



We drive industry



Corporate Overview

Automation and Drive Solutions
for Industry

metals

cranes

paper

cement

oil & gas

mining

utilities

rubber &
plastics

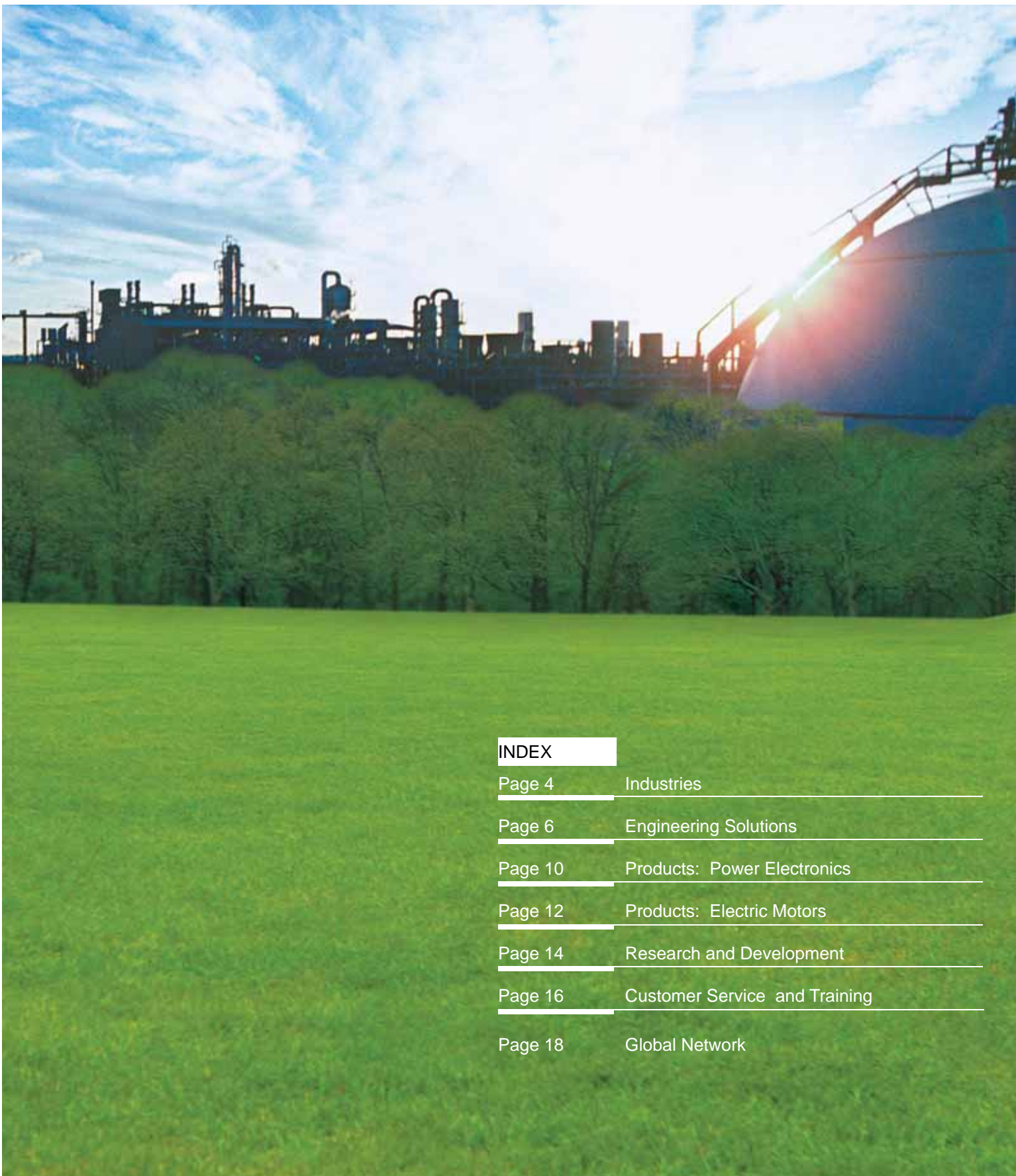
A photograph showing a large industrial facility, possibly a refinery or power plant, with complex piping and structures. In the foreground, there is a lush green field with a line of trees. The sky is blue with light, wispy clouds.

