drives in motion

PRIMUS
PRÄZISIONSTECHNIK

RETHINKING YOUR DRIVE

www.primus-praezision.de

» The success of our customers is my motivation. «

Thorsten Völz Geschäftsführer

Since 25 years we are an established, independent system supplier for efficient drive solutions. Our customized products and services are supplied to companies all over the world. This is realized by our experienced teams of experts, who are characterized by the necessary specialization in conception and development, industrialization and production of electromechanical drive technology. Together with our employees we strive for a long-term partnership with our customers and suppliers.

Innovation and improvement are the reasons for our success. In addition to digitizing and making workplaces more flexible, we made investments in measurement and production technology in the recent years. We can proudly say, that we are well prepared to meet the future requirements of our customers.

Our philosophy in dealing with our customers, suppliers and employees is based on open and cooperative communication. In the partnership through the project to serial production, you, as our customer, will experience an open information policy from our established team. Internal communication has been running across the whole company for several years via shop floor management, which we have digitized regardless of the location. The integrated key figure system gives us the chance to structure the necessary information and find the correct answers on the future questions.

Based on our experience, we flexible respond to your wishes and needs. Together we are looking forward to develop your optimal drive solution and establish a long-term and successful partnership.

TOP 100 top innovator 2020

We are ISO 9001 certified

We are IATF 16949 certified

Our skill portfolio in a movement pattern

Extensive, long-term industry experience

Wide ranging development and production skills

Short decision paths and competent advice

Project management from development through to series production

Reliable readiness to deliver

Combined with the values and advantages of a family-owned company, our performance sets us apart.

Development & Engineering

We implement the growing complex requirements and conditions regarding installation spaces, acoustics and performance of the drive technology from the beginning to the final gear. Our years of experience from various projects and our understanding of the entire system including the interfaces result to a future-oriented and customer-oriented solution.

We offer comprehensive design services starting from the first sketch to the final production drawing. In close cooperation with our customers, we use synergy effects at a very early stage, increase the input of innovation and at the same time prevent cost-intensive correction loops.

We design individual gear parts right through to the complete gear in a three-dimensional model using the latest CAD technology. An economical and production-oriented design is a matter of course for us.

- 2D and 3D engineering in Solidworks
- Product and process FMEA
- Calculation and development of gear parts and motor-gear units
- Assembly lines and EoL systems for 100 % control
- Simulation of motion sequences
- Static and dynamic strength analysis (FEM)
- Prototype assembly
- Parallel simulation during development
- Service life tests and qualification in climatic and acoustic chambers
- Construction and validation of assembly tools

Manufacturing competence

Continuous investments in training, qualification of skilled workers and constant modernization of machines and systems are essential components to produce customer-specific drives. This strategy enables us to achieve optimal profitability and to guarantee the highest quality standards.

The use of automation, e.g. for loading machines or the assembly of gear sets complements our effective machine park. With our high-performance partners, we improve the performance of our products by hardening or grinding.

In addition to the machining production technologies, plastic injection molding, zinc die casting, aluminum casting or sintering technologies are used.

- **Rotating**
  CNC long short lathe with bar diameter from 3 mm to 65 mm or loading portals up to diameter 160 mm
- **Milling**
  Milling centers with up to 5 axes for the production of prototypes, small series and series production
- **Gear teeth**
  Complex tooth geometries for motor worms, gears, bevel gears in the module range 0.2 to 3
- **Vacating**
  Vacating for the production of keyways, polygonal profiles, for calibrating bores and for external broaching
- **Assembly**
  Assembly of components and complete drives from 500 pieces to 500,000 pieces per year
- **Hot gas welding**
  Hot gas welding to connect artificial housings in order to meet requirements for the highest tightness classes up to IP69 economically and reliably
- **Rolling and forming**
  Rolling and reshaping of smooth surfaces such as Spindle production

Measurement technology and quality management

Superior process-oriented quality strategy accompanies your product from development, through procurement, production and shipping.

As part of structured advance quality planning, internal controls and audit programs including our suppliers improve our processes, systems and interfaces.

