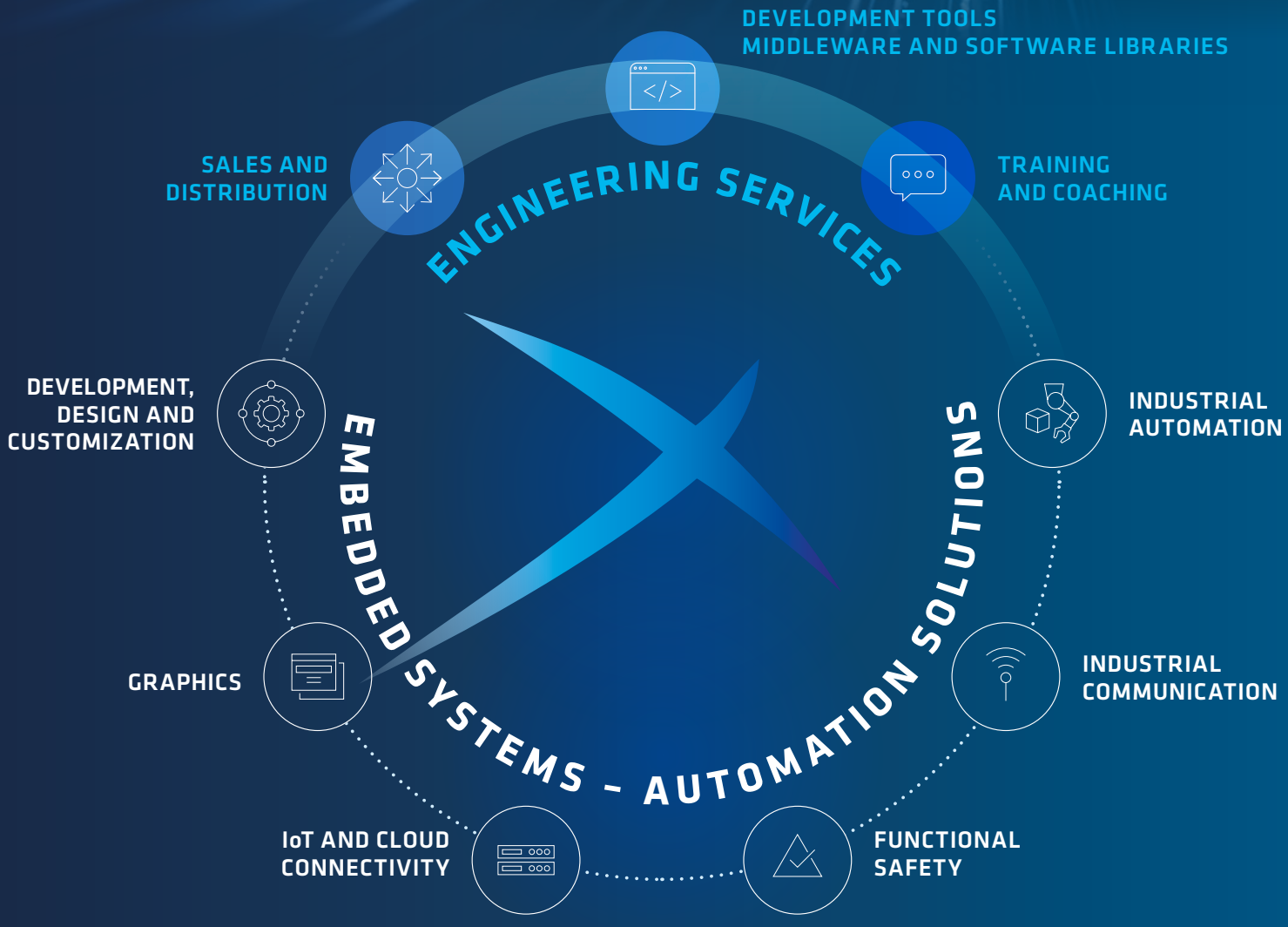
TECNO LOGIX

ENGINEERING AND AUTOMATION



Tecnologix, for over 25 years, offers its customers the best professional solutions for the development and implementation of embedded and automation systems.

