



**Northern
Automation Oy**

Project Solution

POWER & ENERGY

FROM FINLAND

www.na-oy.com



] Business commitment:

- Operating globally on Power Plant Installations, Marine Vessels/Installations, Offshore Applications and Composite Plants implementing Constructions, Installation Supervision, Commissioning and Various Tasks on analyzing, troubleshooting and evaluations providing customers multiple solutions and services utilizing latest technology and standards; from small size applications and services to complete turn-key projects
- Northern Automation Oy; shortly as NAOY, is Finnish registered and privately owned company

] Places of Business and dedication: 01/2012

- Finland, Vaasa; Sales- Projecting and Development office (Power Plants, Offshore and Marine)
- Finland, Vantaa; Sales - Projecting and Design (Power Plants and Emergency Power)
- Finland, Tampere; Sales - Projecting and Design (Emergency Power, Small Units, Service)
- Full structure and system wise Power production and power plant equipment knowledge, including the electrical distribution systems know-how experts and engineers.
- Additionally project/delivery specific manpower on need even as per location (local support possibility/availability and partners)
- Electrical/Automation, Mechanical, Process and Civil engineers with strong experience and proficiency on projecting / construction and service fields
- Experience in the business field is more than 20 years



Customers

NAOY FINLAND
Sales & Branch
Office, Vantaa

**Projecting Office
Tampere**

**Sales & Projecting Office
Vaasa**

Design and
Engineering

Sales,
Projecting,
Management

Purchase,
Delivery & Supply

Manpower for
Projects

Start Up and
Commissioning,
Technical

Projecting & Man power
MElectrical Pte Ltd
(Singapore & Malaysia)

Projecting & Man power
Finnasia
(Philippines)

Projecting & Man power
Kiviöli Estonia
(Viru Elto Oy)

Projecting & Man power
St. Petersburg
Russia
(Elmo Sbp LLC)

Co operation &
Partners



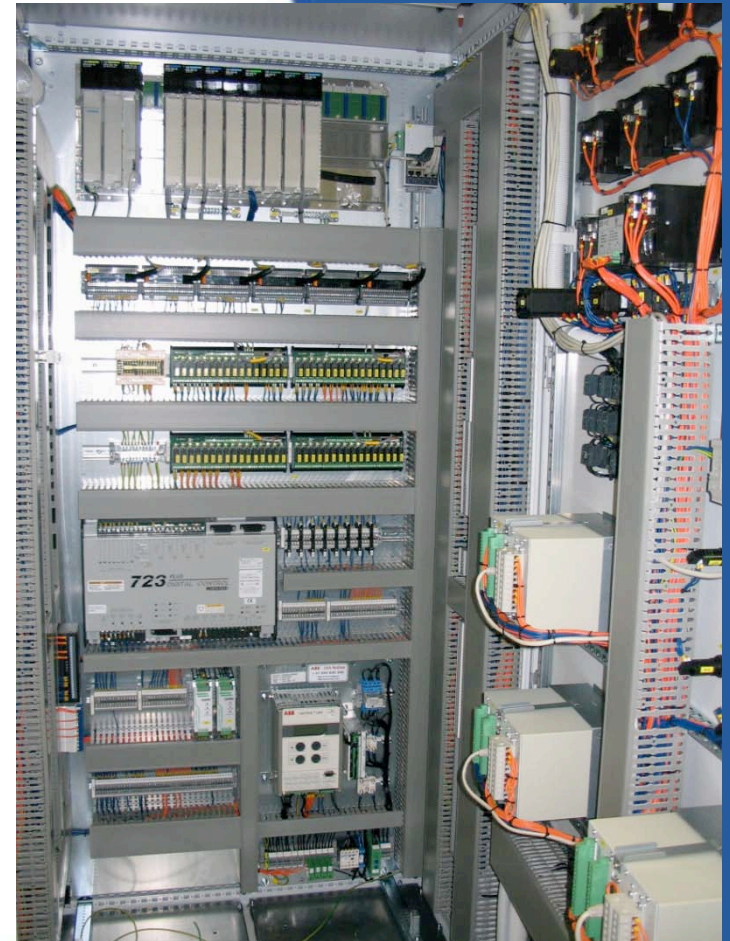
**Northern
Automation Oy**

Project Solution



NAOY IN POWER EXHIBITION 2010

PLC AND CONTROL CABINET





] Services and Deliveries: General Installation Implementations:

] Design, Engineering, Procurement, Manufacturing, Implementation and Commissioning/testing

- - Electrical- and Automation systems and entities; (Protection, Control, PLC, HMI)
 - Distribution systems, Transforming stations and Switchyards/Switching stations
 - Engineering and Design for various project purposes
 - Mechanical and Civil constructions/services; piping, assemblies, processes, structures
 - Project Installation Personnel (Fitters, Welders, Mechanics, Electricians, Logistics)
 - Project / Installation Supervision, Commissioning and Testing Personnel
 - Project / Installation Handling and Management (Project & Site Managers)

] Main Areas of business and Fields of Operation:

- - Power Plants; Diesel, Gas-Diesel, Gas, Turbine, Hydro, Steam and Coal Fired Installations
 - Emergency/Stand-By Power Plants and Mobile Units, with Turn-Key type deliveries
 - Marine and Offshore Installations; Automation/Electrification and systemwise projects
 - Wood Processing Industry, Paper/Pulp Mills and various Boiler Plants, Steam Systems