Industrial Solutions for Society

TMEIC GE is a world-class leader in industrial systems integration, contributing to production technology and management of the environment with cutting-edge technology. We focus on delivering total solutions to our customers through a combination of process knowledge, product design, and application expertise, in addition to research and development in the latest drive and automation technologies.

Our parent company, TMEIC, is headquartered in Tokyo, Japan, and designs and manufactures drives, motors and complete engineered drive systems around the world. Our partnership with GE allows us to leverage their strengths in the markets we serve.

As an industrial system integrator, we are focused on the future of “industry”, “society” and “environment”, in order to respond to the on-site needs of production, and to facilitate the harmonization of social development and global environment. Our core technologies lie in the rotating machinery that serves as the driving force for factories and plants, the power electronics which transform and control the required electric power, and the engineering that extends from planning to operations of the plant as a whole. Our cutting edge technology in these core areas contributes to production and environmental management. “We make production possible.” We are TMEIC GE. We drive industry.



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Steel/Non-Ferrous Metals

- Hot Mills
- Cold Mills
- Rolling Mills
- Process Lines
- Long Products

Oil & Gas

- Production
- Storage
- Pipelines
- Refining & Petrochemicals

Mining

- Conveyors
- Grinding Mills
- Draglines
- Shovels

Utilities

- ID Fans
- FD Fans
- Boiler feed pumps
- Cooling water pumps
- Conveyors

We drive industry

Contributing to all industries



Cement

- Separators
- ID Fans
- Finish Mills
- Conveyors
- Kilns

Paper

- Super Calenders
- Paper Machines
- Winders
- Tissue Machines
- Off-Machine Coaters

