sm.
motion control

We drive your ideas.

We put your mechanics
into motion

1+

Automation from quantity 1

Everything you need
turnkey ready

Automation
Motion
Controller

Control   Automate   Implement

40 Years of Experience

With over 40 years of experience, sm motion control is a proven partner for control, automation, and drive technology.
sm motion control gmbh is a manufacturer of electronic controllers used as continuous path control systems, positioning control systems, compact control units, and all-in-one controllers. Thanks to our innovative range of controllers, we can configure complex industrial automated systems, including drive technology and mechanical systems.

Expertise

- Development and manufacturing of electronic control systems
- Designing of control and drive systems
- Electrical engineering, manufacturing of control cabinets
- Software development and commissioning
- Configuration of complete positioning systems
- Development and production of customised electronic devices and components
- Retrofit of machinery
- Special machinery

Tradition

Tradition, reliability and trust are the cornerstones of our business. We cultivate long-standing partnerships with our customers and work with them closely. As a result, our customers often use multiple generations of control systems simultaneously.

smmx – The Automation Controller

Four control functions combined into one device:
CNC – PLC – Motion Control – Visualisation

Features

Automation controller for CNC, PLC,
Motion Control and Visualisation
High-performance, modular, scalable,
advanced development system (CODESYS V3)

CNC

Continuous path control for up to 16 stepper
or servo axes
Linear, circular and helix interpolation
8 independent CNC channels
Programming according to DIN 66025

PLC

CODESYS V3
including function blocks for motion control

Visualisation

CODESYS V3
- Target visualisation for 5" – 15" colour touch panels
- WEB visualisation for remote PC

