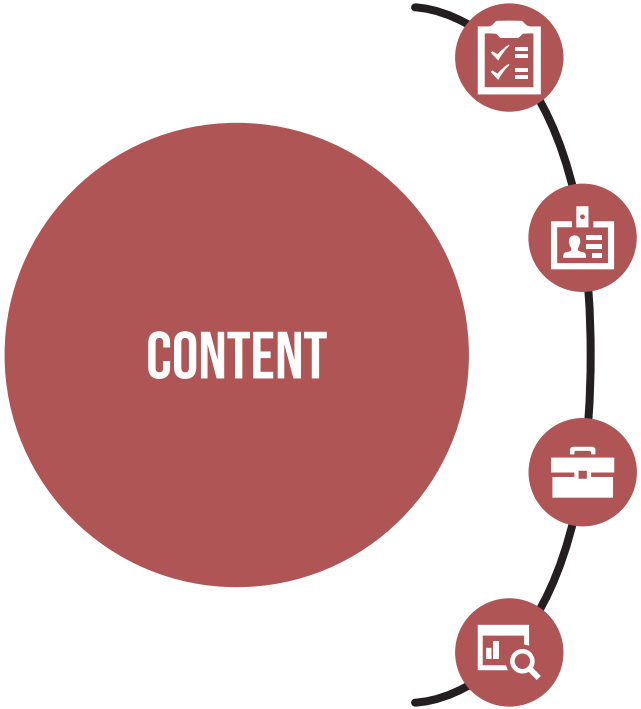
VTS 2030

From standard system
to manufacturing line



COMPANY

Experience
Branches
Indicators

COMPARISON

Why standards?
Standard system VTS 2030

DEVELOPMENT

Components
Price information

POSSIBILITIES

Process
Application
Distribution

EXPERIENCE

From concept to commissioning, you receive everything from one hand

LEADING COMPANY OF TEST AND MEASUREMENT SYSTEMS

35 years of experiences.

Thousands of projects in over **50 countries**.

A lot of proprietary developments.

This leads to **standards**, that our customers today have a benefit from.

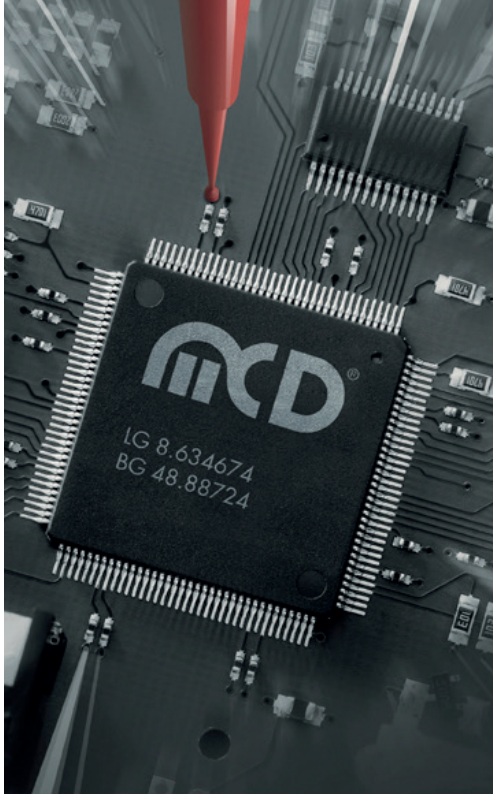
BRANCHES

MCD's customers industries are numerous

INDICATORS

The most important data about MCD Elektronik

INDICATORS	MCD
Founded	1983
Employees	80
Turnover	18 Mio. €
Headquarters	Birkenfeld (Germany, BW)
Branch offices	Shanghai (P.R. China), Budapest (Hungary)
Distribution of test systems	Over 50 countries worldwide
Management	Owner-managed
Certification	DIN ISO 9001:2015



WHY STANDARDS?
Changes in requirements

SHORTER TIME TO MARKET REQUIREMENTS ARE CHANGING THE TEST WORLD. TIME FOR STANDARDS!

Introduction phases often take place with **a basis system** as a **FCT or EOLT** for a lot of **different assemblies**.

