

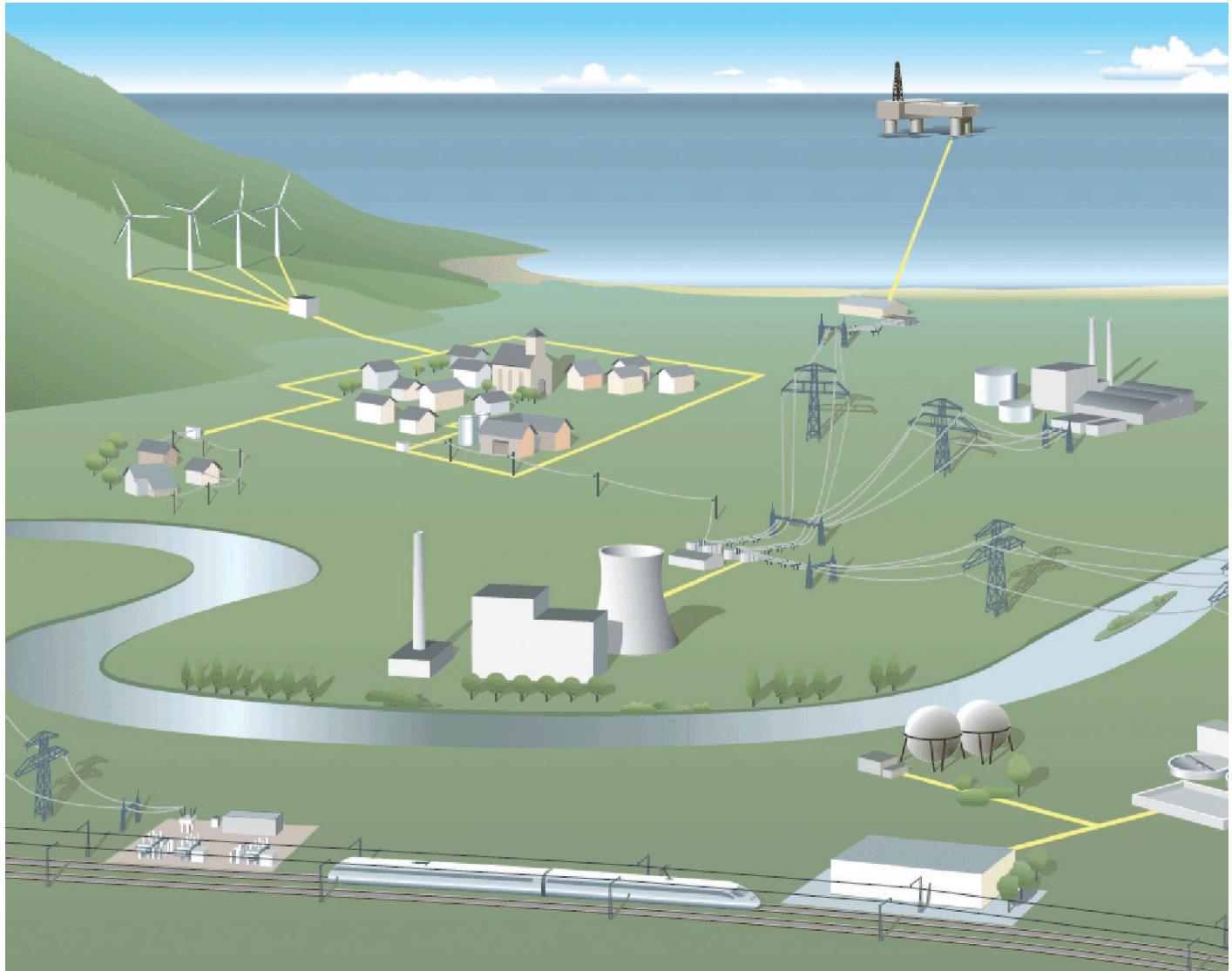


Network Manager SCADA/DMS

Distribution Network Management

Power and productivity
for a better world™





Managing distribution networks demands flexible IT-solutions and competent support understanding the work process of control center operations. That is why ABB develops and supplies network management solutions tuned to user requirements and ready for new challenges.

