



NARI

NARI Group Corporation

NARI



Profile

Headquarter of NARI



NARI Group Corporation (NARI) is a high-tech industrial cluster directly affiliated to SGCC. With headquarter located in Nanjing, China, NARI Group Corporation provides technologies, products, services and total solutions in all links of the power chain and its relevant fields.

Many years of vigorous efforts have brought NARI to a world-class industry group with over 20,000 engineers and technicians, achieving revenue over RMB 28 billion by the end of 2011. NARI owns 31 branch companies and subsidiaries covering power system security and stability control, power grid automation, relay protection and power electronics, transmission and transformation equipment, power distribution and consumption management, information and communication technology (ICT), renewable energy, water conservancy and hydropower, industrial control. It spares no effort on providing technology and solutions as well as products and services worldwide.

62 *National Awards*

472 *Scientific Results with
Provincial and Ministerial
Level Awards*

577 *Patent Licenses*

284 *Computer Software
Packages Copyrights*

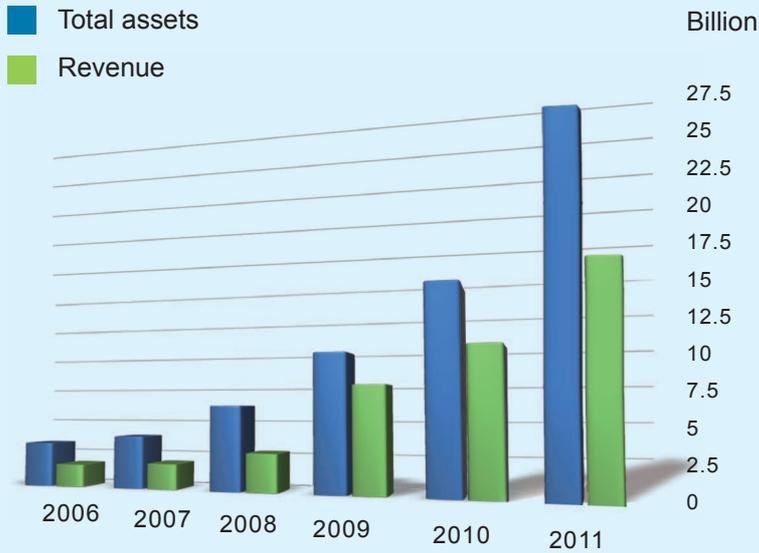


Global Market of NARI's Products



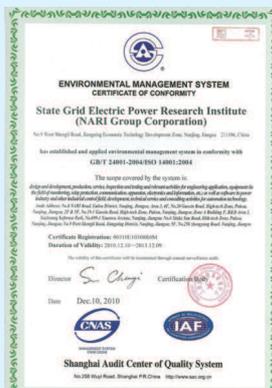
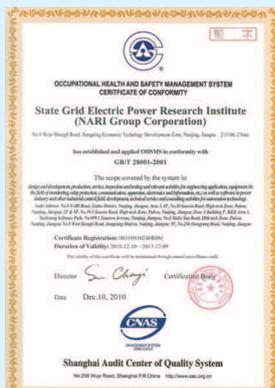
NARI has established a research-industry-interdependent highway that bears fruits from technologies research in a miraculous efficiency. As the backbone of Chinese power industry, NARI is supporting its customers and cooperative partners by furnishing them with cutting-edge technologies and innovative solutions. Nowadays, NARI has formed a pattern which brings out over 300 high-tech products with intellectual property that come in over 30 series, delivering its products and services to more than 60 countries and regions.