] Customers and/or Partners in Co-operation: Supply, delivery and projecting

- MAN Diesel & Turbo SE; Commissioning support, project assistance.
- Wärtsilä Corporation; Power Plant, Service, Ship Power and Biopower branches. Global co-operation, installations and services on various customers worldwide
- ABB Group; ABB Finland; Electrical and Automation projects, Service Functions
- Siemens Corporation; equipment supplies and engineering
- Groupe Schneider; equipment supplies and engineering
- ABV Rock Group; installations and deliveries
- Metso Oyj, installations, start up and deliveries
- MTU (Mercedes), Cummins, Volvo, Perkins, Iveco, Scania
- Walters Power, US, power plant equipment and installation, projecting
- AVK, Leroy Somer, GE General Electric, Newage Stamford, VAMP
- A&D Automation, Industrial Electrification and Automation engineering
- Bothnia Service, Industrial Automation and Maintenance, engineering
- Deltamarin, Engineering Services, Marine and Offshore projects (FPSO and RIGS)
- DRPS; Dominican Republic Power Service, Projects and services
- Mecele Service Ltd, Electrical Service and Installation experts; generators especially
- IRL and Polartek Engineering Companies, design and engineering services



Network
Construction Oy

Project Solution





-] The Approach to projects is always entity- and total systemwise thus enabling the overall control of the implementations and ensuring a smooth, flawless and fast operation and results. This applies even if the works are consisting of partial deliveries (system studies etc)
- █ Solutions are thoroughly evaluated and conceived in a close co-operation with the customer and adequate data / information is collected in order to come up with a feasible and most suitable plan for the application in question (relocation and upgrading projects especially)
- █ Feasibility studies, Budget Estimations, Evaluations and Installation audits can/should be performed and presented to clarify exact status and condition of the application. Nowadays any plant, facility or installation operation needs to be based increasingly into the fulfillment of environmental aspects and policies as well; therefore also directly related to the equipment and overall functionality of the plant
- █ Based into above approach and studies, the project or plant feasibility and cost efficiency may be improved further by utilising NAOY local partners, external experts and various sources, enabling customer to have his required services through one source and supplier
- █ Various maintenance and warranty services are available upon request, even for longer periods
- █ Training and on site operation support may be included in the deliveries (normally are) or these can be arranged even as requested for particular tasks or issues only



] Deliveries, Installations, Projects and Customers in more than 40 countries: examples

- Various Power plant and Marine, Ship Power and Biopower projects for Wärtsilä Corp; Ghana/Benin, Sudan, Cameroon, Pakistan, Canada, Singapore, Indonesia, Jamaica, Turkey, Greece, Portugal etc.
- Troubleshooting and Service Tasks for Wärtsilä Corp installations in general; world wide
- Current & constant Manpower supply for Wärtsilä Corp Projects
- Automation, PC/PLC systems and Control systems including delivery and training for several countries on Wärtsilä Corp applications
- Projects and deliveries in Russia, USA, Sweden, Denmark, Caribbean area; (Aruba, Puerto Rico, Curacao, St- Lucia, BVI), Central- and South America; (Brazil, Colombia, Guyana, Venezuela), England, Saudi-Arabia, India, Pakistan, Indonesia, Philippines, Poland, Turkey, Greece, Spain, Portugal, Italy, Cyprus, France, Estonia, etc.
- Metso Oyj, Sweden, Finland , Germany, China, Chile, England etc. EI/Autom. Various system installations, supervision/commissionings/start up and troubleshooting
- Babcock & Noell from Germany, man power for Olkiluoto OL3 Nuclear Power Plant project; special welders and man power supply
- Engineering and design support services for Marine Industry, through main engineering and design companies like Deltamarine ltd



North American
Automation Solutions

Project Solution





] Examples of deliveries and projects:

- 50MW floating Power Barge electrification and automation works with limited supplies (including works on control, protection, DC, LV, MV and HV systems) for Wärtsilä Corp; works and project performed in Singapore, commissioning completed in Jamaica (end location)
- Electrification and Stationary Power Plant rehabilitation and extension in Roatan, Honduras with Wartsila 12V280 engines
- ABB sales and projects partnership and co-operation (design and engineering, supply, installation and commissioning) in various emergency and standby power systems/plants deliveries in Lahti, Tammisaari, Helsinki – Espoo – Vantaa; sales and projecting widely started around Finland and overseas, continuing strongly
- Stationary combi Power Plant modification and re-configuration into district heat plant by removing and relocating diesel engine equipment, made for Fortum Heat & Power, South Finland
- Stand-by and emergency Power Plant installation in Estonia, Containerized Units
- Various mining industry power projects; especially for emergency power availability
- Multiple hospital and public offices emergency power supply/generation projects





North American
Construction Company

Project Solution





] Modification and Upgrading Projects:

- Control & Automation Systems
- PLC, PC- systems, HMI and Operator Stations
- Installation Integrations
- Frequency/Voltage regulation modifications
- Power Transmission Solutions
- Electrification Projects
- Grid/Utility Monitoring and Supervision (Remote and/or Local)
- Switch-over/Transition Control
- Base load, Island, Peak Shaving, Emergency Power Plant Installations (Stationary or Mobile)
- Plant Relocation, Operation Mode upgradings and Construction Projects

] Service & Development, short summary:

- Power system and Utility Analyses
- Installation and Plant Audits
- Calibration and Measuring Services
- Installation Feasibility, Condition and Performance Studies
- Plant upgrading (technical), performance and feasibility related improvements
- Enviromental improvements; equipment and/or operational aspects modification