In a world that is rapidly changing, the products we offer, supported by the experience of our team of engineers, enable developers to achieve their goals in extremely short times and tackle with extreme tranquillity the simplest projects or the most complex technological challenges, from the small automatic control to the development of products with Intrinsic Functional Safety.

Our wealth of experience, developed over the years, is available for training courses, support and consultancy.

We have divided our product portfolio into five service classes:

DEVELOPMENT TOOLS, DEBUGGERS

MIDDLEWARE, GUI, SOFTWARE LIBRARIES

FUNCTIONAL SAFETY

INDUSTRIAL COMMUNICATION

INDUSTRIAL AUTOMATION

arm KEIL

Development Tool and Debugger

- Arm KEIL Microcontroller Development Kit
- uVision IDE
- Fully optimizing ISO C/C++ Compiler for ARM7, ARM9, Cortex-M, Cortex-R
- RTOS aware JTAG Target debug, with individual run control and complex breakpoints for specific tasks. Cycle accurate, non-intrusive instruction and data trace
- Performance analysis tool, identification of performance bottlenecks and inefficient resource usage
- Power consumption measurements related to software execution

Hardware Debuggers

- ULINK debug probes for microcontroller debug

Graphics and Middleware

- Graphic Library, Realtime Operating System with TCP/IP support, FAT Filesystem, USB Host and Device, CAN

Tools and Libraries for Functional Safety

- Arm FuSa RTS Run-time system for functional safety
- Arm Compiler 6 has been certified by TÜV SÜD as fulfilling the requirements for development tools classified as T3 according to safety standard IEC 61508-3
- Arm Compiler 6 can be applied in the development of ISO 26262 (automotive), IEC 61508 (industrial), IEC 62304 (medical devices) and EN 50128 (railway) safety-related applications
- It is certified as satisfying tool qualification requirements for any Safety Integrity Level

keil.com

arm DS

Development Tool and Debugger

- Arm DS Development Studio
- Eclipse IDE
- Fully optimizing ISO C/C++ Compiler for any Arm architecture
- Full RTOS aware JTAG Target debug, with individual run control and complex breakpoints for specific tasks or threads. Cycle accurate, non-intrusive instruction and data trace
- Performance analysis tools. Process, thread, function call and line by line granularity of CPU time
- Per core visualization of performance metrics and thread activity for optimal code parallelization
- Power consumption measurements related to software execution

Hardware Debuggers

- ULINK debug probes for microcontroller debug
- DSTREAM debug probes, high-speed stream and trace for complex multi-core debugging

Tools and Libraries for Functional Safety

- Arm Compiler 6 has been certified by TÜV SÜD as fulfilling the requirements for development tools classified as T3 according to safety standard IEC 61508-3
- Arm Compiler 6 can be applied in the development of ISO 26262 (automotive), IEC 61508 (industrial), IEC 62304 (medical devices) and EN 50128 (railway) safety-related applications
- It is certified as satisfying tool qualification requirements for any Safety Integrity Level

arm.com

Partners and Products

Ixxat® BY HMS NETWORKS

Hardware for Industrial Communication
- CAN bus PC Interfaces
- Protocol Gateways
- Repeaters, Bridges, Network Topology components

Diagnostic Tools
- canAnalyser
- CANcheck
- Diagnostic Tools for CAN bus

Hardware for Functional Safety
- Ixxat Safe T100 safe IO module

Firmware Libraries for Functional Safety
- Ixxat Safety protocol stacks
- CIP Safety Stack
- FSoE Stack

ixxat.com

CSS ELECTRONICS

Data logger and Diagnostic
- Easily log CAN data from your vehicle/machine
- Configure devices via simple GUI editors
- Configure filters, silent mode, encryption, cyclic logging, triggers, transmit lists & more
- Record high speed CAN/CAN FD - incl. J1939, FMS, OBD2, CANopen, NME
- Log to 8-32 GB SD - no pc required. 100% power safe
- Auto-push data to your server/ cloud via HTTP(S). Over-the-air config/FW updates, extract data via SD or WiFi
- Convert CAN data to CSV, Vector ASC or PEAK TRC, DBC decode to physical values and plot
- Process the interoperable data in your favorite tools or via 100% free open source software/APIs, visualize in customizable browser dashboards
- Manage your CANedge2 IoT devices & data remotely
- Perfect for vehicle telematics

csselectronics.com

SEGGER

Development Tool and Debugger
- Segger Embedded Studio
- Streamlined and powerful C/C++ IDE (Integrated Development Environment) for ARM & RISC-V microcontrollers
- Cross platform–Windows, macOS and Linux support
- Pre-built C/C++ Compiler, GCC and LLVM included for an immediate start
- ANSI/ISO C compliant C library for embedded systems
- Feature-packed Debugger with seamless J-Link integration