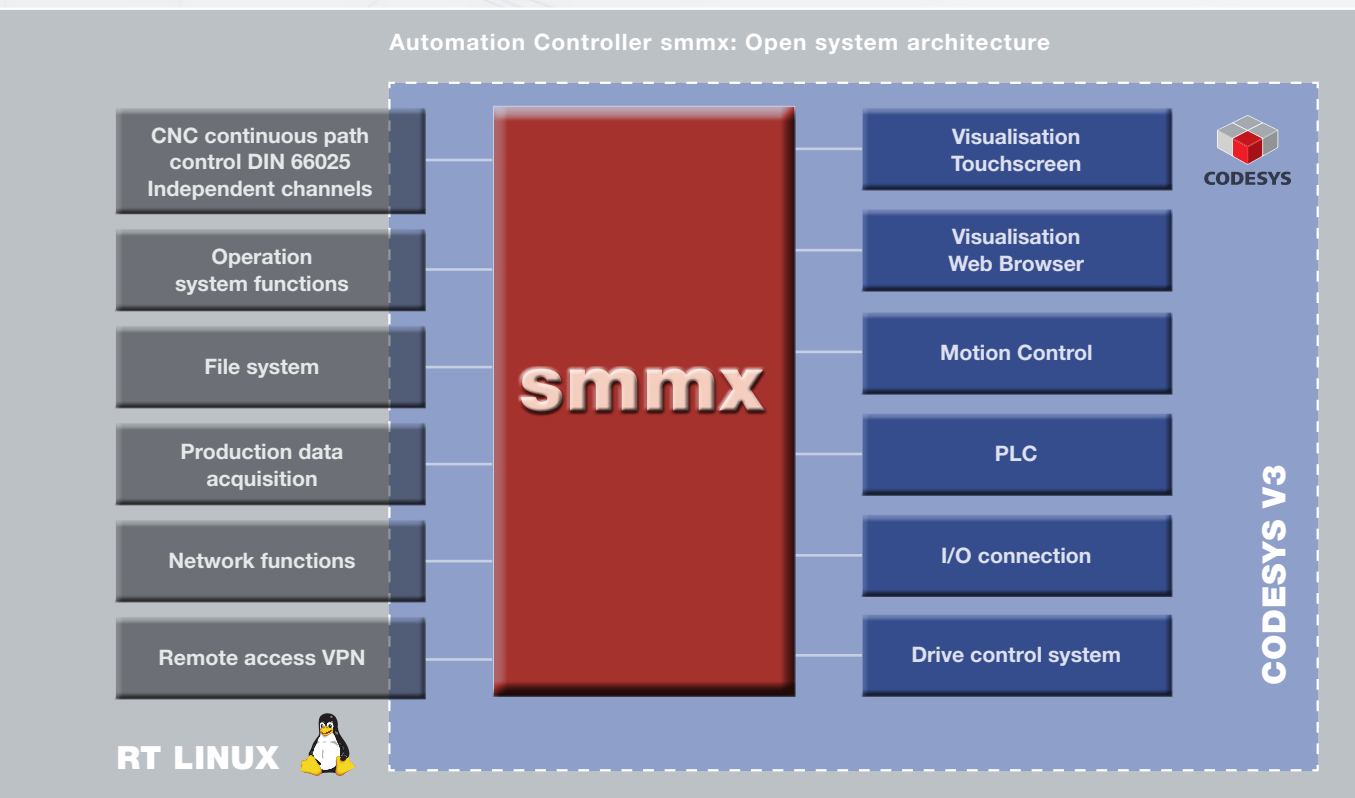## Operationsystem

Real-time Linux

Interfaces

2x Ethernet 10/100 MBit, 2x RS232, 2x CAN, 2x USB
EtherCAT, CANopen

Remote Access

Service functions for setup and operation:
Web, FTP, ssh, OPC-UA, Modbus TCP

smmx – Open Platform

The open automation platform enables the user to integrate their own machine know-how. CNC programs in DIN66025-language (G-/M-commands) can run on multiple independent channels. PLC, motion control and visualisation functions are programmed using CODESYS V3. The smmx Controller can be used for touch panel and WEB visualisation. Former known approach with separate devices, controller and operator panel, is now obsolete.

Automation Controller smmx: Open system architecture

CNC continuous path control DIN 66025 Independent channels	**smmx**	Visualisation Touchscreen
Operation system functions		Visualisation Web Browser
File system		Motion Control
Production data acquisition		PLC
Network functions		I/O connection
Remote access VPN		Drive control system

