AUTOMOTIVE

FLEXIBLE ASSEMBLY AND FUNCTIONAL TEST SYSTEMS
When high flexibility, speed and profitability are the deciding factors, we, as an independent automation company specializing in automotive, medtech and new energy, are the right partners. Key to this are our employees, who approach every one of our customers’ challenges with passion and high levels of commitment. Not only that, but they continue to work and test until the optimal solution is reliably achieved.

Focused on your requirements

We add tailored applications to standardized machine platforms and create customized assembly and functional test systems for automotive components.

We are world market leader in the field of EOL test systems for passenger car transmissions and e-drives.
We combine intelligent process technology with modular design. This allows us to deliver high performance systems at every level: manual, semi-automatic assembly and test and high-speed automation.

**There are four factors at the heart of our success:**
- We know your product.
- We are familiar with every assembly and test process.
- We can always offer the ideal basis for your production system from the teamtechnik collection of modules.
- Comprehensive inhouse software development (teamsoft)

The result is always a highly flexible, cost-effective and reliable assembly and functional test system – tailored to your application – even if you have very special requirements that standard machine platforms are not able to comply.

**COMPETENCE FOR CUSTOMER PRODUCTS**

We understand your product

From very early stages of idea inception, we bring you our deep knowledge of product development. We will be there every step of the way with creativity and solutions.
Tested and diverse

Is your product particularly sophisticated and difficult for manufacturability? You can benefit from the experience we have gained over decades. We have proven processes from a vast and diverse collection of assembly and test experiences. The teamtechnik process pool contains over 1000 assembly and functional test processes.

From start-up to high-speed

We enhance our standardized machine platforms with your specific applications to create your individual production system. From prototype to mass production, tailored to your level of automation and with any cycle time, we configure the right production system for your needs – always. We can deliver an economical and flexible turnkey system anywhere in the world.

**Handling**
- Pick & Place
- Robot handling

**Parts Supply**
- Feeding
- Palletizing
- Tray Handling

**Joining**
- Pressing
- Screwing
- Gluing
- Fluxing, soldering

**Testing**
- Part presence, type recognition
- Leak test
- Electrical tests (e.g. high voltage, resistance)
- Hydraulic testing
- Dimensional inspection
- Force / displacement measurement
- Functional test (EOL), NVH

**PLC Software and Diagnosis**
- Innovative, in-house developed testing software
- Real-time enabled measuring technology
- Test cycles created in a graphical, web-based environment
- Powerful Manufacturing Execution System

**Marking**
- Laser marking
- Labeling
- Ink jet

**Other examples**
- Plasma treatment
- Dispensing
- Vision control
- Depanelization

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**PROCESS AND PLATFORM EXPERTISE**

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**CYCLE TIME**

**ASSEMBLY AND FUNCTIONAL TESTING**

**FUNCTIONAL TESTING**

- **>20 SEC**
  - ECO CELL
  - TEAMOS Start-up
  - TEST LINE Start-up
  - TEST CELL
  - VALVE BODY TEST Start-up
  - COMPACT DRIVE Start-up

- **5-20 SEC**
  - TEAMAXX
  - TEAMOS
  - TEST LINE
  - TEST CENTER
  - VALVE BODY TEST
  - COMPACT DRIVE

- **0,5-5 SEC**
  - LTS
  - RTS
INNOVATIVE SOFTWARE SOLUTIONS

CONTROL. PRODUCTION. TESTING.

teamsoft.MES – Manufacturing Execution System

teamsoft.MES is a flexible manufacturing execution system which is fine-tuned to offer optimal operation with team-technik production systems and which guides components reliably through the production process. Machine and process data is stored and can then be used to perform a range of different analyses for the purposes of monitoring, production optimization and batch tracing.


teamsoft.TEST – Innovative test software

teamsoft.TEST is an innovative test software executed on a National Instruments® LabVIEW® runtime system which enables test sequences to be visualized graphically on the Internet. The test results are used for quality assurance and for production optimization.

