



crosscontrol

MAKING MACHINES
**SMART,
SAFE &
PRODUCTIVE**



MARKETS AND APPLICATIONS

CROSSCONTROL OFFERS A PLATFORM FOR MACHINE INTELLIGENCE THAT INCLUDES A WIDE PORTFOLIO OF HARDWARE, SOFTWARE AND SERVICES.

Our customers are vehicle and equipment OEMs, system suppliers and system integrators in end markets like Agriculture, Cargo, Construction, Forestry, Material Handling, Mining and Utility Vehicles.

By creating application-specific machine control systems based on our product and software platforms, our customers leverage scale benefits and cross-fertilization between industries.

Applications are characterized by solutions for enhancing equipment productivity, high demands on reliability and advanced Human-Machine interaction functionality that supports operators in managing the equipment more efficiently.

“WE LOVE ROUGH ENVIRONMENTAL CONDITIONS, TOUGH REQUIREMENTS AND DEMANDING CUSTOMERS”





COMPANY PROFILE

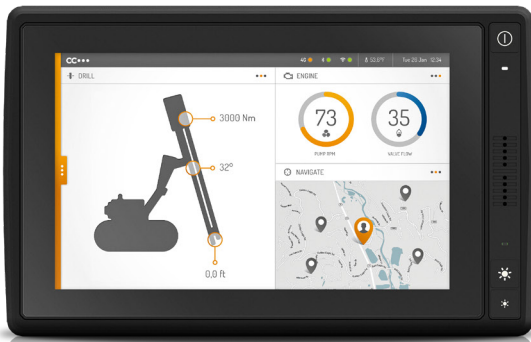
CROSSCONTROL SUPPORTS CUSTOMERS IN MAKING INDUSTRIAL VEHICLES AND MACHINES SMART, SAFE AND PRODUCTIVE. THROUGH OPERATIONAL EXCELLENCE AND ENGINEERING EXPERTISE, WE ARE A TRUSTED PARTNER FOR OEMS AND SYSTEM INTEGRATORS ACROSS THE WORLD.

CrossControl started as a design house in 1991, supporting a number of heavy equipment OEMs in adopting CAN and electronic controls technology.

The business has developed into a full-fledged provider of advanced electronics, software and services for industrial vehicle control and information systems.

**SERVING CUSTOMERS
GLOBALLY FROM
MORE THAN 40
CROSSCONTROL AND
PARTNER LOCATIONS**





THE CCPILOT DISPLAY PLATFORM ENABLES A PREMIUM USER EXPERIENCE

WITH STATE-OF-THE-ART DISPLAY HARDWARE, POWERFUL SOFTWARE TOOLS AND ENGINEERING SUPPORT SERVICES, CROSSCONTROL OFFERS A COMPLETE HMI DISPLAY PLATFORM.

Our wide portfolio of advanced display hardware is engineered to meet the most demanding requirements in a broad range of applications. It features displays in sizes from 3.5" to 15", computing cores

from ARM and x86 and a wide choice of wired and wireless interfaces. CCpilot displays offer a selection of HMI options including optically-bonded glass touch screens and tactile soft keys. The platform

is complemented with auxiliary products like wireless gateways, stand-alone communication devices and I/O controllers. For larger programs we can customize a solution to meet a customer's unique requirements.





LINX SOFTWARE SUITE IS AN OPEN AND MODULAR SOFTWARE APPLICATION PLATFORM BASED ON LINUX AND QT.

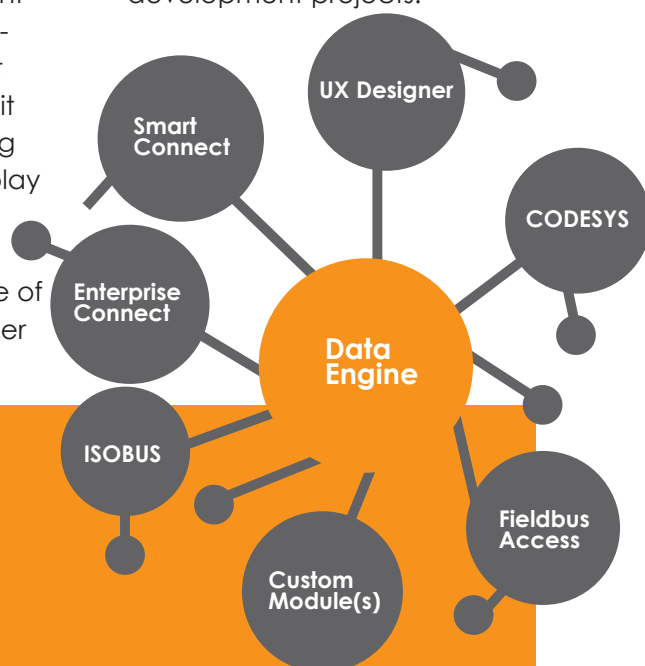
The platform runs on all CrossControl display and controller products with advanced ARM or x86 cores, covering displays in the size range 3.5" to 15".