CODESYS

CODESYS V3

RT LINUX

Other highlights

- Scalable configuration of machine applications
- Shared variable space for CNC, PLC and visualisation
- User administration
- Signal management
- Application update via USB stick
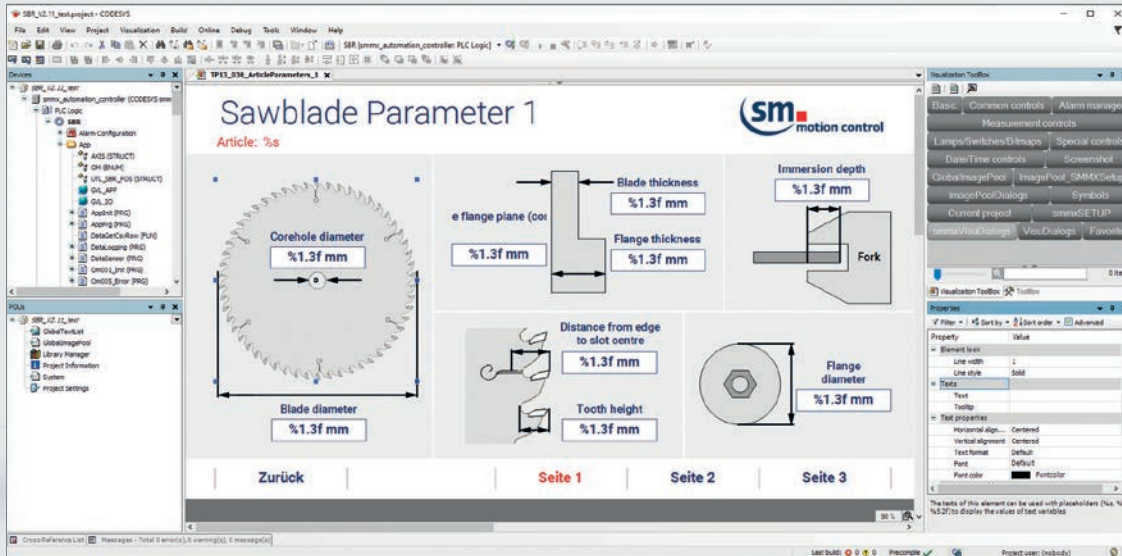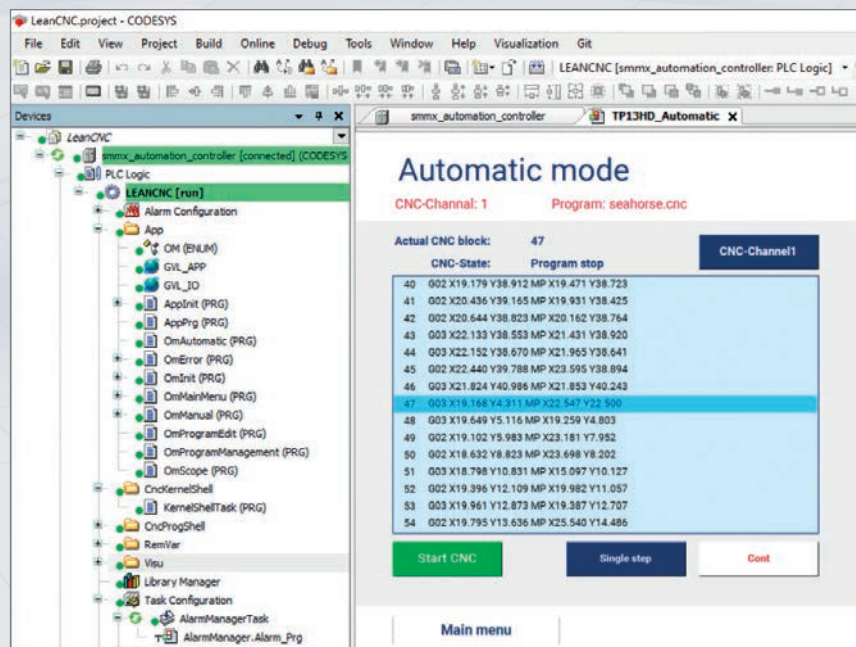- Configuration via initialisation files

smmx – CODESYS integrated

The Automation Controller smmx is configured with the CODESYS V3 object-oriented development system. Complete control, automation and visualization tasks can be implemented within a single configuration tool.

Sample project in the CODESYS development environment

Ready-to-use CODESYS templates for all automation tasks are available for the smmx controller platform

smmx –
Actual models

The Automation Controller smmx is currently available in the following models:

smmx.box

smmx as compact DIN rail module

- Dimensions 46 x 130 x 84 mm
- Power supply 24 VDC
- Visualisation of the application in the WEB browser

smmx.tp5
smmx with integrated 5.7" colour touch panel

- Resolution 640 x 480 px
- Display area 115 x 86 mm
- Capacitive touchscreen
- Aluminium housing with all-glass front for front panel mounting
- Dimensions 160 x 132 x 45 mm
- Power supply 24 VDC

smmx.tp7
smmx with integrated 7" colour touch panel

- Resolution 1280 x 800 px
- Display area 150 x 93 mm
- Capacitive touchscreen
- Aluminium housing with all-glass front for front panel mounting
- Dimensions 208 x 134 x 55 mm
- Power supply 24 VDC

smmx.tp10
smmx with integrated 10" colour touchscreen

- Resolution 1280 x 800 px
- Display area 216 x 135 mm
- Capacitive touchscreen
- Aluminium housing with all-glass front for front panel mounting
- Dimensions 264 x 184 x 49 mm
- Power supply 24 VDC