Material Handling

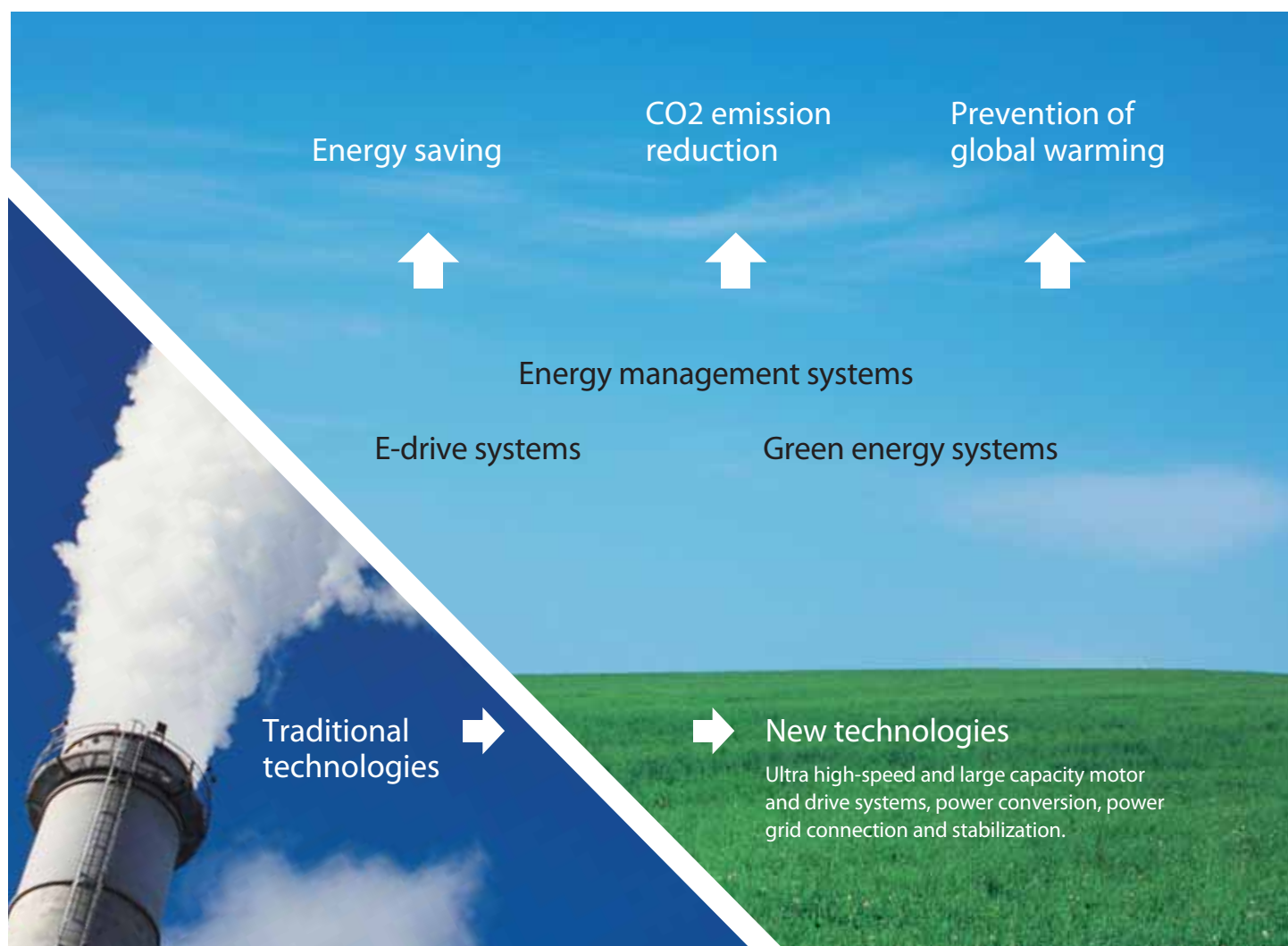
- Maxspeed® Crane Systems
- Automated Crane Systems
- Maxview Smart Landing™ Systems
- Modernization

At TMEIC GE, we use our expertise to advance the industrial systems that drive social progress. For a diverse range of industrial fields and for the global market, the role of TMEIC GE is to provide “total solutions” and “high quality, advanced products and systems.” As an industrial systems integrator, TMEIC GE focuses on industrial markets, brings innovation to industry, takes positive and constructive approaches, and evolves continuously with customers. TMEIC GE is the driving force for Society.

Engineering Solutions

TMEIC GE Solutions –
 Creating factories of the future together with our Customers

Environmentally-friendly factories for the future- Green factories



Technologies for energy saving and new energies are essential for sustainability – social development and the environment. TMEIC GE strives to support customers to evolve towards “green factories.”

E-drives: A Shift from turbine drives to motor drives;

Green energy: The realization of green energy systems through power conversion, power grid connection and stabilization.

At TMEIC GE, our “hands-on-approach” means we become a solutions partner with our customers. Through high-level engineering and accumulated application experience, we respond to the needs of “productivity improvement,” “high-quality production,” and “environmental management” by providing advanced solutions.

World-leading production processes



To achieve higher efficiency, productivity and profitability, the production process evolves every day. “Every day is an industrial revolution.” At TMEIC GE, we address difficult challenges to improve production processes, developing solutions and contributing to innovation in production.