Especially in the area of **eCars / electric mobility**, there are actually **low quantities**, which still have to be expedient and efficiently tested.

STANDARD SYSTEM VTS 2030

Achieve quick and safe results with standards

DEVELOPMENT OF TEST SYSTEMS IN A SHORT TIME

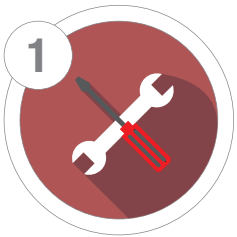
Standards are well-suited for **quick** solutions.

Customer is able to **manufacture** his adaption **on his own** or via MCD. The software can be modified at any time, is **self-creatable** and **adaptable** to changing requirements.

Scalable modules are a solution for the **future**.

COMPONENTS

Development parts of a VTS standard system

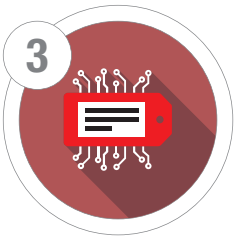


DEVELOPMENT

From a standard system to individual extensions

INTERFACES

Simple and quick adaptions

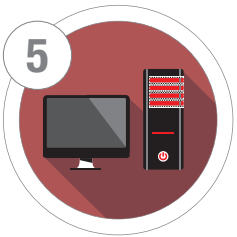


ADAPTIONS

Possible with or without exchangeable fixtures, as FCT, EOLT and repair version

PLANNING

Adjustments for adaptions, needle beds, etc.



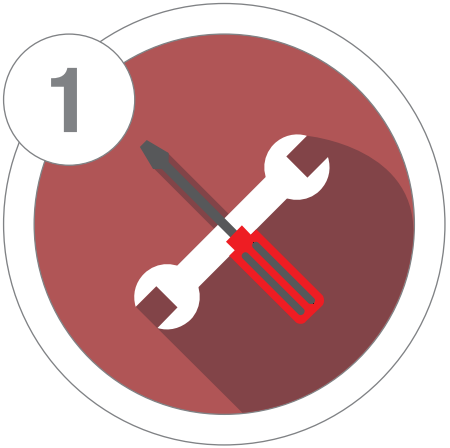
SOFTWARE TOOLS

Implementation of handling, process, data collection, controlling, etc.

The depicted test system partly reveals optional equipment at additional cost.

- IPC with Windows® / OS
- 19“ standard components, 10“ components (extendable)
- 22“ monitor
- Keyboard drawer with wireless keyboard
- Emergency power supply
- Emergency stop control
- Power-up
- Display components
- Compact design, scalable

- *Height-adjustable (optional)*
- *RFID management (optional)*

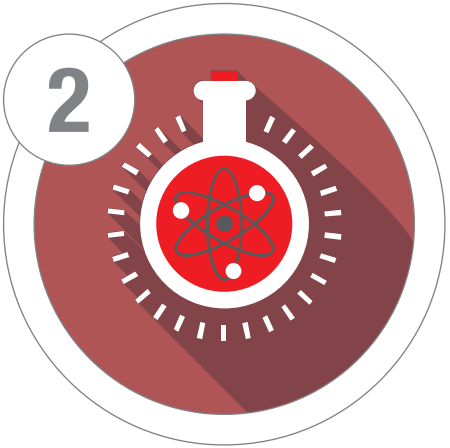


DEVELOPMENT

The depicted test system partly reveals optional equipment at additional cost.

- 8 serial and 16 LAN interfaces (via switch)
- 2 CH power supply (e.g. 0-20 V, 2x 20 Amp.)
- Internal power supplies (5, 12, 24 V)
- Data logger with DAkkS calibration (e.g. Keysight, 2x 20 channels, expandable)
- Control unit (16 E/A, I²C bus, code measurement system)
- USB

- *CAN, LIN, SPS (optional)*
- *AudioAnalyzer (optional)*
- *Oscilloscope (e.g. PicoScope®, optional)*



INTERFACES

The depicted test system partly reveals optional equipment at additional cost.