Other models are available upon request. We are flexible in terms of display size, housing material and shape.

smmx.tp13

smmx with integrated 13.3" colour touch panel

- Resolution 1366 x 768 px
- Display area 294 x 168 mm
- Capacitive touchscreen
- Aluminium housing with all-glass front
  for front panel mounting
- Dimensions 345 x 283 x 61 mm
- Power supply 24 VDC

smmx.tp15

smmx with integrated 15.6" colour touchscreen

- Resolution 1366 x 768 px
- Display area 345 x 195 mm
- Capacitive touchscreen
- Aluminium housing with all-glass front
  for front panel mounting
- Dimensions 400 x 258 x 50 mm
- Power supply 24 VDC
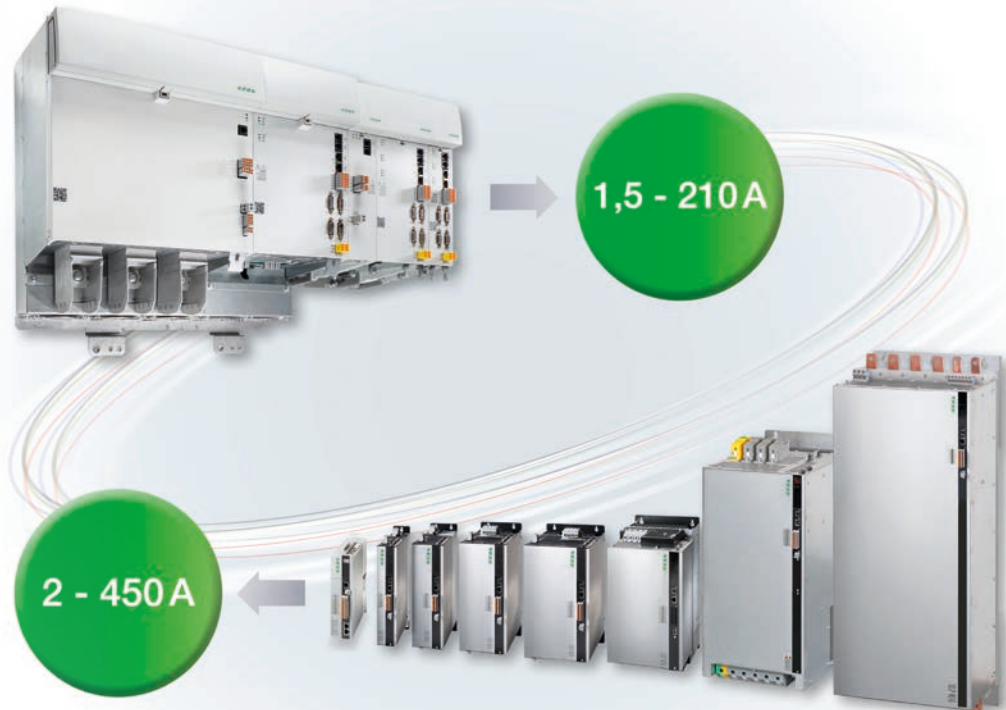
smmx.4x11/3/320R in 19" - Rack

- Up to 4 integrated digital AC servo or
  step motor amplifiers
- Integrated 7" colour touch panel (resolution 800 x 480 px)
- Integrated emergency stop relay
- Inputs and outputs optionally on 37-pin SUB-D plug
  or on external EtherCAT terminals
- USB and Ethernet connection
- 19" steel housing
- Power supply 230VAC

Models

![sm motion control logo]

Strong Partnership KEBA

When it comes to servo drive technology, we rely on our strong partner – a partner we have worked with hand in hand for many years, ensuring your best automation solution!