Our user-oriented, modern measurement techniques record and digitize all relevant data during production.

Toothed gear parts are geometrically measured, the surfaces are controlled to ensure the defined function, the noise-optimized running condition and the specified contact pattern.

For process stability we use standardized camera-monitored workstations in the assembly lines to ensure consistent results.

- Certification according to ISO 9001: 2015 and IATF 16949: 2016
- Gear measuring machine
- CNC coordinate measuring machine
- Optical shaft measuring machine
- CNC image processing measuring device
- Profile measuring device
- Hardness measurement technology
- Surface and roughness tester
- Acoustic chamber with structure-airborne sound measurement
- Environment simulation cabinet

Project management

As a part of the product development process, we work in our interdisciplinary teams on the project in a targeted and consistent manner. All phases within the project are monitored and controlled by our comprehensive and certified QM system.

Development, manufacture and qualification of prototypes

According to the agreed specifications the design and development of your individual drive concept starts. With the help of the latest development and design technology, the first functional models and prototypes are constructed and validated based on the theoretical concept.

Serial production and industrialization

After the validation of prototypes, the phase of industrialization starts. This includes the optimization of the product and the final conversion to serial processes. Tools and equipment are created, and the validation is completed. The initial samples are delivered, after approval the first serial batch can be released.

- Static and dynamic strength analysis (FEM)
- Process and Product FMEA
- Assembly of prototypes internally
- Validation and service life studies in our own test laboratory (including climatic chambers, noise measurement
- Industrialization of the product and the processes
- Design of tools and equipment for serial production
- Qualification of tool parts under serial loads
- Approval and initial sample processes according to VDA or PPAP, or individually according to customer requirements