- FCT, EOLT, Repair adaption
- Mounting / test adaption
- Pylon receiver (e.g. 2x 170 pol., 4 Ampere load each, 2x 24 pol. high current, 1x 170 pol. with RS232, mech. I/O, I²C, transfer for USB 3.0, HDMI and network)
- Quickly changeable, sustainably adaptable
- Standard contact pins

ADAPTIONS

The depicted test system partly reveals optional equipment at additional cost.

- VTS 2030 Measurement system (3HU housing, 128 channels, ULC FPGA measurement card, voltage and frequency measurement, FFT analysis, creating of curve shapes)
- Up to 512 measurement and stimuli channels

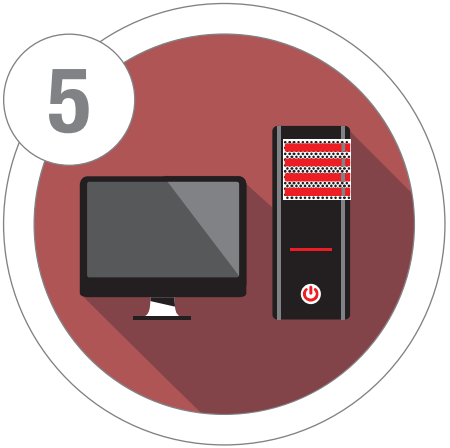
- *CAN / LIN controller (optional)*
- *additional test steps / test sequences (optional)*
- *Locking (optional)*

PLANNING

The depicted test system partly reveals optional equipment at additional cost.

- TestManager CE license
- Toolmonitors for control of components (e.g. Multimeter, PowerSupply, SerIO, Serialline, SQL)
- Test steps for measurements *(U / I / f / t / FFT)*
- Standardized control concept for adapters
- Data collection, statistic
- Quality analysis

- *LabVIEW® application (optional)*
- *MSA analysis (optional)*
- *further Toolmonitors (e.g. Data Manager, optional)*



SOFTWARE TOOLS

PRICE INFORMATION

Declaration of budget prices for the development of a VTS 2030 test system

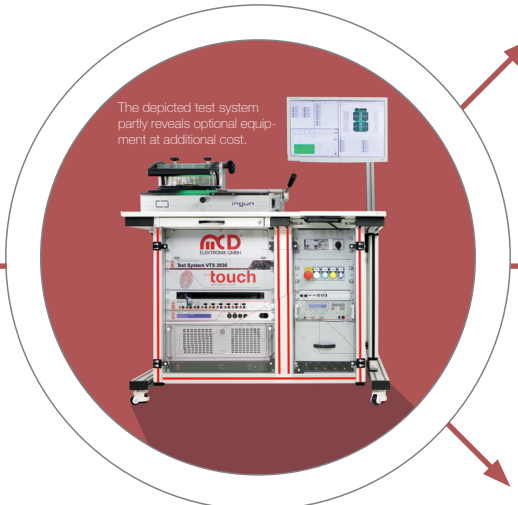
CALCULATION OF BUDGET PRICES FOR BASIC SYSTEM DEVELOPMENT

The flexible VTS 2030 test system can be expanded by **optional equipment** and can be adjusted **customer-specifically**.

Optional equipment is marked ***cursive*** and with *„(optional)“* at the **components description**. At the following site, there are **exemplarily component prices** listed with „+“ under the basic price.

PRICE INFORMATION

Budget prices for the development of a VTS 2030 test system (as of 10-2018)



BASIC SYSTEM **40.000 €**

+ Height-adjustable 1.650 €
+ RFID management 450 €

ADAPTIONS* **22.000 €**

+ Scanner (e.g. Keyence) 1.250 €
+ Automatical opening 2.100 €
+ Locking below 480 €
+ Locking above 630 €
+ Stress test DUT 1.070 €