1,5 - 210 A

2 - 450 A

Impressive highlights

Our drive systems are the basis for performance, productivity and safety of your machine.
The modularity and the wide range of products and services guarantee you optimal and fast integration into the machine automation at any time.

- Energy-efficient multi-axis systems
  (230 – 480 V AC with 1.5 A – 450 A)
- Flexible single-axis systems
  (24 V DC – 480 V AC with 2 A – 450 A)
- Industry-specific variants and systems
- Scalable safe motion solutions
  according to PLe/SIL3

Zertifikat

Wir freuen uns, unseren Vertriebspartner

SM Motion Control GmbH

als

"Certified-Partner 2022"

für Anwendungs- sowie Produktkenntnisse,
technischen Support und Service
auszeichnen zu können.

Alexander Hipp
Regionalleiter Vertrieb Deutschland Süd

Fabian Georg
Vertriebsingenieur Deutschland Süd

Leonberg, den 28.02.2022

KEBA
Automation by innovation.

Drive components –
Motors and power amplifiers

Single cable solution

- With just one cable to the servomotor
- Less hardware and fewer connections
- Faster installation
- Space-saving, lower in weight & reduced inventory costs
- Cost-effective & reliable

Motors

- Compact and space-saving
- High energy efficiency, power density and reliability
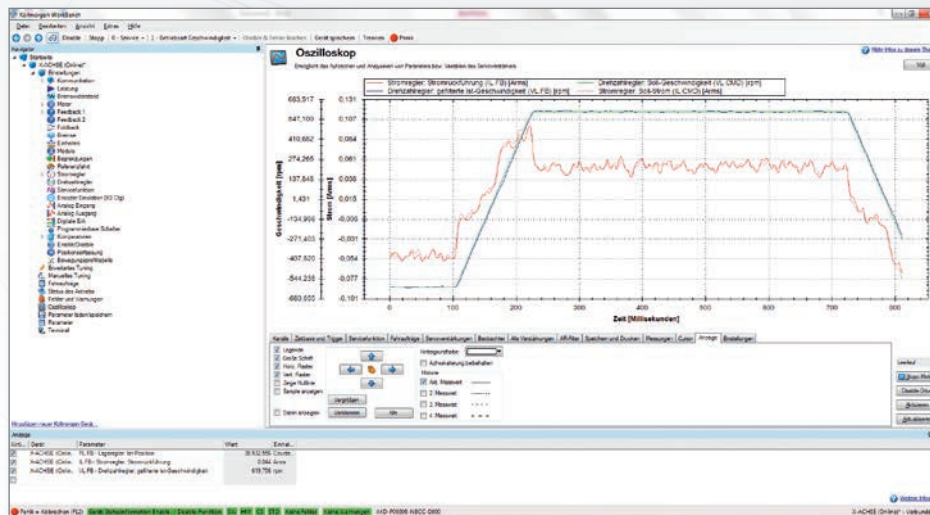- Finely graduated rotational speed and torque ranges precisely designed for the respective application