Hardware Debuggers
- J-Link/J-Trace - J-Tag USB emulators

Graphics and Middleware
- emWin - ANSI C GUI Universal graphic library
- embOS - Small and efficient real-time kernel with TCP/IP extensions
- emFile - FAT12, FAT16, FAT32 File System
- emNet - high performance, CPU independent TCP/IP stack
- emLoad - Software for Program Updates in Embedded Applications
- emUSB - USB Device stack
- emSecure - secure digital assets authentication
- emCrypt - state-of-the-art cryptographic algorithm library that scales from constrained devices to workstations

Safety
- embOS-Safe - Certified real-time operating system (RTOS) embOS according to IEC 61508 SIL 3 and IEC 62304 Class C

segger.de

port PROFESSIONAL INDUSTRIAL COMMUNICATION

Firmware Libraries for Industrial Communication
- Embedded ANSI C libraries
  - → CANopen
  - → PROFINET
  - → EtherNet/IP
  - → EtherCAT
  - → Ethernet Powerlink
- Provide all required services for a compliant communication according to the Standards
- Facilitate easy and fast development of connected devices
- Scalable protocol functionalities: functional range can be extended by additional modules

Object Dictionary Design Tool
- For rapid and costsaving development of devices
- Administers device databases, produces Object Dictionary and initialization function C-source code, Electronic Data Sheet and documentation
- Simplifies configuration of Protocol Stack and Driver Package

SoM (System on Module)
- Multi-Protocol Industrial Ethernet Communication Controller with (pre certified)
  - → PROFINET CC-B
  - → EtherNET/IP DLR
  - → EtherCAT
  - → CANopen (optional) on board
- On Board PHYs and integrated L2+ managed EtherNET Switch
- Integrated Ethernet transformer for 2 separate ports
- Easy design-in simple footprint

port.de

J1939 Protocol

J1939 Protocol Stack Kit

- J1939 protocol stack (C code) including support for the Extended Transport Protocol
- Example HAL reference design (C code)
- ISO-TP and UDS option available

LIN Protocol

LIN Protocol Stack Kit

- LIN protocol stack (C code) – LIN versions 1.x and 2.x
- Example HAL reference design as a LIN Master

NMEA2000 Protocol

- Protocol stack (C code)
- Example HAL reference design (C code)
- Protocol stack and example application
- For NMEA2000 product certification testing, the stack reference design will pass with the current test tool out of the box. This means that once you have made your application changes, less work will be required to get your device to pass the NMEA2000 Product Certification
- A diagnostic stack (UDS-light option) is available for vehicle based application with a basic ISO-TP and basic offering of UDS services

warwickcontrol.com

CPU Embedded Modules

- OS Level programmable modules
- IEC 61131-3 programmable Modules
- VHDL programmable Modules

Automation Components

- CANopen IEC 61131-3 Controllers
- CANopen I/O Modules
- Development and Configuration Tools

Firmware Libraries for Industrial Communication

- CANopen ANSI C protocol stack
- CANopen Tools
- Ethernet POWERLINK
- OpenPOWERLINK
- OpenPOWERLINK Linux Starter Kit
- OpenPOWERLINK Workshop

systec-electronic.com

Powerful GUI for Embedded Development

Lean

- Low memory footprint
  - → High-efficient ANSI-C source code generation
  - → Object-oriented programming
  - → One code base for multiple platform

Versatile

- Suitable for various markets
  - → Professional services from our experts
  - → Simple handling of themes, layouts, resolutions
  - → User testing with PC, web or native mobile apps

Scalable

- Any platform (MCU to MPU)
  - → Variety of color formats
  - → Bare metal or any (RT)OS
  - → Any graphics API