TEST SOFTWARE (TESTMANAGER CE) **819 €**

+ Toolmonitor Data Manager 946 €

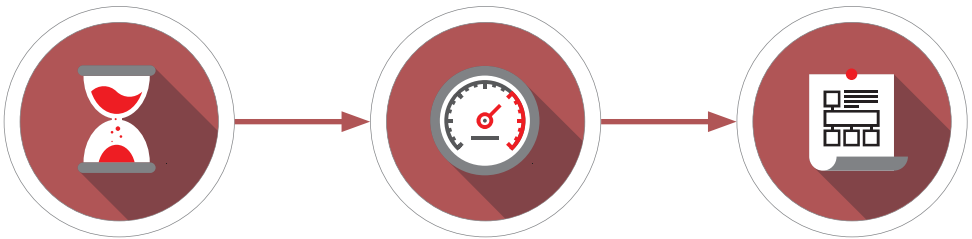
PLANNING / NRE COSTS* **15.000 €**

+ Doc. for special countries 3.500 €

* Exemplarily calculation for a test system with a test sequence of approx. 50 test steps and about 60-80 contact points (includes planning, engineering, construction, software development and documentation in german/english)

PROCESS

Standardised process sequences of MCD test systems



DEBUG / TEST

Diagnosing, locating and fixing of errors in software and hardware modules.

MEASUREMENT

Test and endurance run. Does the test deliver relevant results quickly and safely?

100%

Manufacturing is rendered and test protocols are appropriately setted for customers.

