#### EMBRACE THR EARTH

...PROTECT THE PEOPLE

...QUEST FOR QUALITY

# MEIDEN



Main Office 5 Jalan Pesawat Singapore 619363

Sales & Customer Support Tel: 6268 8222 Fax: 6264 4292

Transformer division

Tel: 6268 1819 Fax: 6268 7662

Engineering division Tel: 6268 8223

Fax: 6264 5307

Water Technology division Tel: 6268 8222

Fax: 6264 4292

Management Office / Corporate divisions Tel: 6268 8222 Fax: 6264 4292

14 Penjuru Close Singapore 608610

Switchgear /

VCB division Tel: 6268 8883

R&D division Tel: 6477 9538 Fax: 6377 5386













**Branch Office** 

Controlgear division Tel: 6268 8883 Fax: 6262 0841

Fax: 6264 0841



Celiven eco-friendly, safe and quality products through eco-friendly, safe and quality means.

ourselves

organize

We provide products and solutions to equip and energize power generation, transmission and distribution grids, as well as for traction power systems.

We also offer environmental and eco-age technologies like water treatment, smart grid and renewable energy.

Headquartered in Japan, Meiden is Singapore's biggest and Southeast Asia's most advanced manufacturer of power equipment.



Meiden is the provider of power supply system for Singapore's first and second MRT lines (East West Line and North South Line) as well as the Changi Airport Line.



A consortium-based project led by Meiden in the first ever experimental powergrid centre in Singapore. Inside the facility (left) and control



A completed installation and integration work of a 500MVA 230kV/230kV phase-shift-transformer (Singapore)

#### Corporate Office

Meiden Singapore Pte Ltd 5 Jalan Pesawat Singapore 619363 Main Line: (+65) 6268 8222

Incorporation Date: May 23, 1975 ACRA registration: 197500868K

Issued Share Capital: SGD 25,400,000 Ordinary

Shareholder:

Wholly-owned by Meidensha Corporation, Japan

How we organize ourselves?

Being part of our clients' value chain, there is no better goal than to be the strongest link in the chain.

> To achieve this goal, we streamline and position ourselves to deliver seamless responses, with speed and accuracy.

To sustain it, we consistently enhance and consolidate our capabilities and resources to meet the varying needs of our broad spectrum of customers.

An integrated project involving our transformer, switchgear, VCB and engineering units in joint operations as

Joint Operations & Services

Design, Engineering, Tests, Laboratory, Sales & Customer Support

#### Product Unit 1

Power Transformer

#### Product Unit 2

Distribution Transformer

#### **Product Unit 3** Product Unit 4 Switchgear /

Controlgear /

Control panel

Vacuum Circuit Breaker

## **Solutions Unit 1**

Power Engineering / Traction Power / SCADA

## Solutions Unit 2

Water Technology

R&D

well as our technical partners and Japan HQ in close collaboration (Bahrain)

Solutions

∞ŏ

**Products** 

#### **Meidensha Corporation**

ThinkPark Tower, 2-1-1, Osaki, Shinagawa-ku, Tokyo, 141-6029 Japan

Tel: (81) 3-6420-7510

Website: www.meidensha.co.jp

Founded in 1897, Meidensha Corporation is an innovator in the technological domains of electricity grids, railway tractions, water processing, motor-centric drive systems, industrial automation, networked control systems and renewal energy. It has annual revenue of USD 2 billion and employs 7,000 people worldwide. Meidensha is a pioneer in many game-changing

technologies like electric car motor, smart grid, water filtering membrane, power quality and storage devices, etc.