Fast

- WYSIWYG Editor
  - → Instant prototyping and debugging
  - → Ready-2-use and fully customizable widgets
  - → Best utilization of HW graphics acceleration

embedded-wizard.de

EtherCAT Master Stack

- Leading product in EtherCAT Industrial Communications
- High quality and rich amount of functionality, full compliance with the EtherCAT standards and inter-operability with all available EtherCAT slave devices
- EC-Engineer: EtherCAT configuration and diagnosis tool, which also can be integrated into customer's application

Windows Realtime Hypervisor

- LxWin Hypervisor to run Windows and a hard real-time Linux in parallel
- Plenty of Linux drivers, e.g. for fieldbus controllers or GigE camera systems
- Communication stacks (EtherCAT, Profinet, OPC, OPC UA, TSN,...) or complex software solutions like CNC controller or software PLCs can be used without any change under LxWin
- Seamless Microsoft Visual Studio integration

acontis.com

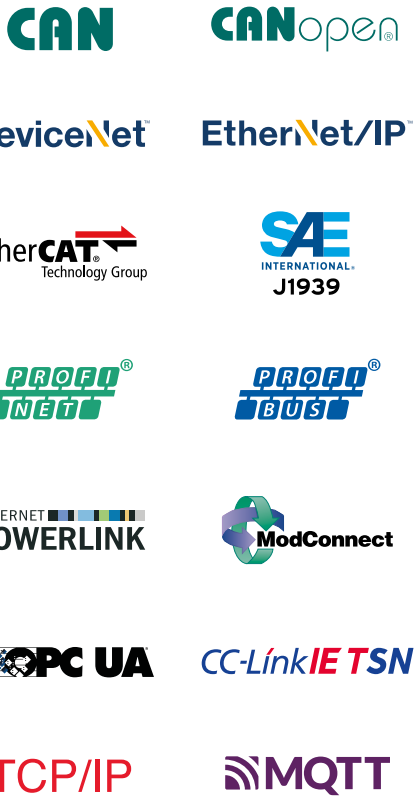
Our Competence

EMBEDDED SYSTEMS

- Industrial Automation
- Drives, Motion Control
- Distributed Automation Systems
- Medical Engineering
- RTOS in Embedded Applications
- Linux in Embedded Applications
  - → Linux
  - → Embedded Linux
  - → Linux on ARM

FIELDBUSES

- Protocol integration into Customer application



What we can do for you

DEVELOPMENT

Hardware

- Circuit design
  - → Digital and Analog
  - → ARM Cortex-M, Cortex-A
  - → 8051 and derivatives
- PCB layout
- Prototyping
- Production

Software

- Architecture and Design
  - → Software Design with modern approaches
  - → OOP Object Oriented Programming
  - → Definition of Design Pattern
- Implementation
  - → Use of state of the art Toolchains
  - → C-Compiler, RTOS, Debugger
- Testing
  - → Test specification/ Choice of test tools
  - → Reviews
  - → Function test/module test

TRAINING AND COACHING

- Basics and practice proven know-how, for beginners and advanced developers.
- Partnership teamwork and integration with your development team.
- Coaching customized to your project by means of a situation analysis.
- Optimal transfer of knowledge at team level.

EMBEDDED SYSTEMS

- ARM Cortex-M, Cortex-A Basics
- Keil Tools Basics
- Embedded Realtime Systems – Basics
- Embedded Programming
  - → C/C++, Assembler
  - → Debugging
  - → Definition of Design Pattern
- Embedded Operating Systems (RTOS)
- Embedded Linux

FIELDBUSES

- CAN - Basics
- CANopen
- DeviceNet
- J1939
- Profibus - Profinet
- Modbus – Modbus/TCP
- EtherCAT
- TCP/IP

Memberships

Quality

Our commitment to achieving “Total Quality” is ably demonstrated through the international certification that we have achieved.

ISO 9001:2015 is both a guarantee for our customers as well as a tool within the company to continuously monitor compliance and effectiveness of products and services.

TECNOLOGIX s.r.l.
Via dei Biancospini, 6
20146 Milano | Italy
Tel +39 02 48954230
+39 02 471106

info@tecnologix.it
www.tecnologix.it

04/2023