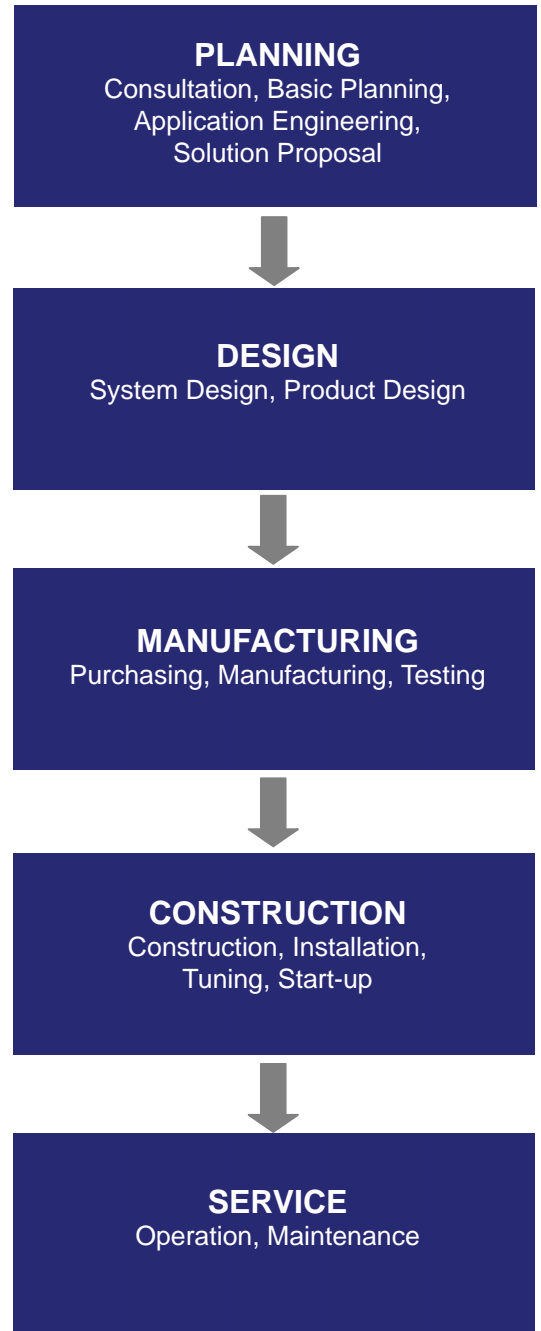
Advanced production technology for quality products



High-quality standards must be met at all times for a vast array of products manufactured in factories across the globe, such as iron, paper, petroleum, utilities, mines, oil and gas, cranes, etc. TMEIC GE will continue to create state-of-the-art electrical equipment necessary to support these factories for optimal solutions.

Engineering Solutions

TMEIC GE Engineering -
Innovation and integration to develop solutions
for industrial plants



As a systems integrator, TMEIC GE provides support across the board – from proposed solutions to post-sale services. Our accumulated expertise and ingenuity are applied to create a variety of systems, while cutting-edge technologies are used to implement innovation in the production processes.

Motor and drive systems

We boast world-class motor and drive systems. Power electronics technology capable of high-precision and high-quality control, together with the world's most advanced motors, are used across a wide range of industries, including steel, paper, petroleum, and chemical plants.



Automation Systems

Plant observation and control systems require the very best in technological capability and reliability. With our track record in this area, and continuous innovation in control systems technology, we contribute to factory and plant operations, achieving higher quality in production and productivity.



TOTAL SOLUTION

Life cycle support

We deliver life cycle support services – from the introduction of the most appropriate equipment for the customer, through its maintenance and support, to its eventual modernization in the future. The advanced technologies and skills, joined with our service network, are combined to provide service solutions, and give robust support to the stable operation of our products and systems.



Products

Power Electronics

Power electronics, including power converters, uninterruptible power supplies (UPS), and drive devices, is vital technology for an information and industrial society. By developing these core technologies, and by providing the customer with superior products controlling electrical energy, TMEIC GE contributes to environmental management and the sustainable development of society.

System Drives

DC and AC drive equipment for Steel, Material Handling, Mining, Cement, Paper, Utilities, Oil and Gas, and a variety of other industries.



TMdrive-DC
Up to 19 MW
Up to 1200 V dc



TMdrive-10
Up to 1720 kVA
Up to 690 V



TMdrive-70
Up to 30 MVA
3.3 kV

Medium Voltage Drives

MV Drives for fans, pumps, compressors, and other industrial applications.