Enhancing your distribution business

Network Manager SCADA/DMS is a real-time information system for all operational activities in a modern distribution control room. It improves the information made available to the operators, field crew personnel, customer service representatives, management and, ultimately, to the end customers. In the new world of power distribution you must compete to win customers.

Daily, every distribution enterprise meets new challenges and has to improve productivity and reduce operating and maintenance costs while providing customers with a reliable and secure supply and a broad range of services. To achieve rapid success, the effective use of Information and Communication Technology (ICT) is essential.



The distribution networks of tomorrow will not be the same as of today.

The aging infrastructure of the grid has been acknowledged for quite some time, but the market forces driving grid transformations are more urgent than ever. Utilities face many challenges to improve the methods of power delivery and utilization. Some of these challenges include; integration of control room systems for better workflow, new consumer demands, environmental concerns leading to increased amount of renewable power generation and security of supply.

The development of Smart Grids will change not only the way the grid is build but also have a great impact of how it is managed. In the future grid, energy is not only flowing the traditional hierachal one way from a few central sources of power production to a number of loads but rather in a multi-directional power flow. When people's use of electricity changes as a result based on real-time information of pricing, then the traditional loads and load patterns will be different and put new demands on the network management and its control systems.

Network Manager SCADA/DMS is ready to take on the challenges of tomorrow's grid and how it will be managed.

Network Manager SCADA/DMS is your tool for efficient day-to-day operation

Network Manager SCADA/DMS provides all needed functionality to enhance the management of sub-transmission, medium and low voltage distribution networks. Powerful operation, planning and engineering features facilitate safe and efficient day-to-day operation and improve long-term flexibility and profitability.

Network Manager SCADA/DMS offers the following major functions:

- SCADA, Real-time monitoring and control
- Advanced Network Applications including network modeling
- Outage Management incl crew & resource management
- Work Management

SCADA, Real time monitoring and control

Network Manager SCADA/DMS offers full SCADA functionality including

- Data Acquisition
- Device and Sequence Control
- Alarms- and Events Management
- Geographic World Maps
- Schematic Network and Stations Diagrams
- Temporary Network Devices
- Network and Device Tagging
- Work Order Handling and Service Diary
- Service Diary

Advanced Network Applications

In addition to full SCADA functionality, Network Manager SCADA/DMS provides functions to achieve optimum network utilization at all times. Optimal network utilization is achieved by using the advanced network applications providing the following major functions;

