

Engineered Features

- ✓ **Open – IED & Protocols Independent**
- ✓ **IEC 61850 Compliance Engine**
- ✓ **Modular & Scalable**
- ✓ **Standard Components, Proven Solutions since 2000**
- ✓ **Comprehensive Redundancy**
- ✓ **Exceptional Performance with Priority Data Model**
- ✓ **Enhanced Power Management Module**
- ✓ **Historian & Industrial Cloud Based Dashboard Modules**

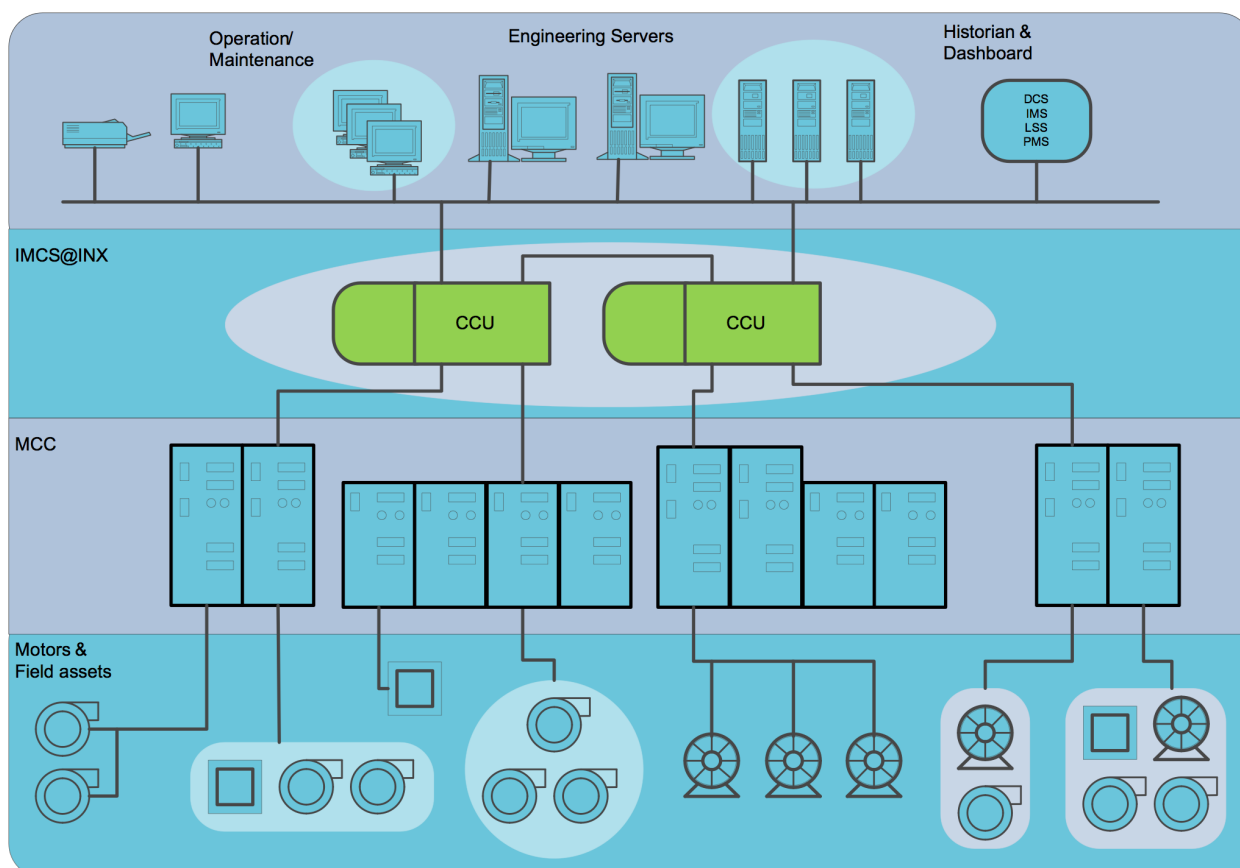
IMCS⁺ is a comprehensive *intelligent industrial solution* that provides engineers/operators with a centralized platform to monitor, control and manage Intelligent Electronics Devices (IED) with legacy control systems integration for Electrical Substations in a redundant and secured manner.