Step motor amplifier

- Extremely compact power amplifier for 2-phase step motors
- Motor current range: 1.5 A – 8 A
- Motor voltage range: 24 V – 48 V
- Adjustable number of steps up to 10,000 steps/motor revolution
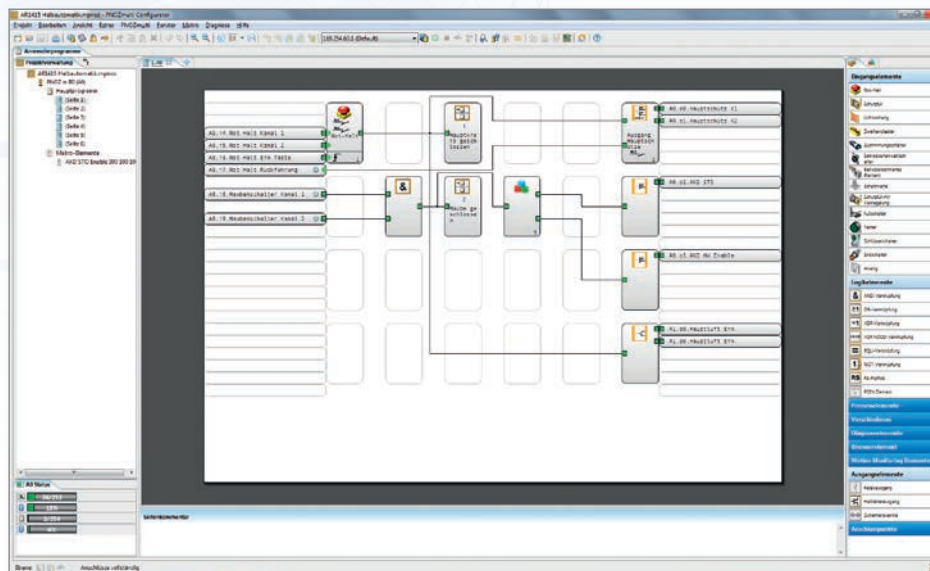- EtherCAT Interface

sm motion control

Customised Software – flexible function blocks, intuitive operation

Our leading-edge software tools cover all areas of industrial automation technology. Complex individual requirements can be implemented with a simple system solution. Upon request, we can undertake the complete software development and provide a turnkey application.

Commissioning of Electrical Drives

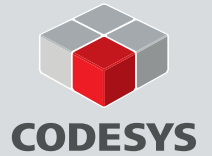The ergonomic user interface makes working with the drive simple.

Safety Configuration

The PNOZ multi configurator is used to develop safety circuits for PILZ safety devices.

PLC Configuration

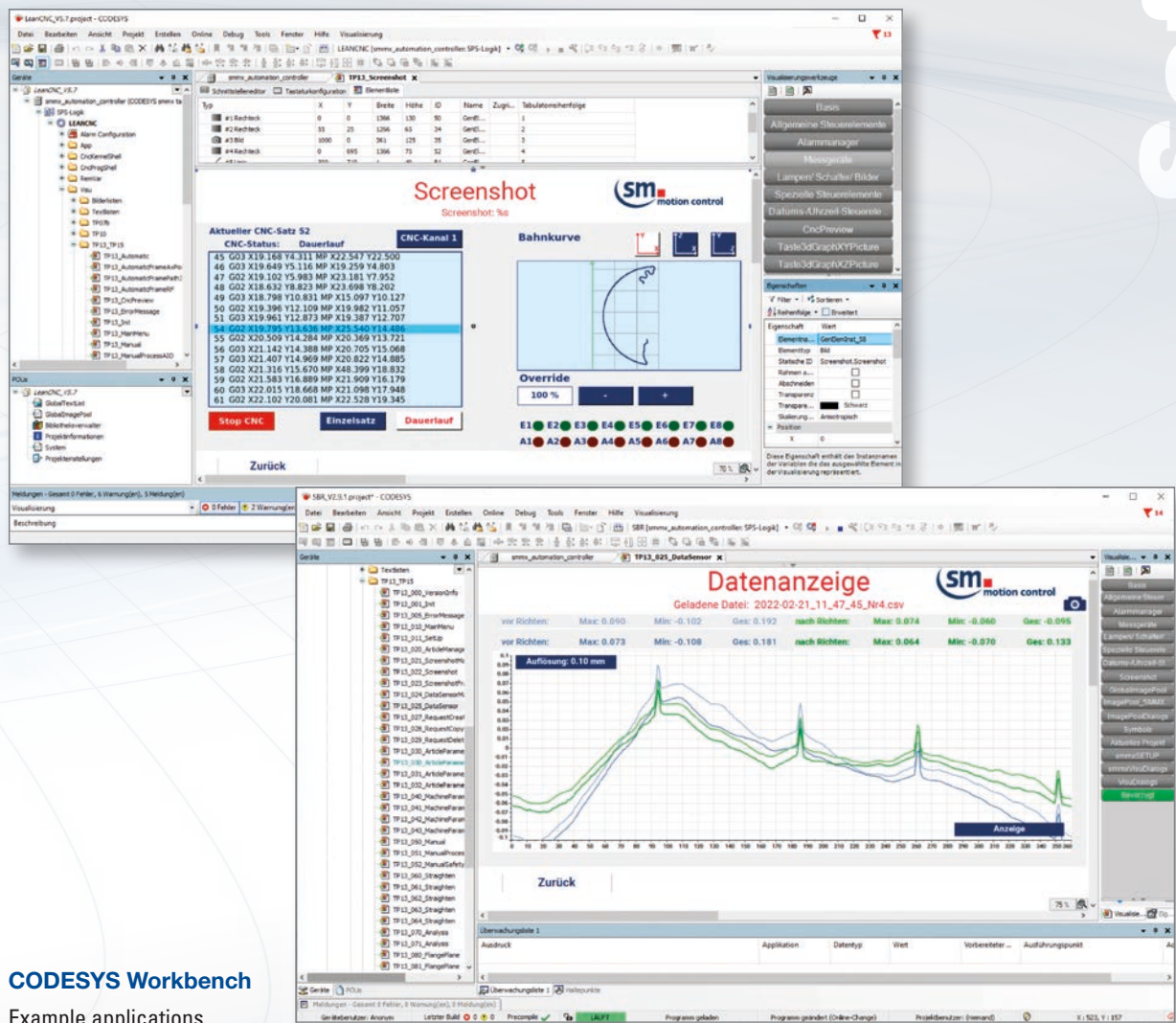## CODESYS V3 – the comprehensive software suite for automation technology