Dura-Bilt5i MV
Up to 6.4 MVA
Up to 4.2 kV



TMdrive-MVG
Up to 10 MVA
Up to 11 kV

XL Drive Family

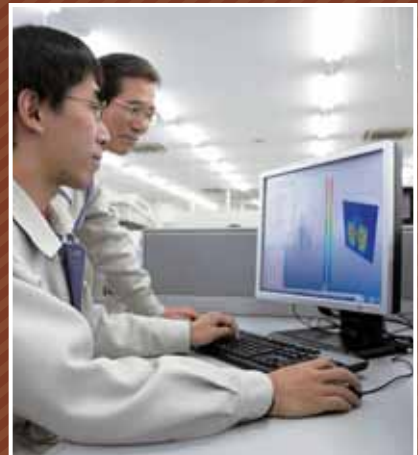
The XL Series Drive Family offers high power factors for the Oil and Gas, Utilities, and other industries.



TMdrive-XL55
Up to 16 MVA
Up to 6.6 kV



TMdrive-XL85
30 to 120 MVA
6.6 to 7.2 kV



TMEIC's full-fledged production shop allows us to continuously advance the development of power electronics. The three basic elements of this work are the technologies for power semiconductors, control technology, and packaging. The advanced systems and products we develop in these areas help pave the way to the world of more advanced power electronics.

Products

Electric Motors

Rotating machinery

Motors serve as the driving force of industry. With our extensive experience and state-of-the-art technology, we provide world-leading motors that reduce life cycle costs and increase productivity. TMEIC GE motor and drive systems provide the impetus needed to achieve high efficiency, high quality, and maximum cost performance in all areas of application, inclusive of variable speed systems.

Electric Motors for Industrial Applications

In addition to the use in general industrial applications such as compressors and pumps, we also respond to individual needs such as low noise and explosion-proof motors.



Horizontal electric motor



Vertical electric motor

Electric Motors for Special Applications

We offer electric motors for special applications such as metal rolling machinery, and ultra high-speed electric motors for turbo compressors.



Main electric motors for metal rolling mills



Ultra high speed & variable speed electric motor

TM-AC Series 800 Frame

TMEIC's new TM AC line of green, energy-saving motors are designed to mount directly to existing systems with standard DC motors. They also match DC electrical characteristics and performance.