It is an innovative system which offers web-based graphical creation of test sequence for testing mechatronic products. The modular structure of the test sequence workflow enables new test steps and test sequence modules to be added from a library and parameterized.


teamsoft.PLC – an innovative control concept

teamsoft.PLC is the PLC software developed by team-technik for controlling individual modules via standard interfaces. It is optimized for teamsoft.MES and teamsoft.TEST and can be integrated seamlessly into the teamsoft environment.
COMPACT DRIVE – the trusted basis

teambtechnik is among the global leaders in the field of flexible test benches for e-drive systems. Our standardized COMPACT DRIVE testing platform enables us to test a wide variety of product types and variants using the same modules. On this basis we create testing systems, from individual test benches through to fully-automated test fields with additional stations for pre-testing, oil filling and draining.

Proven processes linked with customer requirements

On our COMPACT DRIVE platform, we combine standardized production system modules with customer-specific processes. Examples of this include:

- Electrical tests and calibration
- Function and noise level testing
- Battery simulation
- Control unit communication and full data tracking
- Supply with oil and cooling water

From pre-series test bench and interlinked serial production test assemblies to complete EOL test fields, we realize any application for every type of transmission (e.g. MT, AT, DCT, CVT and hybrids).

Efficient and cost-conscious: on the standardized transmission test platform TRANSMISSION TEST, we combine proven machine-assembly modules with customer-specific processes. We mirror complex testing processes on our own automation system.

MODULAR EOL TEST BENCHES

FOR E-DRIVES AND VEHICLE TRANSMISSIONS

Series production of test benches for e-drives coupled with in-house-developed software
Electronics
We work closely with our customers to develop assembly lines that ensure dependable and economical production, even with critical processes. On the basis of trusted platforms we realize assembly and functional test systems, from manual to fully automated, for:

- Sensors
- Actuators
- Electric motors
- e-drives
- Inverters
- Control units
- Connectors

Precision with a high degree of automation
Intelligent products need intelligent production lines that combine outstanding precision with high production rates. Processes that are utilized are:

- Laser welding
- Soldering
- Glue and thermal paste dispensing
- Electrical tests

Battery modules and components
Teamtechnik offers automation solutions for the following battery components:

- Battery modules
- Anodes
- Battery covers
- Central contact systems

Trusted processes that are used here include:

- High-speed assembly processes
- Laser and resistance welding
- Thin-foil handling
- Leakage test
- Adhesive application
- Data management
- Electrical and visual test procedures
- EOL testing for battery modules and packs
ASSEMBLY AND FUNCTIONAL TEST SYSTEMS

FOR TRANSMISSION AND ENGINE COMPONENTS

Transmission mechatronics
teamtechnik is synonymous with efficient production solutions for transmission mechatronics and valve bodies. We integrate a wide range of different processes in the systems as required.

Oil pumps
Taking the purity requirements into account, teamtechnik offers efficient solutions for the production of a variety of oil pumps. From transmission oil pumps to engine oil pumps with or without electric drive (power on demand).

Valves
For 20 years, we have developed and built assembly and functional test systems for many different types of servo-hydraulic proportional, regulating and switching valves.

Compressors
We have already supplied different compressor manufacturer with assembly and testing systems. Depending on the requirements, the automation level is individually adjusted.

Steering systems
teamtechnik has proven platforms and processes for the assembly and testing of modern steering systems.

Braking systems
Boosters and vacuum pumps are examples of brake system components, which are assembled on teamtechnik systems.

In Europe, the USA or Asia, your systems should work – always and everywhere. Our worldwide network guarantees the highest quality of response and service.

Transmission mechatronics

TEAMTECHNIK-SERVICE

FOR INCREASED PRODUCTIVITY THROUGHOUT THE LIFE CYCLE OF YOUR PRODUCTION SYSTEM

teamtechnik service for high system availability:
- Spare parts management: service parts and logistics
- Assistance provided where knowledge is insufficient and to correct operational errors
- Maintenance under individual maintenance contracts
- Maintenance
- Calibration
- Production support
- Remote service
- Courses and on-site training as required

teamtechnik service Automotive facilitates production changes:
- Retrofit: Conversion, extension and modernization
- Efficiency engineering, process and cycle time optimization
- Capacity adaptation when volumes change
- Setup of new variants
- IT integration: Data flow between internal and external networks
- Relocation or mergers of production lines