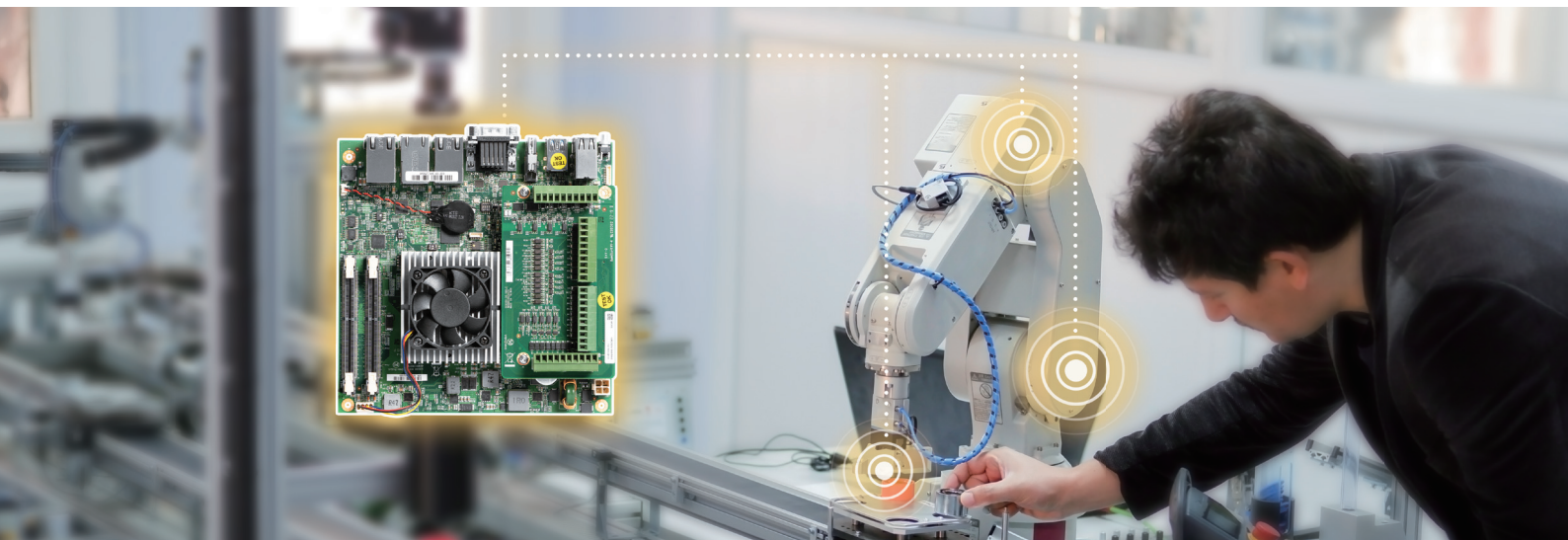


SCB100- the First x86 Functional Safety Control Platform



SCB 100 meets the demand for functional safety & collaborative applications in industrial robot control. The software and hardware integrated offering reaches safety performance up to SIL 2 according to IEC 61508 or Cat.3 PL=d according to ISO 13849-1 and received safety concept approval from TÜV Rheinland. (Currently under main inspection assessment)

BENEFITS for Robot Builders include COST SAVINGS and MINIMIZED DEVELOPMENT TIME with the Intel Safety Island technology and TÜV certification:

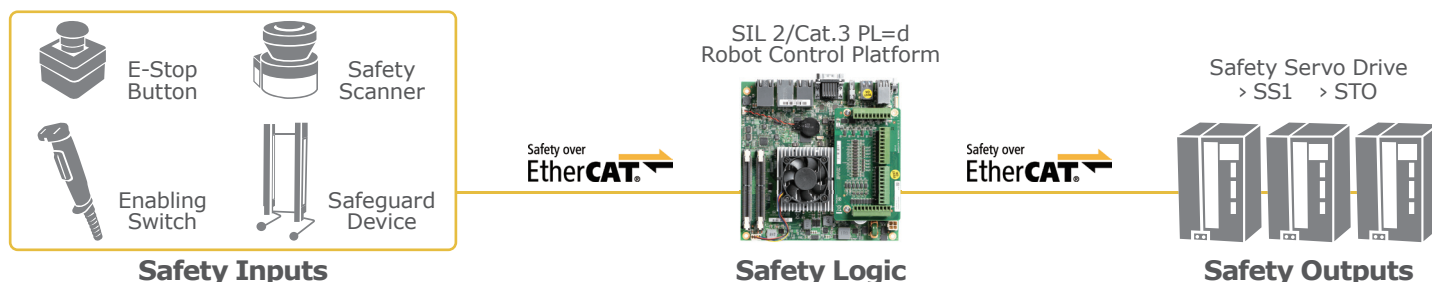
- Capable Safety OS, safety libraries, and pre-certified IEC 61508 regulation. No additional Safety PLC required.
- Safety documents(FMEDA) and example code(for safety I/O and EtherCAT slave stack) are ready.

SCB 100 eliminates the development gap and makes building safety robot efficient, cost effective and yet robust.