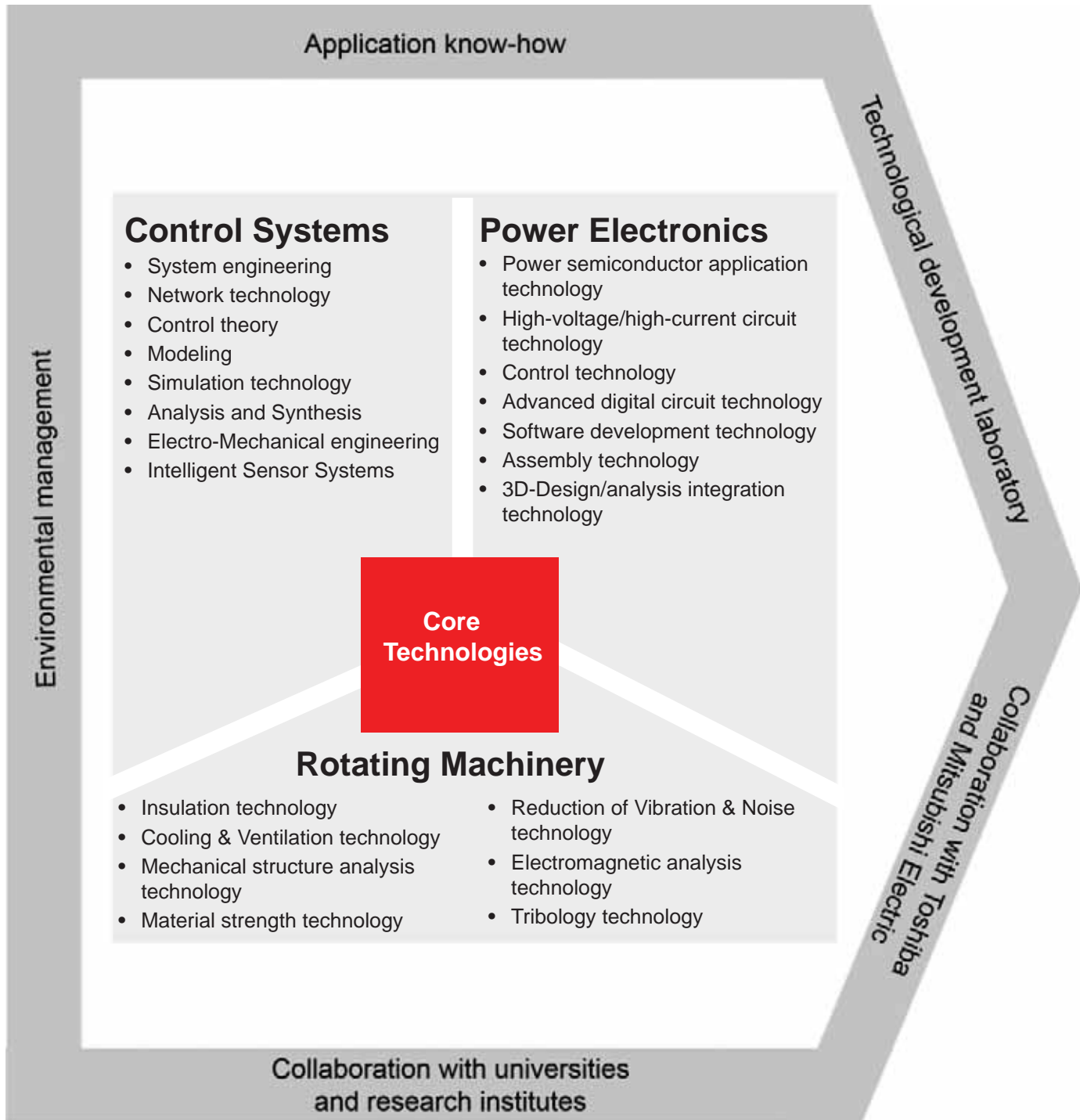
TM-AC Series 800 Frame motor



Our rotating machinery is renowned due to its impressive level of performance. The success of this machinery stems from TMEIC's core technologies, from electromagnetic and mechanical structure analysis techniques to high-level production technology. Each and every piece of rotating machinery produced by TMEIC is an achievement of our production process expertise that comes from the unique technological strength of TMEIC and the enthusiasm of our dedicated team of engineers.

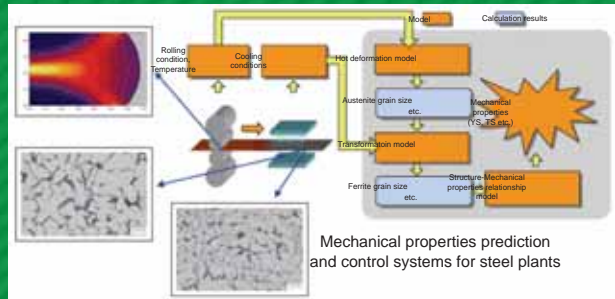
Research and Development

Industrial systems are built upon continuously advancing technologies of power electronics, rotating machinery, and control systems. While working to reinforce the basic technology, TMEiC and TMEiC GE are moving forward in the research and development of advanced products and systems to respond to the needs of society and customers. This includes our commitment to innovation in industrial systems, in areas such as green technology.