Our Turnover



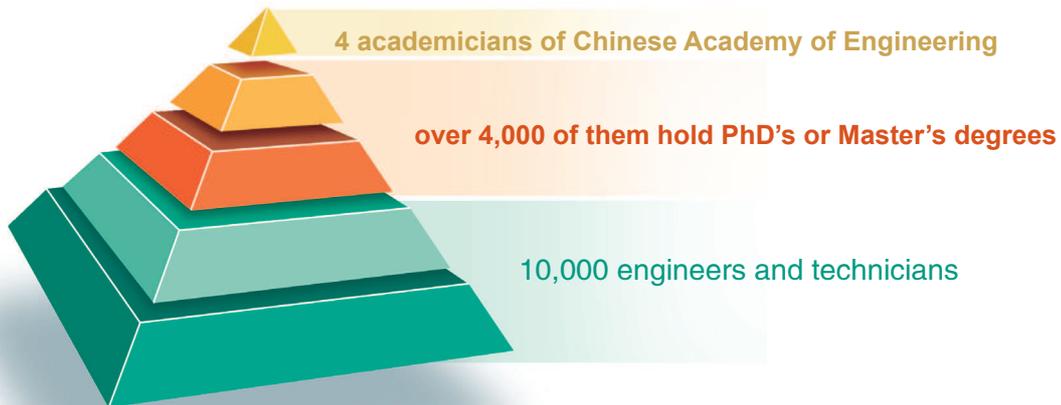
Quality Assurance

We are addressing our customer's need for a better experience and we will strike to enhance this strength to fully satisfy our customers. We are devoted to building strong, friendly and sustained customer relationship which in turn helps us grow up into a celebrated brand in China.



Human Resource

Human resources are the driving force of NARI which has a talent team led by 4 academicians of Chinese Academy of Engineering. Among its 10,000 engineers and technicians from various fields, over 4,000 of them hold PhD's or Master's degrees.



Social Responsibility

NARI Group seeks to foster sustainable business practices and aims to maximize that positive influence on society. We are pursuing these strategic objectives through detailed plans in each area such as fighting against earthquake, guaranteeing power supply reliability in 2008 Olympic Games, 2010 Shanghai Expo, 2010 Asian Games. Meanwhile, NARI attaches great importance to the environmental protection and tries its best on research of pollution reduction and CO₂ emission cutting.



Actively take social responsibilities



Energetically participate in the public welfare cause

Solution Portfolios

With the blueprint of a high-tech enterprise in mind, NARI will lead the trend in technology advances by building a comprehensive center of total solutions, EPC ability as well as equipment manufacturing, covering all the links of the entire power system and industry control.

Solar Power and Grid Connection

Wires and Cables

Industrial Control Automation

Smart Substation Automation

AMI

Distributed Energy Generation Access and Control

Amorphous Alloy Transformer

HV Relay Protection



Hydropower Automationn

Small Hydropower Integrated Automation

Power Electronics

Wind Power and Grid Connection

Switch Equipment

**Distribution Automation
Smart Power Consumption Management**

Smart Power Consumption Management

Dispatching Automation (SCADA / EMS/ NAS / WAMS)

EV Charging/Battery Swap Infrastructure

Rail Transportation Automation and Protection

Product Overview



Power system security and stability control

- ※ Power system security and stability control and calculation (FASTEST)
- ※ Wide-area monitoring analysis of protection and control system (WARMAP)
- ※ Real-time control of power system security and stability analysis



Power grid automation

- ※ Power grid dispatching automation
- ※ Substation protection and automation
- ※ Electricity market technical support



Relay protection and power electronics

- ※ UHV/ EHV AC/DC protection & control system
- ※ VSC-HVDC (Valve, protection & control system)
- ※ FACTS (SVC/ SVG)



Transmission and transformation equipment

- ※ Transformer (New type environment-friendly transformer)
- ※ Switchgears
- ※ Power cables and wires
- ※ Pole and tower
- ※ HV accessories
- ※ Transmission and transformation equipment condition monitoring and maintenance
- ※ Lightning protection and grounding



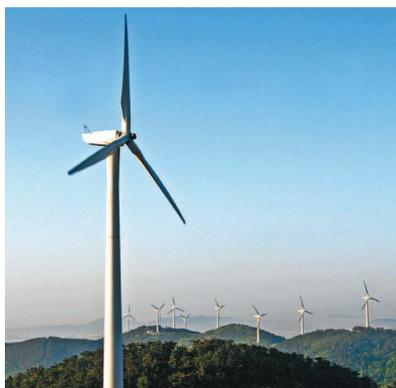
Power distribution and consumption management