CODESYS is a software platform for numerous tasks in industrial automation technology. It is based on the IEC 61131-3 programming tool CODESYS development system.

- Programming
- Configuration of field bus and I/Os
- Visualisation
- Motion Control
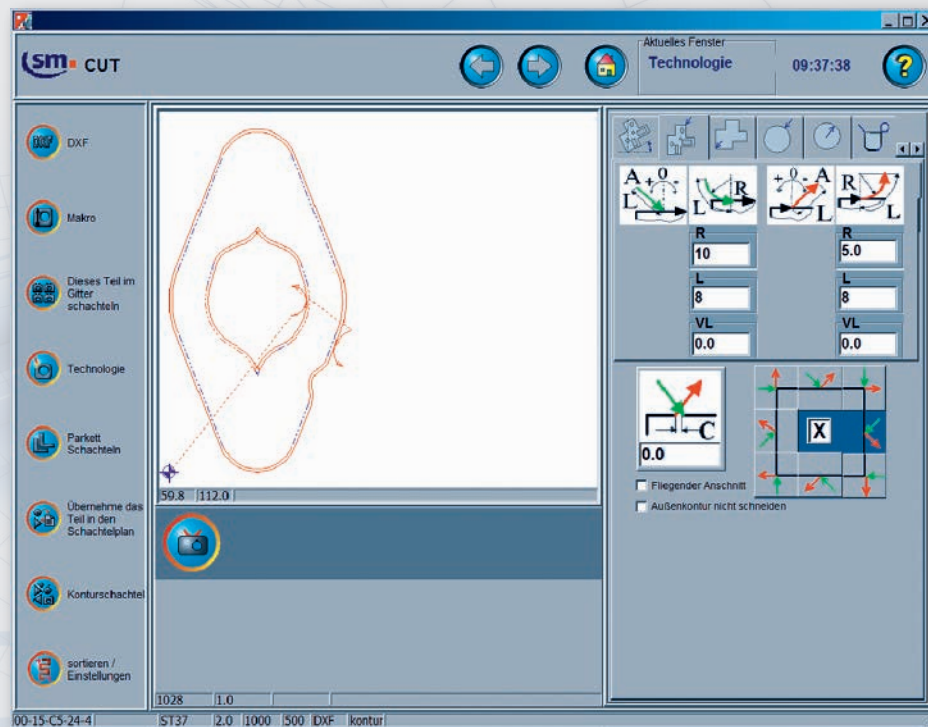- Diagnostics and Debugging
- Remote access

