



e-Fac

Partner Product





DesSoft

MITSUBISH ELECTRIC

The Product



Life cycle management

As Life Cycle Management starts the day you decide to engineer a new part of your manufacturing process, it is paramount to maintain a solution with increasing returns. Designed to offer a fully integrated management solution, MAPS can significantly reduce lifecycle engineering effort and costs, offering savings of up to 50%. MAPS adds value throughout all the phases of the automation system project, from process design to engineering, development of the control systems, installation, commissioning, start-up and acceptance testing, all the way through to operations, maintenance, repairs and ongoing upgrades. Unlike traditional SCADA programmes, MAPS delivers a tightly integrated SCADA and PLC solution built around pre-configured and tested engineering libraries, with a built-in full suite of diagnostics and maintenance tools and integrated document management capabilities.

Reduced engineering costs

Engineering, commissioning and maintenance costs can be reduced considerably by using MAPS. The MAPS library contains preassembled modules or templates for doing this. The templates relate to automation objects such as pumps, valves, tanks and flow meters. The faceplate, i.e. the graphic representation, alarms, the data archiving for the object in question, tags for theprocess control system, including a list of all the digital and analogue inputs and outputs used in the program are included in a template in accordance with the processes displayed in the controller. The result is an efficient PLC program, a process control application in which alarms, trends, data archiving and faceplates are generated along with a list of the inputs and outputs used. By means of collaboration, customer-specific templates can be created.

Secure remote access

Modern communication solutions, remote control concepts and flexible data management mean that the plant operators are now able to visualise the status of all the parts of the plant from a central location at any time. All the data required is archived automatically, which has meant dispensing with local data collection costs as plant values are checked remotely. Windows security ensures that only authorised persons are able to access the system by managing users and groups.

MAPS Product Architecture



Key Features

MAPS provides a streamlined lifecycle approach for complex plants that drives down costs and boosts productivity. The program has unrivalled openness, features scalability and extensibility and delivers tight integration with Mitsubishi Electric PLC-based automation systems.

1. Standards approach to projects

With pre-defined, user configurable PLC function blocks and associated SCADA graphics that are based on the International S88 and S95 standards, MAPS delivers great value in reducing time and effort in the automation project's design, testing and commissioning phases.

2. Single point of configuration, deployment and management

The MAPS solution is a structured single point of configuration. The MAPS Enterprise Manager allows for bulk engineering and reduced effort through import functions which enables the rapid Configuration of the engineering design, SCADA and PLC project and on-going lifecycle management of the automation solution.

3. Automatically generated PLC and SCADA projects to reduce engineering effort

The wizard approach to projects using MAPS allows users to benefit from the reduced time spent on design and configuration. With cost reductions of between 30% and 50% when using the standardised approach also ensures the on-going ease of maintenance during the plant's lifecycle.

4. Automatically generated reports

MAPS addresses another big shortfall in automation projects through reports that can be generated, covering I/O schedules and PLC and SCADA tag configuration. The project on handover also reflects the "as-built" up to date electrical and instrumention documentation drawings that are aligned to the SCADA tags and PLC I/O. Reports are generated from a database with the view of on-going maintenance, always reflecting the current status of electrical and instrumentation configuration.

5. On-going life-cycle management

The MAPS solution offers the capability of on-going management of PLC/SCADA and the plants' "as-built" electrical and instrumentation documentation. Whether tags are changed in the design, PLC, SCADA or MAPS management enviroment, the project ensures that databases and documentation are synchronised. MAPS offers the ability to centrally backup projects.

6. Compliance to the FDA's guidelines (21CFR11) on electronic signatures and record keeping

MAPS introduces 21CFR11 mode to create projects that comply with Title 21 CFR Part 11 (21CFR11) of the Code of Federal Regulations, which deals with the United States Food and Drug Administration (FDA) guidelines on electronic records and electronic signatures. For projects that have to comply with these FDA regulations, the 21CFR11 mode can be enabled and the implicit security configured and implemented. This includes specifying the values to be audited and/or value changes authenticated.

The Technology

- Microsoft. Net 4 framework and Microsoft SQL Compact form the backbone of the MAPS software architecture.
- MAPS is built using Adroit's smart-client technology offering secure web enabled user interfaces.
- Mitsubishi GX Works 2 is used as PLC Programming Tool.



Value added benefits

- MAPS provides a streamlined lifecycle approach for complex plants that drives down costs and boosts productivity. The program has unrivalled openness, features scalability and extensibility and delivers tight integration with Mitsubishi Electric PLC-based automation systems.
- Designed to offer a fully integrated design, engineering and management tool, MAPS can significantly reduce automation system lifecycle engineering effort and costs, offering savings of up to 25%.
- MAPS provides a structured lifecycle engineering approach in process applications using Mitsubishi Electric PLCs along with SCADA solutions from the market leader in South Africa, Adroit Technologies.
- MAPS provides a wizard that can be used to generate PLC and SCADA projects automatically, saving a significant amount of time during the engineering and configuration phases. It also ensures a structured system design and makes routine lifecycle system maintenance much easier.
- MAPS supports consistency and integrity right across the automation system throughout its lifecycle, from process design and engineering through installation and commissioning to maintenance and set-up.
- The 21CFR11 feature provides additional auditing and authentication functionality that is not only important for regulated industries such as pharmaceutical, but also for general manufacturing and process where a second level of verification and audit trail is required.



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