ThinkPark Tower, Tokyo Numazu Works, Numazu City, Japan

## Meidensha Network Overseas Offices & Group Companies The United Kingdom Meiden America, Inc. Meiden Technical Center North America LLC Meiden Shanghai Co., Ltd. Meiden Zhengzhou Electric Co., Ltd. Meiden Hangzhou Drive Systems Co., Ltd. Aeiden Hangzhou Drive Systems Co., uru. Dangguan Meiden Pacific Electrical Engineering Co., Utd. Shanghai Meidensha Changcheng Switchgear Co., Utd. Korea Meiden Korea Co., Utd. United Arab Emirate Dubai Branch ong Kong Veiden Pacific (China) Ltd. Thailand Thai Meidensha Co., Ud. Meiden Electric (Thailand) Ud. Malaysia Meiden Malaysia Sdn.Bhd. Indonesia P.T. Meiden Engineering Indonesia Manufacturing & Contract Service Base Engineering or Sales Base

#### **Our Products & Solutions**

With in-house product design, manufacturing and engineering, we have full control and ownership of our business processes, giving utmost confidence to our clients working with us. It demonstrates our commitment to customers that we hold direct responsibility in delivering effective and wellsupported products and solutions.



SF<sub>6</sub> Gas transformer





Power transformer (up to 154kV, 100MVA)







Ceramic membrane



LC panel for high-voltage switchgear



Photovoltaic power system



**MV Soft Starter** 



SCADA panel



24kV VCB



DC switchgear



Air-insulated switchgear (up to 24kV)



LCC for power transformer



Motor starter panel



24kV circuit breaker for gas-insulated panel

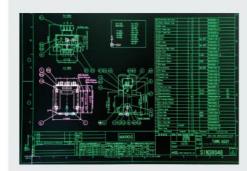


Gas-insulated switchgear (up to 36kV)

**Manufacturing Philosophy** 



Each and every part is evaluated for functionality, defects and failure



There is no short cut for thorough and accurate design.



### Product efficiency

For 24/7/52 operations, product efficiency is not only a factor in life cycle cost, but also impacts upstream and downstream process costs. Our design focuses on delivering efficiency by paying great attention to details. Efficiency in both short and long run translates into lower life cycle as well as process costs. In short, when you pay for efficiency, efficiency will pay for you.



#### Pure functionality + Core effectiveness → world class reliability & safety

Every part and component is incorporated to serve an effective function - and is also designed to avoid critical failures and possible defects. That means a base product of pure functionality and core effectiveness. This approach to design reduces unnecessary costs, increases safety, simplifies maintenance and offers broader scope for modularity and customizability.



#### Design excellence → steady and precise performance

A design error or unintended deviation may not manifest its undesirable impact until years later. Further, such malfunctions can be difficult or even impossible to diagnose and resolve. In Meiden, we ensure all stages and aspects of the design process are thorough and accurate. In addition, conformance to R&D-validated design and safety parameters and customers' final specifications are never compromised.



Taut and sturdy interior of a Meiden transformer



Experience and workmanship are crucial in product safety and stability



Inter-process and end-process function-tests



# Build it strong – and it will be

For products that are expected to last 20 years or more, it is essential to build them with high endurance and low degradation. To achieve these, we select tougher materials and devise rigorous manufacturing techniques. The result is a range of very stable products that typically outlast peer products.



#### **Experience and Workmanship** → safe and stable product

A large proportion of our workforce has been with us for 10, 20 or even 30 years. Experience is invaluable where product stability is crucial. To enhance stability further, we emphasize workmanship in every work routine. Every new worker undergoes structured training and is closely supervised until certified to be independently competent. Existing workers undergo regular up-skilling or re-training to keep up with technological advances.



#### QA - Pervasive and Green

Our quality system is in strict alignment with all requirements and standards imposed by our Japan HQ. It is structured to eliminate errors, defects and wastages at every stage of the manufacturing process from acceptance of parts and components to product assembly and conformance tests. Minimal errors and defects mean minimal wastage which in turn means less impacts on the environment. Our quest for quality converges with our promise and belief to preserve the environment.

Worldwide

#### In-depth product knowledge → sound engineering solutions

Several decades of designing, manufacturing and innovating successive generations of Meiden products have resulted in a vast and deep store of proven knowledge and knowhow. It enables us to provide sound engineering solutions in configuring, integrating, deploying and utilizing our products, even for the most technically challenging conditions, with no delay and minimal risks.