- ※ Power distribution automation solutions and equipments
- ※ Power consumption information management
- ※ AMI
- ※ Power quality monitoring and control
- ※ Micro-grid/distributed-grid
- ※ EV charging/ battery swap infrastructure



Information and communication technology

- ※ Information management
- ※ Information security
- ※ Telecommunication system and equipments
- ※ Power ICs
- ※ Cloud-computing
- ※ Internet of Things



Renewable energy

- ※ Wind power
- ※ Solar power /PV
- ※ New energy integration and equipments
- ※ Wind power/ PV prediction



Water conservancy and hydropower

- ※ Power plant
- ※ Hydropower automation
- ※ Water conservancy ICT
- ※ Environmental protection and meteorology



Industrial control

- ※ Industrial automation
- ※ Railway transportation automation and protection

Typical Applications



The Three Gorges project

- > Cascade reservoir dispatch automation system
- > Excitation system (12×700MW right bank power plant)
- > Security and stability control system
- > Power communication network monitoring and management system



SGCC UHVAC experiment demonstration project (1000kV Shaanxi-Nanyang-Jingmen)

- > Stability control devices;
- > Manufacturing supervision of the primary equipments;
- > Transmission line optical fiber distance protection, optical fiber differential protection, main transformer protection, circuit breaker protection and substation integrated automation system;



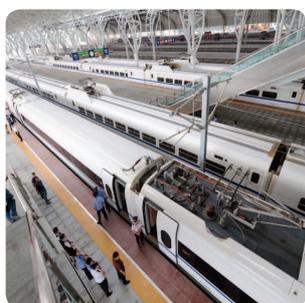
Control and protection system for UHVDC and EHVDC transmission projects

- > Yunnan-Guangzhou (±800kV);
- > Xiangjiaba-Shanghai (±800kV);
- > Gezhouba-Nanqiao (±500kV);
- > Three Gorge-Shanghai (±500kV);
- > Deyang-Baoji (±500kV);
- > Hulunbeier-Liaoning (±500kV);
- > Tsinghai-Tibet (±400kV);
- > Xiluodu-Guangzhou double circuit overhead transmission (±500kV);
- > Northwest-central China HVDC networking project;
- > Shanghai Nanhui – Shurou Flexible DC transmission demonstration project;
- > Korea Jeju Island ±80kV 60MW HVDC transmission demonstration project;



Smart substation projects

- > World highest voltage class smart substation: Yan'an (Luochuan) 750 kV substation;
- > The first domestic IEC61850 based 500kV substation automation system: Beijing Shunyi digital substation;



Rail transportation projects

Rail Transportation:	Total Subway Lines
RT21-ISCS	11
RT21-SCADA	6
RT21-BAS	4
RT21-SAS	17



2008 Olympic projects and 2010 Shanghai Expo projects

- > Shanghai power grid security and stability warning and control system;
- > Shanghai expo site smart grid comprehensive demonstration project, including 6 items such as smart substation, smart grid dispatching technical support system, smart distribution automation system, electricity information collection system, electric vehicle charging and discharging stand, smart building energy efficiency management system;
- > Control and protection system for Beijing north 500kV substation;



Specific control and protection

- > 2 x 1036 MW generator set protection of Huaneng Shantou Haimen power plant phase-I project;
- > Power transmission and transformation protection equipments of nuclear power plants such as Dayawan and Ling'ao;
- > Shenzhou manned rocket launch power control and protection system in Jiuquan cosmodrome;
- > China southern power grid 500kV series compensation line protection;



