OMRON

MECHATRONIC SOLUTIONS

Integrated Development Environment

Sysmac Studio

- Minimize time to market
- Reduce installation cost
- Boost productivity

SYSMAC

Sysmac Studio

Your Automation Companion

In changing markets the customization and multiple variations of a machine or concept make the difference between success and failure. The task of designing, commissioning and maintaining machines is shifting from single person task to decentralized teams requiring coordination. A **proper version control system** is essential in order to keep control of all project changes and product variations.

Integrated Development Environment

Sysmac Studio is the Integrated Development Environment (IDE) designed to be your automation companion for your machine's or system's entire lifecycle.

Future automation systems will be more intelligent and interconnected, consequently engineering and maintenance costs will increase unless modern and appropriate software tools are used during the design, commissioning and maintenance stages. Sysmac Studio is a unique environment that integrates logic, motion and drives, robotics, safety, visualization, sensing and information technologies in a single project, thus reducing the learning curve and the intra-operative software costs. Team development, and integrated simulation are the key elements that make Sysmac Studio not only a development studio but a real productivity tool. One software to get things done.

Design | Commissioning | Production

Minimize time to market

Engineering time and costs are critical during the design stage. The integration of multiple disciplines and efficient team cooperation will dramatically contribute to reducing the time to market.

Reduce installation costs

Using the right software tools will minimize commissioning mistakes as well as costs. Get things done in shorter time.

Boost Productivity

Vertical integration of Overall Equipment Effectiveness data and easy maintenance is essential in improving production results and machine uptime.

Design

Systems are evolving into more modular designs where hardware and code become components that can be easily incorporated and maintained.

Minimize time to market

One software to integrate

- Sysmac Studio integrates logic control, safety, motion & drives, robotics, HMI, I/Os, Vision, advanced sensing and information systems in a single environment. It saves time and money by reducing learning curve and software integration efforts.
- Sysmac studio is a powerful development Environment that is flexible to a wide variety of automation needs.

Work as a team

- Coordinated development in large decentralized teams is possible. Sysmac Studio integrates a unique graphic interface with a GIT version control system. Take full control of your code and variations and take advantage of the most popular version control software (GIT) and its possibilities for team collaboration, not only during the design phase but also the commissioning and operation phases.

Simulation

- Sysmac Logic, Motion, Robotics, Safety, HMI, Vision ... Simulation is a standard feature of the Studio. Control System development can be started in parallel or even before electrical or mechanical assembly. When virtualization of machine physics is required MATLAB(R) SIMULINK can be connected in order to achieve the most accurate simulations.

Modular design

- Create flexible and modular designs using Sysmac Studio library system, Intelligent Application Gadgets (HMI faceplates), and Flexible EtherCAT configurations.

Commissioning

Reduce installation costs

Integrated commissioning tools

- The most advanced commissioning tools are embedded in Sysmac Studio: Drive tools with advanced but easy tuning algorithms, back-up and restore functions, distributed teamwork support and version control, high resolution monitor trends, visual CAM table editor, Network configuration, etc.

Sysmac troubleshooter

- Sysmac Studio troubleshooter handles not only Sysmac Controller but complete Sysmac system troubleshooting in a single reporting tool. Commissioning time is dramatically reduced as any Controller, Network, or Slave problem will be detected with all suitable information available for you to control.

Multiple configurations

- Sysmac Studio supports GIT as a distributed version control system which will allow commissioning teams to easily synchronize and keep versions updated. Moreover Sysmac Studio implements derived devices that allow it to handle multiple EtherCAT configurations in the same project.

Multi-user

- Different co-workers, and even subcontractors can work in parallel during the commissioning stage, thus reducing development time and costs.

Production

Boost Productivity

Information systems

- In the era of The Internet of Things, information and automation systems converge. Sysmac Studio allows you to handle OEE data by means of vertical and horizontal integration following open standards like OPC-UA, EtherNet/IP, EtherCAT or PackML Direct.

Improve machine uptime

- Database connection is easily achieved by the SQL FB Library.
- Advanced troubleshooter functions and dedicated predictive maintenance capabilities significantly improve machine uptime and machine availability.

Open Standards

- Sysmac Studio supports the most popular open automation standards and trends: IEC-61131- 3 programming, PLCopen, SECS-GEM, OPC-UA, EtherNet/IP, EtherCAT, SQL, FTP, GIT, etc. and is always aligned with the latest technologies.

Convert complex into simple

- Sysmac Studio is a powerful engineering tool, but still maintains a friendly and easy to use interface. Reduce your maintenance teams' learning curve, and convert complex tasks into simple ones.

One software to get things done …

Sysmac Studio is one of the most full featured automation IDEs which handles complete machine automation including: Information handling, Visualization, Networking, Logic, Motion, Safety, Vision, Robotics, CNC and I/O. This single intuitive IDE contains all the necessary elements to program, commission and maintain Sysmac applications. Sysmac Studio editors are designed to be user-friendly, like traditional "PLC" software.