#### Globalized collaboration → ← Localized communications

We collaborate closely with worldwide technical partners and key suppliers to tailor-fit our products according to customers' specific needs. Customization allows our customers to adopt more efficient and versatile design. How do we do it? We maintain constant communication with customers at every phase: specifications and design to commissioning and defects liability. Nothing fulfils us more than to see customers' expectations fulfilled.



# Operations & maintenance support – for non-stop

Proper operations and regular maintenance are essential for sustained functioning at maximum efficiency. We will be there for any scope and scale of maintenance and upgrading services, delivered by a wide-spectrum team of dedicated and competent professionals and specialists. You can count on us to ensure your system operates with solid performance, at all times, and for a very long time.



Integrating systems design with prod-



Ceramic membrane test pilot plant in Ulu Pandan Singapore



ing of 66kV GIS in collaboration with GIS equipment supplier



Working with project partners in a rail infrastructure power-supply system (Singapore)



A major maintenance routine for an incinerator downstream generator



Inside the experimental powergrid facility, which simulates a power grid with conventional and renewable energy sources, energy storages, as well as conventional and clean technology applications like electric cars.

Our company's operational readiness is always in active mode to respond to urgent needs, enabling high flexibility in our clients' scheduling of projects and delivery for today's challenging business climates.

Meiden Singapore is well-connected by air and sea globally. Our rapid deployment time for critical operations, in accordance to our ISO quality standard, is:

- Within 4 hours anywhere in Singapore
- Within 48 hours in most parts of Asia
- Within 72 hours in most parts of the world

project for a semi-

conductor plant in Philippines

(completed 2011)



Petrochemical

in Saudi Arabia

(completed 2008)

complex substation



Supply of various

transformers in a water treatment plant

in Algeria (2010)

plant in Saitama, Japan, Fully operational & functional to client's satisfaction



Active power filter in South Korea (completed 2009)



Dynamic voltage Thailand



Power supply system for Manila Metro Line 2,







# Facilities Oil tests laboratory



High voltage test laboratory for transformer



Drying chamber for transformer core



AC Tester - Max 400kV



Lighting Impulse



VCB / Gas breaker manufacturing facility



Water tests laboratory

**High Frequency** - 3 Ø 1200kVA

**Test Generator** - 3 Ø 3000kVA



Switchgear / Controlgear manufacturing facility



Logistic Zone



Transformer Power electronics manufacturing plant **R&D** laboratory



1975 - Meiden Singapore is established by Meidensha Corporation of Japan

1979 - Establishment of distribution transformer plant (up to 5MVA capacity)

1987 - Completion of the first MRT Line (East-West and North-South) power supply system in Singapore, which is also the first in South East Asia

1995 - Obtained ISO9001 and JQA certification

1995 - Establishment of switchgear/controlgear facility (up to 36kV)

1998 - Establishment of VCB facility (up to 31.5kA rated breaking current)

2002 - Completion of Singapore MRT Changi Airport Line power supply system

2003 - Establishment of manufacturing facility for switchgear protection and control panel (up to 420kV)

2004 - Completion of Manila Metro Line 2 power supply system (AC & DC)

2006 - Establishment of power transformer plant (up to 154kV, 100MVA capacity), the **biggest** in South East Asia

2007 - Successful turnkey completion of 230kV/230kV, 500MVA phase-shift transformer, the biggest in Singapore.

2008 - Completion of 66kV GIS for SPPG transmission substations

2009 - Completion of Singapore MRT Boon Lay Extension power supply system

2010 - Obtained ISO 14001

2010 - Establishment of Water Technology division

2010 - Absorption of R&D division from Meiden Asia Pte Ltd

2010 - Delivery of 10,000th distribution switchgear

2011 - Successful turnkey completion of the first experimental powergrid facility in

2012 Delivery of 20,000th distribution transformer

2013 Obtained OHSAS 18001



Official Opening of the **Power Transformer** Plant (2006)



Demonstration Plant to treat & re-

cycle industrial used water by 2013



Our humble beginning in the 1970's