Overseas projects

- > Dispatching System Project for NGCP, in Phillipines;
- > Substation Supervision Project for NGCP, in Phillipines;
- > Protection, Control and Automation System EPC/Turnkey Project for 500kV Substation in Vietnam;
- > 45 Substation Automation System Smart-upgrading EPC Projects according to IEC61850 for MEA, in Thailand;
- > Smart Substation Transformer Supply and Replacement Project for Gressoney power substation, in Italy;
- > 3MW PV-Roof EPC/Turnkey Project in Belgium;
- > Irrawaddy River Hydroelectric Power Grid Stability and Security Analysis Consultation, in Myanmar;
- > CLT Power Distribution and CAC Power Distribution Projects in Angola, Africa
- > Automotive Electricity Measuring and Billing System Projects of 9 power plants for UkrHydroenergo, in Ukraine;
- > Hydropower Monitoring System Project for Fiji Electricity Company, in Figi;
- > Excitation Renovation Project and High-Speed Railway Project for Saudi Electricity Company, in Saudi Arabia;
- > Dry-Slag Removal Project for LABUAN 2x300MW Coal-fired Power Plant in Indonesia



Global Vision

NARI Group has taken an increasingly positive role in its contribution to the global power market.

International Marketing

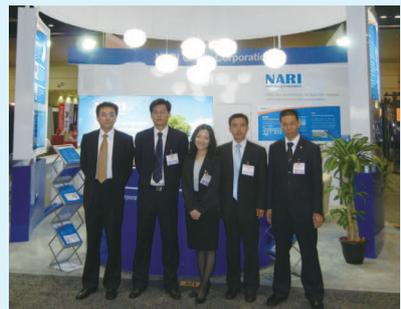
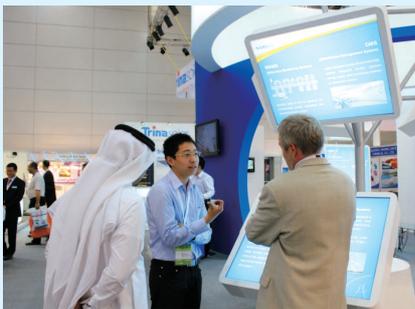
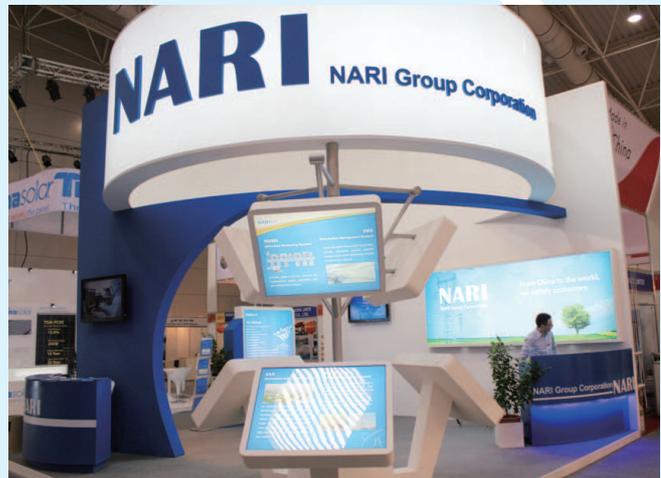
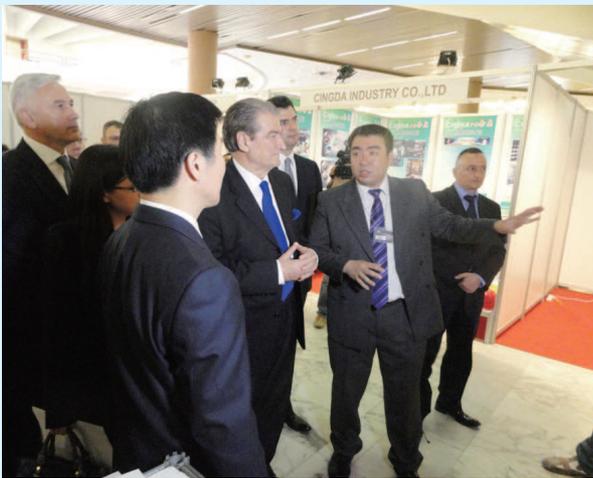
NARI Group has extended its sales and service network to central cities in provincial power grid regions across the country. It also has established 12 overseas offices in the Philippines, Saudi Arabia, Brazil Thailand, Ukraine and ect.