Innovation in cutting-edge production processes

- Mechanical properties prediction and control systems for steel plants
- Maintenance and Engineering Support system
- 3D electromagnetic and temperature coupling analysis (Induction heater)



Automated Crane Systems

- Maxview® Systems provide the measurements required for full automatic crane operation
- Maxview Smart Landing™ system - a laser-based ship profile and operator landing assist system
- Maxview Smart Move™ - tailored for RTG and RMG Cranes
- Maxview Clear Path™ - collision and area protection for dockside and yard cranes
- Maxview Chassis Guidance™ System - cuts cycle times and increases productivity by guiding the truck driver in to the exact target position for quick container transfer



Maxview Smart Landing™

Green factories and energy saving

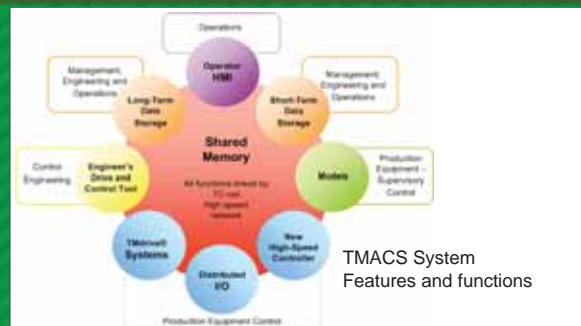
- Innovation in electrical drive technology—large capacity motors and drive systems
- LNG compressor full model simulation
- Max Fuel Saver™ system for RTG's.



25 MW Large capacity motor and drive systems

Advanced Control Systems

- TM Advanced Control Solutions (TMACS) – the solution for complex machinery control
- Drive Navigator – Configuration and Real-Time Monitoring Software
- Hot Mills, Plate Mills, Cold Mills, Long Product Mills, Process Lines, Paper Mills



Customer Service and Training

Commissioning

The TMEIC GE commissioning team includes the local field engineers, along with the engineer who designed and tested the system. The team is supported through:

- Exhaustive factory acceptance test
- Time saving commissioning and drive tune-up Wizards
- Training and familiarization of the entire team with the system at the factory.



Customer Service Support

“OnSite” Remote Diagnostic Support

The GE OnSite service provides worldwide support 24 hrs/day, 7 days/week, by experienced engineers in Salem, Virginia, and Atlanta, Georgia.

A computer with a modem is required as part of the drive system to transfer real-time data to the Customer Service Center for analysis.



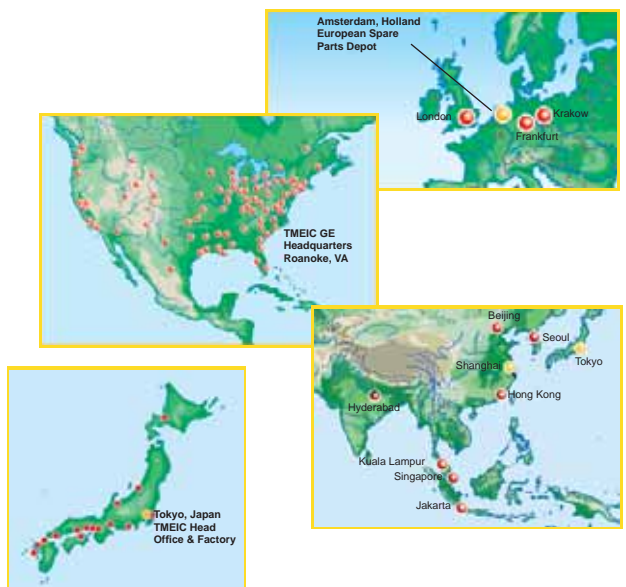
Global Support Network

Wherever You Are, We Are Right Next Door
TMEIC GE has the capability to provide worldwide service support with trained field service engineers. Spare parts depots are strategically located close to main industrial centers.

In Asia & the Pacific: Customers are supported by TMEIC service personnel and the TMEIC factory in Japan.

In North America: GE Service and Parts organizations service TMEIC GE customers from 72 field offices.

In Europe: Customers are supported by TMEIC GE European service personnel.



Training

TMEIC GE offers a variety of training opportunities, including specialized customer training at our facility, on-site training at the plant, as well as customized Engineering Schools.