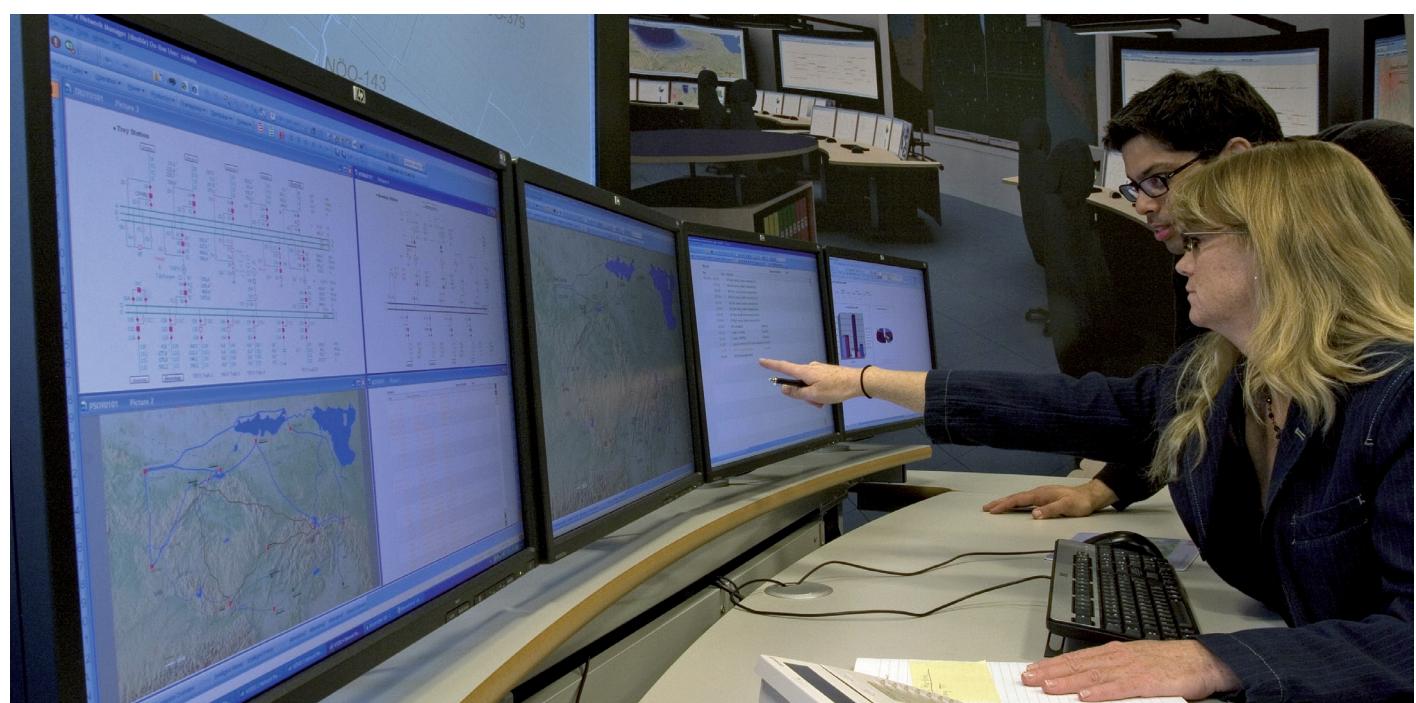
Network State Estimation (real time load calibration)
Load Flow calculations
Short Circuit calculations
Optimal Feeder Reconfiguration
Loss Minimization (MVar control)
Load Management

- Feeder Voltage Control
- Load Switching

Tracing and dynamic line coloring
Fault Location, Isolation and System Restoration (FLISR)
Automatic switching plan generation

Network modeling
Seamless HV, MV and LV Modeling
Real-time simulation mode
Connectivity Tracing and Analysis
View and Analyze Network Conditions

- "As-built"
- "As-operated"



Outage Management

The outage management functions are designed to analyze trouble reports and to support the supply restoration process. Real-time monitoring and control functions provide access to vital network topology information, whereas crew and resource management details are vital to maintain optimum customer service and maximum safety for field crew personnel.

Extensive support for switch order management is provided, where switch orders can be created, simulated, and executed based on the authority specified for operators, in order to safeguard operations. Functions include;

- Trouble Call Entry and Management
 - Manual or Automated Call Service
 - Feed Back to Customers
 - Fault Localization/Inference Engines
 - Restoration Prioritization and Follow-up
 - Outage Reporting
 - Outage Statistics and Indices
 - Outage Causes and Equipment Faults
 - Customer Outage Notification and History

Customer notification of planned outages are automatically made available by the system which also interacts with the outage management function by creating planned outages when customers are de-energized due to a switching operation which is part of a switch order. Functions include;

- Work management including:
 - Tagging and clearances
 - Insertion of jumpers and generators
 - Insertion of temporary line cuts and grounding switches
 - Operation Step Planning including reversal (back out) function
 - Validation Simulation
 - Scheduling
 - Distribution of Work Orders
 - Execution and Follow-up

Crew and resource management

With accurate, on-line information distribution operators and field crew dispatchers can give fast and efficient response to trouble calls. Functions include;

- Scheduling (time and capabilities)
 - Crew Tracking (GPS tracking)
 - Dispatching and Assignment
 - Optimal Route Planning
 - Follow-up and Reports
 - Mobile Crew Data Communication

Keeping track of outages, planned or not, is crucial to offering good customer service.

When it comes to managing distribution networks, the right information at the right time – is the key to business success.