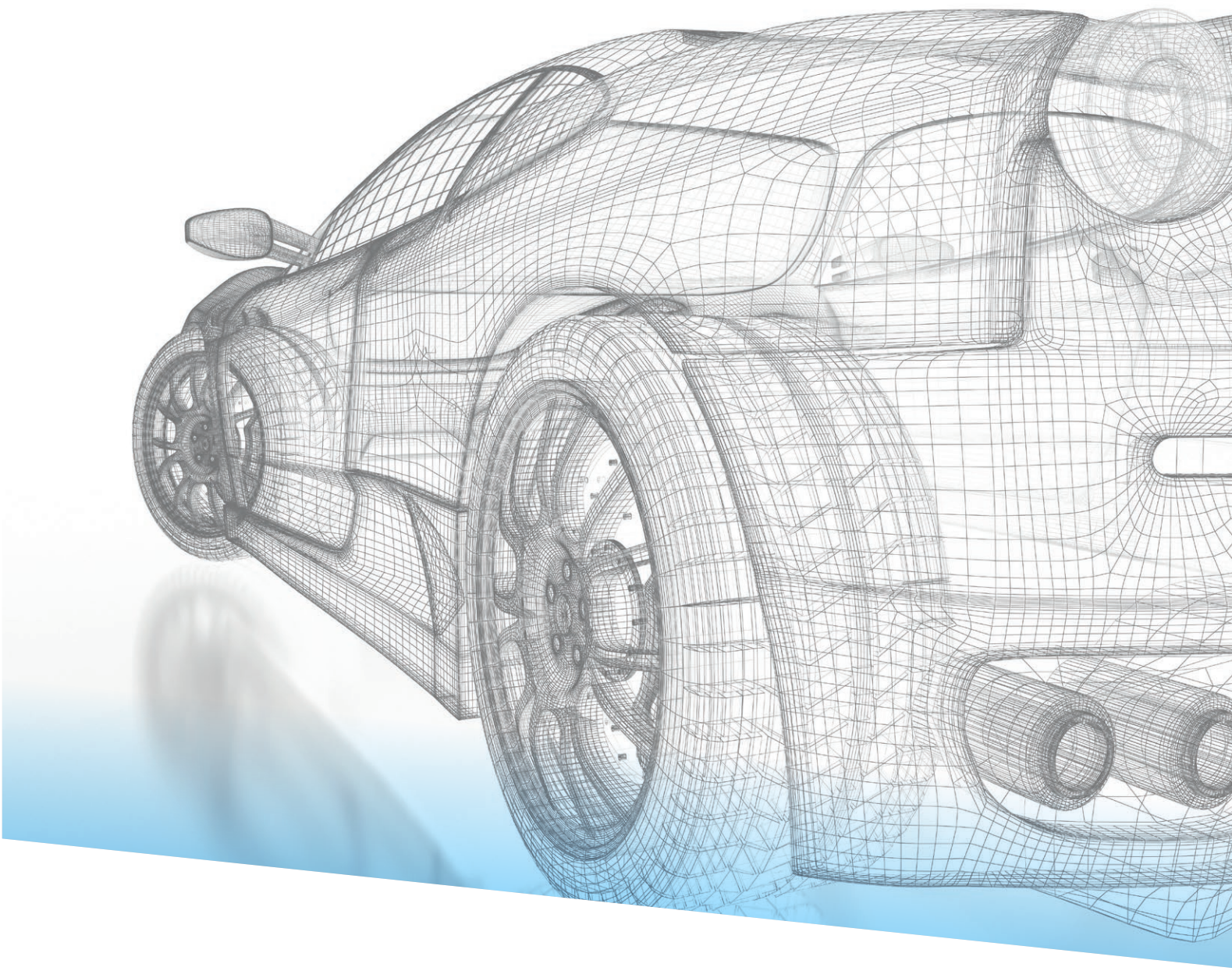
Industries

Building Technology

The automation of technical building functions has become an integral part of our everyday lives. That is why it comes more important to move window fronts quietly or to let Swing doors open. We would like to know your individual requirements for us, so that we can develop and deliver the perfect drive for you.

Fields of application

- Swing door drives
- Sliding drives and lifting drives for window fronts and sliding doors
- Dome light opener and RWA drives
- Opening and locking drives
- Regulation of heating and ventilation systems



Automotive

The technical innovation and the comfort have been increasing constantly within the last years. Safety-relevant features (sc & cc) as well as acoustic optimization and space / weight reductions are part of our daily requirements. We assure the desired comfort combined with the necessary, robust design in every product, accompanied by our QM system certified according to IATF 16949: 2016.

Fields of application

- Spindle drives for fully automatic trailer coupling systems
- Worm drives for semi-automatic trailer coupling systems
- Worm drives for automatic spoiler adjustments, seat adjustments or trunk cover drives
- Complex gear components with the highest quality and safety requirements
- Worm drives for opening a convertible sunroof

Industries

Mechanical engineering

The target of our customer-specific drives is to achieve optimal functionality and user-friendliness in industrial automation. First-class quality and absolute reliability are the basic expectations of every new development.

Fields of application

- Belt drive for bundling banderoles in cash automation
- Adjusting drives for injection molding machines
- Worm or spur gear drives for conveyor systems and valve controls
- Spur gear drives in the packaging industry
- Actuators in railway technology
- Spindle drive for compressing coffee powder in industrial fully automatic coffee machines
- Linear drive for positioning baking trays in large bakeries

Agricultural engineering

Automation is a relevant part in the agriculture engineering to fit on the ambient conditions or the requirements in terms of tightness and wear of the drive units. Therefore we develop reliable and robust motor-gear units together with our customers to achieve their targets.

Fields of application

- Actuators for agricultural machinery
- Drives for stable cleaning robots
- Positioning drives for sowing or planting machines

Furniture automation

The drive units from Primus Präzisionstechnik make our everyday lives easier. Regarding the demographic development, we have developed drive units that enable and promote handicapped-accessible living combined with an intelligent house control.

Fields of application

- Automatic opening of drawers and refrigerators
- Worm drives for opening kitchen cupboards including safety coupling system
- Height adjustment of desks and worktops

Medical technology

Our customer-specific drive solutions are used in different parts in the medical technology. This can involve the mobilization of joints or the adjustment of operating tables. Electromechanical drives ease the work for the specialist staff.

Fields of application

- Automatic mobilization of body joints after operations
- Joint adjustment of operating tables
- Dosing drives for dialysis machines
- Actuator in mammography technology

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