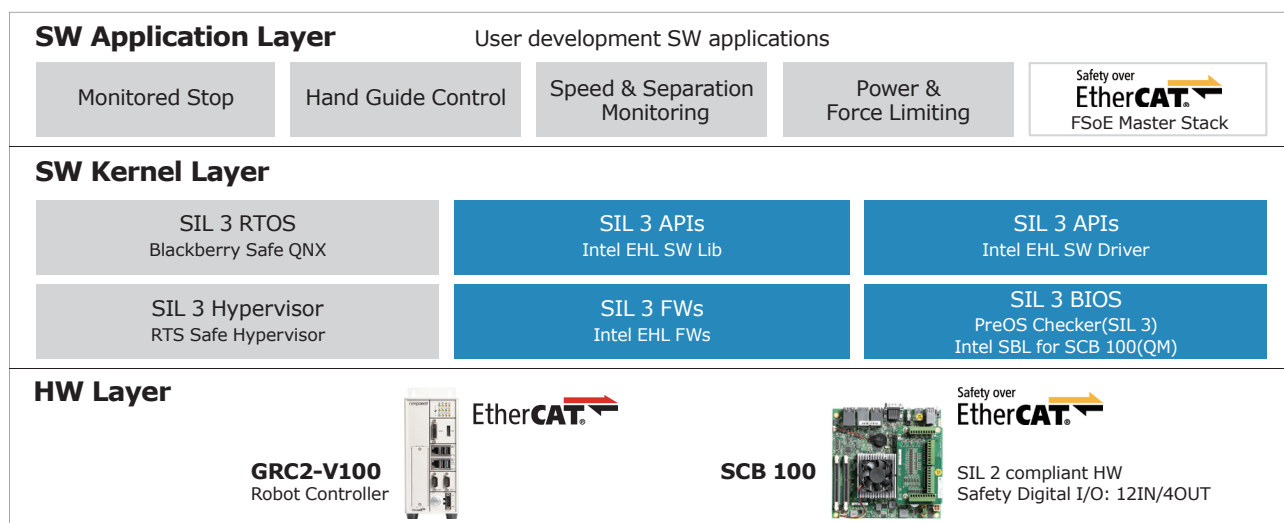
Features

- ◆ **Certifiable Functional Safety Platform**
 - Safety concept approval from TÜV Rheinland
 - HW safety level up to SIL 2, Cat.3 PL=d (under main inspection assessment by TÜV Rheinland)
 - SW safety level up to SIL 3 (Pre-Cert. by TÜV SÜD)
- ◆ **Comprehensive Safety Interfaces**
 - Safety digital I/O: 12IN/4OUT
 - Integrated EtherCAT slave for FSoE application
 - 4 x GbE for safety communication application
 - On board EMMC 64GB for safe data storage
- ◆ **Fast Time to Market for Safety Applications**
 - Concept approval SIL 2 HW platform: SCB 100
 - Pre-Cert. SIL 3 SW build blocks
 - Safety documentation-ready: Safety Manual, FMEDA
- ◆ **Focus on Safety Applications**
 - Supported Safe Hypervisor: RTS
 - Supported Safe RTOS: QNX
 - Provide APIs to detect HW platform failures
 - Provide APIs to do SW cross check mechanism
 - Provide Safe I/O example code
 - Provide EtherCAT slave stack example code

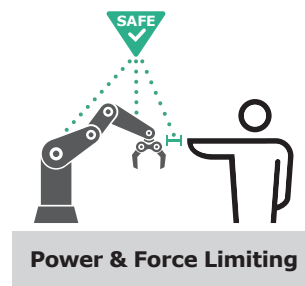
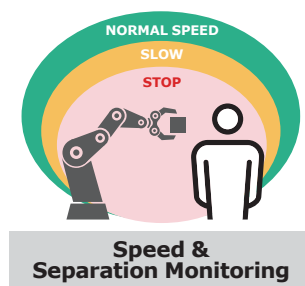
System Architecture



Integrated Solution Building Blocks



User Scenario



Specification

Model		Item		Specification
Software	FW	Intel Elkhart Lake FWs		SIL 3, Pre-loaded to SCB 100
	BIOS	Intel Slim Bootloader		Modified version for SCB 100, Pre-loaded to SCB 100
		Intel PreOS Checker		SIL 3, Pre-loaded to SCB 100
	APIs	Intel Elkhart Lake Safety APIs		SIL 3, Source Code available(*)
	Examples	Quality Management (QM) source code, EtherCAT slave software stack source code		
Hardware	SCB 100	CPU	Safety Related	Intel Atom® x6427FE, 4 Cores 1.9GHz
		RAM	Safety Related	2x DDR4 SO-DIMM, support up to 32GB
		Storage	Safety Related	On board 64GB EMMC
			-	SATA Interface
		Mini-PCIE	Black Channel	1 x miniPCIE
		COM Port	Black Channel	2 x RS232/422/485 with Auto flow control
		EtherCAT	Black Channel	1 x EtherCAT slave (2 x RJ45 Ports)
		Ethernet	Black Channel	1 x I225 GbE LAN, 3 x GbE LAN
		Digital Inputs	Safety Related	12 inputs, 24 VDC SELV/PELV, 2~15mA, H: 11-30VDC, L: 0-5VDC
		Digital Outputs	Safety Related	4 outputs, 24 VDC SELV/PELV, 0.5A of each channel, 2A of total DO channel ON: output voltage > 18VDC, OFF: output voltage < 3VDC
		Power	Safety Related	AT/ATX mode (by jumper setting default-AT) 24V -15% ~ +20%, acc. to IEC 61131-2, 4-pin power connector for DC input
		USB		2 x USB 3.0, 4 x USB 2.0
		Display		1 x HDMI
		Dimension		Mini-ITX (17cm x 17cm)
		Environment		Operating: -20~60°C, Storage: -40~85°C, Relative Humidity: 90%
		Vibration, Shock: IEC 61131-2 EMC: IEC 61131-2 & IEC 61326-3-1		
Documents		SCB 100 Safety Manual, SCB 100 Failure Mode and Effects Analysis (FMEDA) Report		

* Note: Requires NDA with Intel to download source code

Ordering Information

- ◆ **SCB 100 (P/N: 10Q00010003X1)**
- NexCOBOT Functional Safety Control Board