCU/PSU
inverter and DC/DC converter





**Maximum
operational
performance.**



Productivity, reliability and new performance peaks on a daily basis – these are our key success factors for your vehicles. With our global service network, we offer you cleverly devised individual concepts to ensure continued safe operation.

Irrespective of where your vehicles are used, you can look forward to receiving competent support from our highly skilled and knowledgeable aftersales team.

**A global service
tailored to you.**

Our services are designed to ensure the reliability of your vehicles and to enhance the performance of individual applications. And if the unexpected happens, you can rest assured that your drive solutions will be swiftly restored to full working order without a glitch.

Our mission is to always be available wherever you need us. And we are always happy to provide you with the best possible service in whatever way we can to support you in implementing your project. It's as easy as that!



Our staff are always there when you need them:

A global team of experts for professional training and advice throughout the entire course of the project

- Commissioning
- Optimisation during the prototype phase and during ongoing operation
- Integrating customised applications

All the time, and with the right tools to help you:

- Worldwide expert helpline
- Remote support, for advice wherever you are.
- On-site incident management and fault analysis

We are keen to help get your ideas moving forward! Learn more about our approach, our way of thinking, our vision and how we can make things easier for you in future. Please feel free to contact us directly or visit us at:

**www.
Lenze-
Schmidhauser.
com**