- ✓ **One project** to integrate all Sysmac Devices
- ✓ **One intuitive** and fully featured development environment
- ✓ **One software** that is scalable, flexible and complete
- ✓ **Open standards**

MathWorks **Simulink**

Simulation

Information

Microsoft SQL Server OPC UA

Factory Automation

Visualization

Logic

- Fully scalable with your machine
- Reuse your developed code
- Protect your investment and assets

Logic

Sensing

Scalability

✓ **Increased productivity** driven by reduced engineering time

Sysmac Studio at a glance

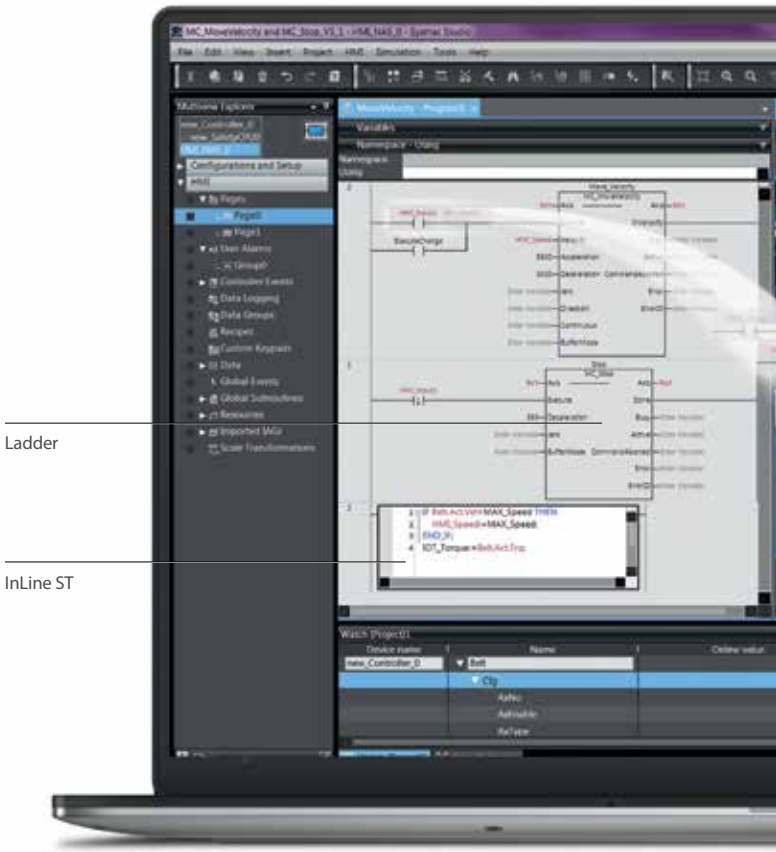
Rich CAM editor

Motion Programming

- More than **50 PLCopen and Proprietary Motion FB's** available in controller to develop single, synchronous and coordinated motion applications
- **Rich graphic cam editor** including multiple interpolation methods as standard
- All the necessary **drive tools** for drive maintenance and commissioning as standard: single and multi axis tuning, mechanical analysis, parameter handing, etc.

Integrated Safety

- Dedicated FBD diagram and GUI interfaces are designed in order to **help commissioning and programming**
- **Mapping hardware** variables and sharing EtherCAT variables between the Safety Control System and the Standard Controller is easy in the Sysmac Studio environment
- All the necessary **printable reports** are generated from the Studio



Multi-User Environment

- Co-develop in parallel in **local** or **remote** teams
- Keep all machines easily **aligned to the correct version**
- **Handle machine variations** and customizations efficiently
- Take advantage of **GIT's open source** community

Integrated HMI

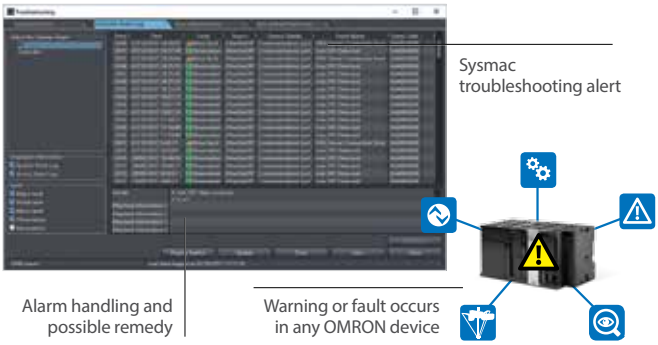
- **Reduce development costs** and maintenance time by combining NA HMI with Sysmac Controllers
- **Include videos and PDF files** that will improve machine operation and maintenance. Make your machines more intuitive and productive.
- **Enhanced editor's functionality** and version control features will help to reduce the total cost of ownership

Integrated Vision and Simulation

- Commissioning and programming vision devices is as easy as **dragging and dropping** other well known OMRON algorithms.
- Sysmac Studio i**ntegrates Sysmac Vision** devices like FH and allows you to import the necessary video from cameras to properly simulate and program the vision application in the same tool and project as the other Sysmac components

Integrated Troubleshooting

- Troubleshooting is seamless since the Sysmac architecture integrates controllers, actuators, devices, advanced sensors, HMIs, etc.