APPLICATION

Integration of MCD systems to different test environments

ADAPTIONS

HAPTIC TESTING

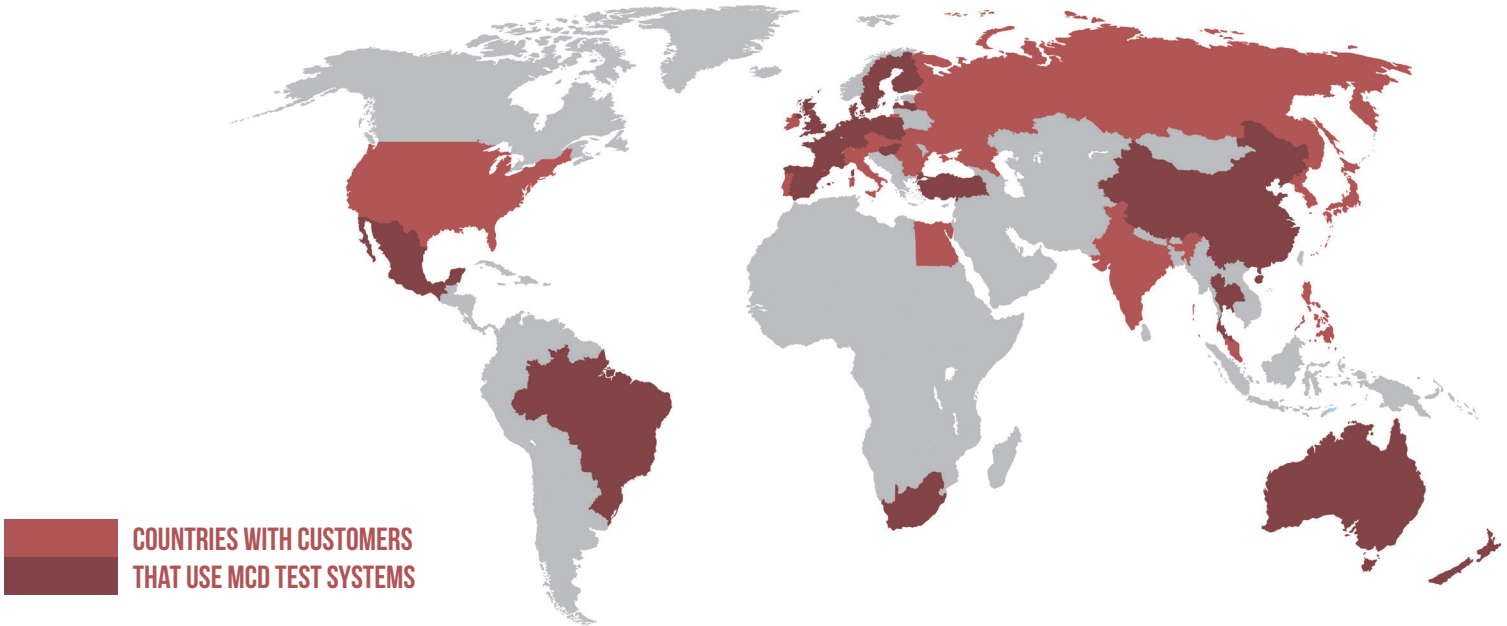
OPTIC TESTING

ROBOTIC TESTING

INLINE SYSTEMS

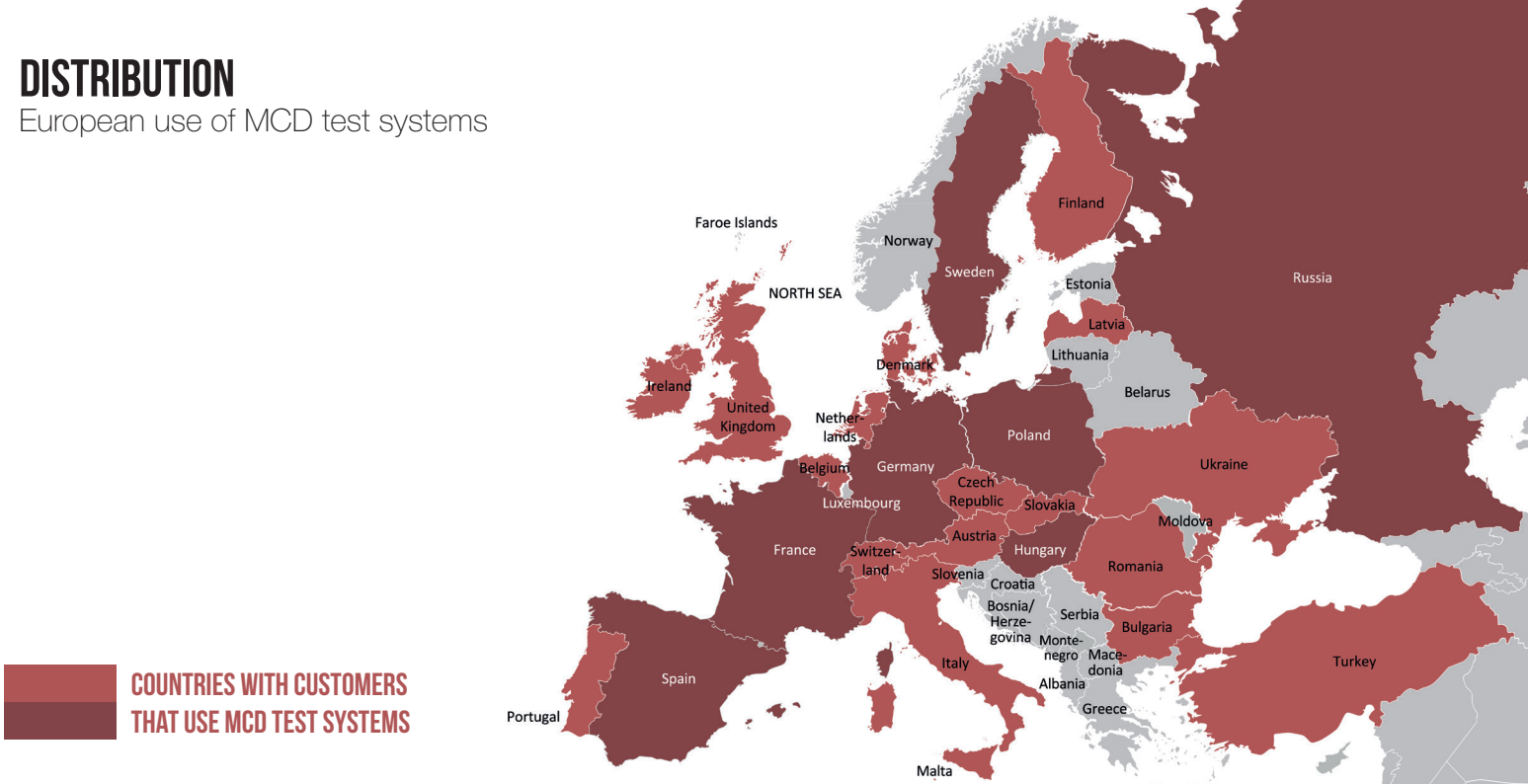
DISTRIBUTION

Worldwide use of MCD test systems



DISTRIBUTION

European use of MCD test systems



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