- 1 the United States;
- 2 Ukraine;
- 3 Brazil;
- 4 Saudi Arabia;
- 5 the Philippines;
- 6 India;
- 7 Thailand;
- 8 Indonesia;
- 9 Vietnam;
- 10 Kenya;
- 11 Nigeria;
- 12 Hong Kong.

Global Branding

In recent 5 years, NARI is getting more and more exposures in world-class exhibitions, e.g. IEEE PES Transmission and Distribution Conference and Expo. In USA; InterSolar2012 in German, SAUDI ENERY, Technical Exhibition CIGRE in France and CEPSI, etc..



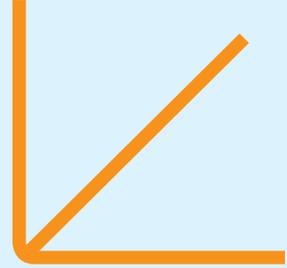
International Activities

NARI Group values dialogue and collaboration with partners from the world via :

MOU with: UL, KEMA, VDE, CESI, NGCP, Accenture, IBM, Spirent

agreement with: ECP

technical exchange with : CRIEPI, GE, HP, ABB, Invensys, Phoenix, Yitran, KESC, TAVANIR, LS Korea, Schneider



International Academic Conference and Organization

The Members of International Societies

International Council On Large Electric Systems (CIGRE)

International Special Committee on Radio Interference (CISPR)

Institute of Electrical and Electronics Engineers (IEEE)

International Electrotechnical Commission (IEC)

International Electric Research Exchange (IERE)

International Conference of Electrical Engineering (ICEE)

International Federation of Automation Control (IFAC)

JICABLE'11

The CIM Users Group (CIMug)

The Technical Committees of IEC of China Responsible by NARI Group

IEC/TC42 : High-voltage testing techniques

IEC/TC57 : Power system management and associated information exchange

IEC/TC77 : Electromagnetic compatibility

IEC/TC78 : Live working

IEC/TC99 : System engineering and erection of electrical power installations in systems with nominal voltages above 1kv a.c. and 1.5kV d.c., particularly concerning safety aspects

The Technical Committees of SAC and DL of China Responsible by NARI Group

SAC/TC36 : Live working

SAC/TC82 : Power system management and associated information exchange

SAC/TC226 : High voltage electrical security

SAC/TC246 : Electromagnetic compatibility

SAC/TC154/SC1: Measuring Relay and Protection Equipment/Static power system protection

SAC/TC163/SC1: High-voltage testing techniques and Insulation co-ordination/ High-voltage testing techniques

DL/TC2 : Power transformers

DL/TC15 : Relaying protection

DL/TC16 : Insulator

DL/TC19 : Power cable

Academic Societies Responsible by NARI Group

Technical Committee for Power System Automation of CSEE (Chinese Society for Electrical Engineering)

Technical Committee for Protection and Control of CSEE

Technical Committee for High Voltage Committee of CSEE

Automation Group of Technical Committee for Rural Electrification of CSEE

Radio Interference Group of Technical Committee for Electromagnet Interference of CSEE

Substation EMC Group of Technical Committee for Electromagnet Interference of CSEE

Testing and Equipments Group of Technical Committee for High Voltage of CSEE

Technical Committee for Hydropower Automation and Computer Control Engineering of CSHE (Chinese Society for Hydropower Engineering)

Computer Control Group of Technical Committee for Computer Application of CSHE

The Hydropower Plant Automation Information Network of China

The Dam Automation Monitoring Information Network of China

NARI

IN SEARCH OF EXCELLENCE IN PURSUIT OF OUT-PERFORMANCE

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