Improved workflow processes

Network Manager SCADA/DMS provides access to critical system data and functions to a large number of users, facilitating an improved workflow. It interfaces with other enterprise systems, such as:

- Geographic Information Systems
- Customer Information Systems
- Interactive Voice Response Systems
- Work Management Systems
- Mobile Data Systems
- Global Positioning Systems
- Automatic Meter Integration Systems
- Enterprise Resource Planning Systems

Easy implementation and integration

Network Manager includes tools for unified data management and integration. These tools allow for single source of data and information; they also ensure easy implementation and the best long-term return on investments.

When implementing a distribution management system significant time is saved if large portions of existing data can be reused. A common integration is with Geographic Information Systems (GIS), which usually act as the repository for medium and low voltage network data.

Quick and easy access to information

Network Manager SCADA/DMS integrated solutions improves customer service by providing instant access to information to operational and management staff. The system reduces operating and maintenance costs by sharing, and making more effective use of, information among the utility's operations, maintenance, construction, and management groups. It substantially improves operational efficiency, such as in the need for control centers and in needed manpower.

Uniform presentation

Network Manager SCADA/DMS also integrates its various application modules, e.g. distribution SCADA, network analysis and outage management. The operator will then have all information presented through the same windows using the one workplace – one interface concept.

Access of information over LAN/WAN

Network Manager SCADA/DMS allows users across the enterprise to view and query outage and operational information using thin client technology. Users can access Network Manager SCADA/DMS via company Intranet resources or from authorized external Internet accounts. Access to on-line operational data offers benefits in improved decision support, more efficient manpower utilization and operations e.g. trouble call entries. The information collected is up-to-date, accurate, and relevant and is critical in providing feedback to customers when problems arise.

With Network Manager SCADA/DMS integrations with application modules such as; distribution SCADA, network analysis and outage management are done using the same user interface.

When managing distribution networks, - Network Manager SCADA/DMS, is your tool to profitability

Keeping the system evergreen

Network Manager offers a suite of standard applications that perform all functions necessary for improved management of a distribution network. They are continually enhanced with new features based on market and customer needs or general technology improvements. ABB offers regular system updates to keep the software current in terms of new requirements and technology. Updates of Network Manager can be made independently from updates of other IT-systems.

ABB project management

Close communication throughout a SCADA/DMS project is vital for the utility project team as well as for ABB. ABB project managers together with the other team members are deeply committed and knowledgeable in their fields of application.

ABB serve its customers on a global basis and have a vast experience from running SCADA/DMS projects world wide and mastering all sorts of challenges, may it be small systems in remote areas or extremely large metropolitan systems serving many million of network customers with electricity, gas or district heating.

Access to wide knowledge and experience of distribution networks

ABB is in the forefront of electrical engineering. Being a global leader in the Transmission and Distribution (T&D) area we serve our customers with equipments and solutions ranging from power products to complete substations. Having the product know-how and how the distribution networks functions is a key success factor when designing the Network Manager SCADA/DMS system solutions.

Our system solutions based on Network Manager SCADA/DMS include the best of software technologies and apply available international standards. Our systems will run on standard PC technology from leading suppliers.

ABB is a provider of solutions for the challenges of today's as well as tomorrow's distribution engineering and operations management. Experience from electrical engineering projects around the world benefits the utility, which is aiming for a streamline and optimum operation deploying an integrated approach.

Let us put our talents to work for you

Contact us

ABB AB

Network Management

SE-721 82 Västerås, SWEDEN

Phone: +46 21 32 50 00

Fax: +46 21 32 41 12

E-mail: sales.nm@se.abb.com

ABB Inc.

1601 Industrial Boulevard

1601 Industrial Boulevard

Sugar Land, Texas 77478-2579, USA

Phone: +1 281 274 5000

Fax: +1 281 240 6986

ABB Limited

Network Management

Plot Nos 5 & 6, II Phase,

Peenya Industrial Area, P.B No. 5806,

Bangalore – 560058, Karnataka, INDIA

Phone: +91 80 2294 9420

Fax: +91 80 2839 6121

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