Through its modular structure, the platform can be used to quickly achieve basic HMI and machine control functionality as well as advanced operational support features including; telematics, wireless applications, video systems, GPS positioning applications and integration of Smart devices.

With LinX Software Suite you have a complete platform for realizing multifunctional equipment HMI and control systems without software limitations. Compared to other software platforms, LinX reduces engineering spend and time to market through intelligent design and its powerful development tool chain. As it is deployed on all displays it includes tools for recreating applications across all display sizes, quickly and easily.

CrossControl offers a range of services to support customer

projects. With our long experience in developing HMI systems we help customers avoid pitfalls and realise their solution efficiently. Services include Field Application Engineering support, UX design as well as complete HMI system development projects.



- **DATA ENGINE** - Information distribution server
- **UX DESIGNER** - Premium GUI design based on Qt
- **FIELDBUS ACCESS** - CAN infrastructure out-of-the-box
- **SMART CONNECT** - Easy integration of Smart devices
- **ENTERPRISE CONNECT** - Telematics at your fingertips
- **CODESYS** - Soft PLC system for control logics and GUI design in one tool
- **ISOBUS** - Universal Terminal, Task Controller and Navigation and Guidance application
- **CUSTOM MODULES** - Option to integrate proprietary, 3rd party and legacy software

EMBEDDED COMPUTING PRODUCTS FOR ADVANCED CONTROL SYSTEMS

Machine controllers

CrossFire controllers support a wide range of I/O types and are freely configurable in software. Outputs can be configured for high-precision valve control, high-current valve drive, LED lighting, DC motor and linear actuator control, among others. Inputs can be configured for virtually any sensor or sender. Through software options, the same controller hardware can be tasked to act as Master, Slave or Smart Slave with local control logics. This versatility means that the same controller hardware can be used for different tasks in a control system, making the system modular and more flexible to handle machine variants and options efficiently. With highly configurable controllers, system design is less about hardware, schematics and drawings and more about lean software design. This saves engineering hours and shortens time to

market for new functions and features. Besides standard controller products, CrossControl can also offer specialized and customized controller solutions.

Wireless communication and gateway solutions

The CrossControl product platform features various solutions for telematics and remote access functionality. From lean solutions that leverage smart device technology and infrastructure to advanced solutions with dedicated telematics hardware and the ability to maintain and service equipment remotely.

Wireless connectivity is a built-in feature in some of our display and controller products, enabling telematics controller and gateway functionality to be integrated easily directly in a display or controller. With the CrossLink range of products

this functionality is achieved in stand-alone devices.

Main controllers - headless on-board computers

The CrossCore range of products are powerful computing devices, using the same computing core technology as the CCPilot range of displays and the LinX software suite as a powerful tool for developing applications. CrossCore main controllers are typically applied to run software heavy productivity tools and other resource consuming computing tasks, often in combination with a CCPilot display which is tasked to run the GUI application. This approach can be used to create a modular architecture that has distinct components that can be replaced independently of each other as required over the life cycle of the machine.



WORLD-CLASS OPERATIONS

DEMANDING CUSTOMERS REQUIRE OUTSTANDING OPERATIONAL PERFORMANCE.

Our operations are consistently rated by all major customers with high scores. Besides strong delivery and quality metrics, customers praise our Total Quality System, featuring extensive performance measurements with KPIs and

methodologies and tools like 8D and FMEA. The business is certified to ISO9001 and IRIS - equivalent to TS16949.

Our recently refurbished 50,000 sq. ft. production plant in Alfta, Sweden, houses a modern

SMT facility with machines and Automatic Optical Inspection. Products are assembled and tested by a knowledgeable, highly skilled staff with each individual accountable for quality.




DEDICATED ENGINEERING SUPPORT

CROSSCONTROL HAS A TEAM OF 75 ENGINEERS WITH A PASSION FOR CUSTOMER SOLUTIONS. WE ARE A TRUSTED PARTNER, SUPPORTING CUSTOMER PROJECT SUCCESS.

With a certified and proven development process, our engineering team develops state-of-the-art standard product platforms as well as customized solutions for large customer programs.

We also provide qualified Field Application Engineering support, turn-key software application development projects and expert consultancy services in functional safety and UX design.

With more than 20 years experience in developing control and information systems for leading OEMs in the industrial vehicle markets, we support our customers in succeeding with their projects.



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