CODESYS Workbench

Example applications

smCut – CAD/CAM System

smCut is a CAD/CAM system featuring a wide range of functions, it is easy to use
and offers an outstanding cost-performance ratio. With just a few clicks, it is possible to
convert CAD drawings into CNC programs and download them to the smmx controller.

- Import various formats, such as DXF and DWG
- DXF analyser for modifications or repairs (e.g. closing open contours).
- 50 parameterisable macros – easy to edit and save as DXF file
- Setting the ingate for each individual part with inner and outer contours

Systems

Solutions

System Solutions

We provide turnkey system solutions with the following services/components:

- Configuration, consultation, drive system design
- Control cabinet/ electrical engineering
- Positioning systems/ mechanical design
- Control and drive technology
- Software development including operational concept
- Commissioning at our site or at your facilities

Customized electronic devices

Share your ideas with us in confidence. In addition to the services above, we also offer:

- Hardware and circuit board development
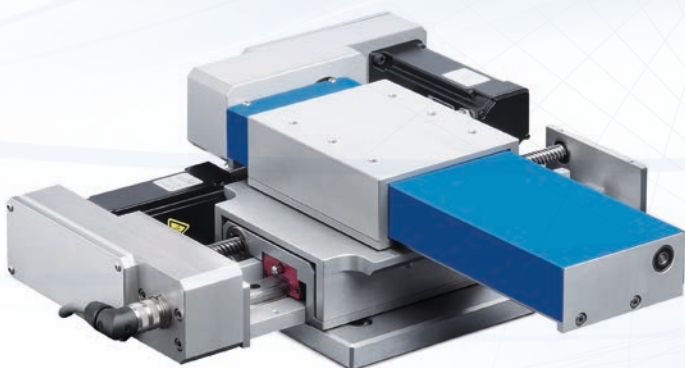- Housing design
- Wiring/assembly/final inspection

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motion control

Retrofit of Machines

We can retrofit your old systems
using the most advanced control,
drive and control cabinet technology.

Positioning Systems

Together with our business partners, we develop complete positioning
systems. Mechanics + Drive Technology + Controllers.

**We offer the following mechanical
components**

- Aluminium profile linear axes with
  roller guides and geared belt drive
  (40 – 90 mm profile sizes)
- Aluminium profile linear axes with
  roller guides and ball screw
  (30 – 200 mm bed widths)
- Linear guides for precision machinery
  (steel or grey cast iron structures with
  integrated precision guides and drives)
- Rotary tables
- Multi-axis systems
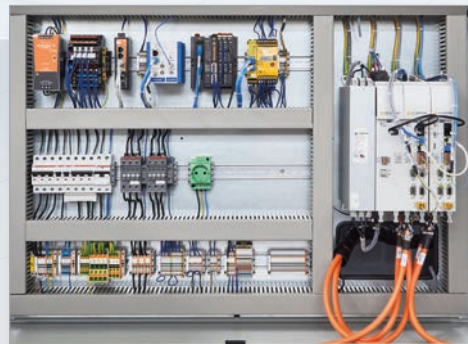- Absolute scales

HMI - Operating and Monitoring

We offer a large selection of mobile and stationary operator panels –
ready-made or customized.

Customized Control Cabinets

Your application needs – We make them happen

We manufacture the control cabinet to fit your exact application needs,
including wiring diagrams and complete documentation

Our highly qualified employees
use cutting-edge technology
both in the design software
and when selecting components.

sm. motion control

Control   Automate   Implement

sm motion control

sm motion control gmbh

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