Sysmac Studio News

Team Edition Option

Work as a team and boost productivity!

Sysmac Studio provides rich integration with the most popular distributed control system (GIT) providing you full control of the project variations and enabling distributed coworker development.

Geographically distributed teams can work on the same project using local or web based servers. Thanks to the distributed version control system, all project changes are fully traceable. Who? When? Why? a project was modified will always be clear.

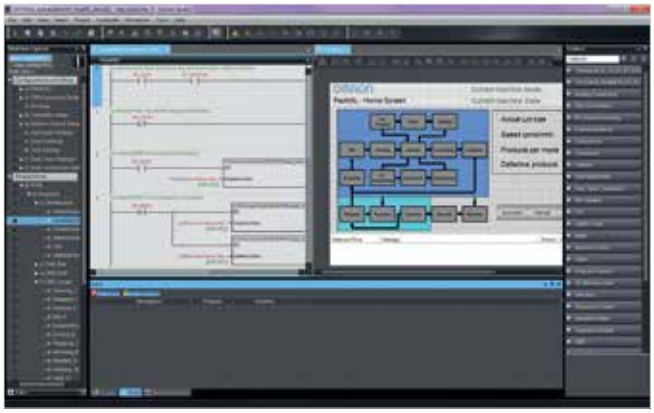
Collaborative engineering with a distributed team

Improved HMI Integration

Develop faster!

Improved integration and functionality to reduce development time.

Controller and HMI displays can be developed in parallel and in a very natural way. Drag and drop between Controller and HMI to create objects and HMI variables. Execute Controller and HMI simulation side by side.



CNC Integration

Simplifies machine setup!

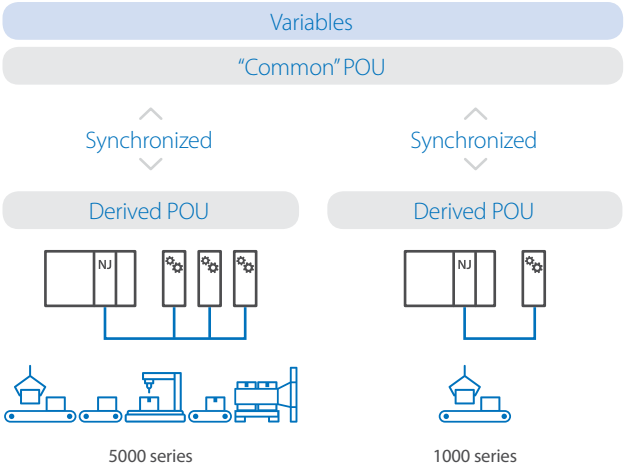
Function Blocks for Numerical Control make program structure simple, even for synchronization between CNC processes and others.

Numerical Control axis setting wizard

Multiple Configurations
Reduce commissioning time!

Let Sysmac Studio maintain, update and synchronize your small machine variations.

Variations in field devices can be easily handled thanks to Derived Multiple Configurations. Changes in master code will be automatically propagated to Derived configurations, thus reducing commissioning and code maintenance time.



Sysmac Studio WEB
Online Demo

industrial.omron.eu/en/misc/forms/sysmac-studio-online-demo

- ✓ Experience Sysmac Studio in an online demo
- ✓ Unrestricted access to all the features in a virtual environment
- ✓ No need to download or install the software

Sysmac Studio Licenses

Standard Edition

- Provides all the necessary features to program and set up the Sysmac system
- No extra cost for components

Lite Edition

- All features and devices supported by the standard edition
- Limited to the NJ1 and NX1 controllers

industrial.omron.eu/en/products/sysmac-studio

Options

Team Edition

- Version Control and Cooperative Development includes multi-user and GIT version control features

Sysmac Library

- **FREE** online software library lets licensed Sysmac Studio users download Function Blocks for multiple applications for different industries

As Standard (Standard Edition/Lite Edition)			Options
Information (SQL Connection, Networks Configuration) 	**Visualization** (HMI) 	**Logic** (Logic programming) 	**Team Edition**
Motion (Motion programing, CAM editor, Drive Tools) 	**Safety** 	**Vision** 	**Sysmac Libraries** (Application Libraries)
Simulation 	**Robotics** 	**CNC** 	

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