IMCS⁺ leverages on standard industrial controls components and open protocols such as IEC 61850, Modbus/TCP, Profibus and more. The solution has been deployed for more than a decade since 2000, with continuous evolvments.

It is created as an open platform optimized for standard Electrical Switchgear designs, from LV, MV, HV to a myriad of other electrical devices and systems integration.

MCS⁺ complies to the Oil and Gas Industry Standards:

Shell DEP 33.67.01.31 & Petronas PTS 33.67.01.31



System Features

IMCS⁺ is designed to exceed the requirements of the specification and end users' expectations. It has the following outstanding performance and industrial network features:

1. Performance

IMCS⁺ has an average polling rate of 15,000 tags / 5 seconds for Modbus tags (simplex and redundant), and designed to meet 50 msec or less update time with IEC 61850 protocol. Its performance for Modbus legacy protocol is among the most accomplished in the market.

2. Completely scalable footprints

IMCS⁺ is designed with space optimization in mind. As it is modular in nature, system can be based on a single-chassis space footprint or a full blown multi-chassis footprint, catering for 180 to 1,000 IED units per system, without loss of performance.

3. Scalable Redundancy and Recovery

IMCS⁺ can be configured to provide the following redundancies and failure recovery mode. All redundancy points are selectable based on requirements:

- CPU
- Power Supply
- Communication Port
- Communication Module

4. Comprehensive Fieldbus Network Monitoring

IMCS⁺ provides comprehensive and spot-on information on exact network error, giving insights to engineers so that problems can be pinpointed and rectified immediately.

5. Priority & On Demand Polling on Legacy Serial Protocols

IMCS⁺ is designed to work around limitations of legacy serial protocols such as Modbus RTU, allowing more data to be available to the operators.

Not all data carries the same importance. Critical information like status, feedback and alarms need to be communicated to all interested system (alarms/DCS/IMS) in a more deterministic and timely manner. Non-critical can be polled as and when required.

6. Open Connectivity

IMCS+ caters to all popular industrial protocols including Modbus RTU/ASCII, Modbus/TCP, Modbus Plus, DeviceNet, EtherNet/IP, Profinet, Profibus, DH+/RIO and most importantly, IEC 61850.

In addition, with OPC and IoT technologies, data in *IMCS+* can be exposed to many 3rd party Control and Monitoring systems.

7. Automatic Device Recovery (ADR)

Replacing any faulty IED and downloading its settings can be time-consuming. Using DeviceNet Automatic Device Recovery (ADR) compatible IEDs, device settings can be downloaded automatically without operator intervention to reduce maintenance downtime.

For legacy devices on Modbus, *IMCS+* have an on-call function in place to help in such situation where explicit command can be initiated by the operator. This can be further automated for work to be performed with minimal operator intervention.

8. Insertable / Removable Under Power

Certain *IMCS+* modules allow replacement of faulty units without shutting down the system. This ensures repair/replacement can be carried out without shutting down the whole system.

9. Step Up to ENMCS Functionalities

Expandable to cater for ENMCS such as Power Controls and Management functions and more, all based on industry standard IEC 61850 protocol.

10. Historian and Cloud based Dashboard and Analytics

IMCS+ provides options for an Historian extension, and also a plug and play data logger and dashboard system, with the ability to curate data from wider sources for analytical requirements.

Support

The *IMCS⁺* system is fully conceived, developed and supported within Asia Pacific, with dedicated engineering personnels devoted to delivering fast and effective regional support.

For details, please contact your local representatives.

INEAX has been developing *IMCS⁺* since 2000, and is continuously working on new features and enhancements to meet and exceed evolving industrial needs and expectations.

End users and clients of *IMCS⁺* systems include ABB, ExxonMobil, Petrofac, Petronas, and Shell.