Virginia Training Facility

Our first-class training facility in Virginia has 8 large classrooms, 5 fully-equipped training labs, and offers 61 different product courses to customers. Training consists of 50% class time and 50% hands-on lab time.

Customized Training at the Plant

As an alternative to the standard factory training in Virginia, TMEIC GE offers a course tailored to your project and held at your location. In this case, a project engineer and local service engineer train your operators, maintenance technicians, and engineers in your facility.



Classroom in Virginia

Medium Voltage Drive and Systems School

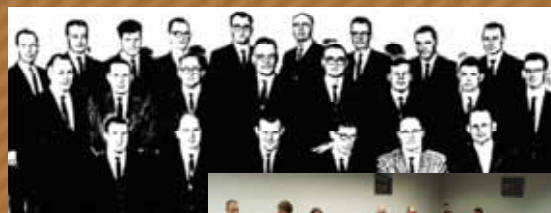
TMEIC GE offers a tuition-free MV Drive and Systems School as an added benefit to our customers. Course topics include:

- Medium voltage induction and synchronous motors
- Fundamentals of variable speed drives
- MV drive characteristics, payback, and specs
- MV power system design concepts
- MV switchgear, starters, transformers, and reactors
- MV system protection
- Real-world applications



Paper Mill Engineers School

The Paper Mill Engineers School has been offered to customers since 1968. Over the past 20 years, 40 schools have been held resulting in 1400 customer graduates worldwide. The free five-day school is primarily for engineers and technicians from pulp and paper mills, corporate engineering headquarters, consulting engineers, and OEMs. Drive selection, control, motor sizing, and electrical power requirements are some of the important topics.



First GE Paper Mill School



TMEIC GE Paper Mill School - 2008

Global Network



A service network across the globe

TMEIC and TMEIC GE support the stable operation of manufacturing plants with a global service network, providing responsive and superior services to companies worldwide.

LONDON ●

ROANOKE, VIRGINIA ●



International Exhibitions

TMEIC and TMEIC GE actively participate in technology conferences across the world, in exhibitions such as Hannover Messe, Terminal Operations Conferences, Turbomachinery Symposium, AISTech, and many others, thus increasing our global presence.

| Parent Company Profile | |
|------------------------|--|
| Parent Company name | Toshiba Mitsubishi-Electric Industrial Systems Corporation |
| Start of Operations | October 1, 2003 |
| Head office | TMEIC (Toshiba Mitsubishi-Electric Industrial Systems Corp.), Tokyo |
| Factories | Fuchu, Yokohama, Kobe, Nagasaki |
| Number of employees | 2000 |
| Affiliates | |
| USA | TMEIC GE (TM GE Automation Systems, LLC) |
| Europe | TMEIC Europe Limited (UK) Branches: Germany, Italy, Poland |
| Asia | Toshiba Mitsubishi-Electric Industrial Systems (Beijing) Corp. Branch: Shanghai |
| | TMEIC GE (TM GE Automation Systems International, LLC (India) |
| | Shanghai TMEIC Electric Drive Technology Corp. (Shanghai) |
| | Shanghai Bao-ling Electric Control Equipment Co., Ltd. (Shanghai) |
| | Guangzhou Toshiba Baiyum Ryoki Power Electronics Co., Ltd. (Guangzhou) |
| | TMEIC Asia Company Limited (Hong Kong) Branch: Singapore |



Developing a global engineering network

TMEIC GE Engineering expertise reaches across the globe, with engineering centers in the USA, China, India and Europe..

FRANKFURT

KRAKOW

BARI

BEIJING

TOKYO

SHANGHAI

GUANGZHOU
HONG KONG

KAOHSIUNG

HYDERABAD

SINGAPORE



The factory for the World's factories

TMEIC GE continues to deliver high quality advanced systems and products to factories worldwide, while serving as a global solutions partner to contribute to the growth of our customers..



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