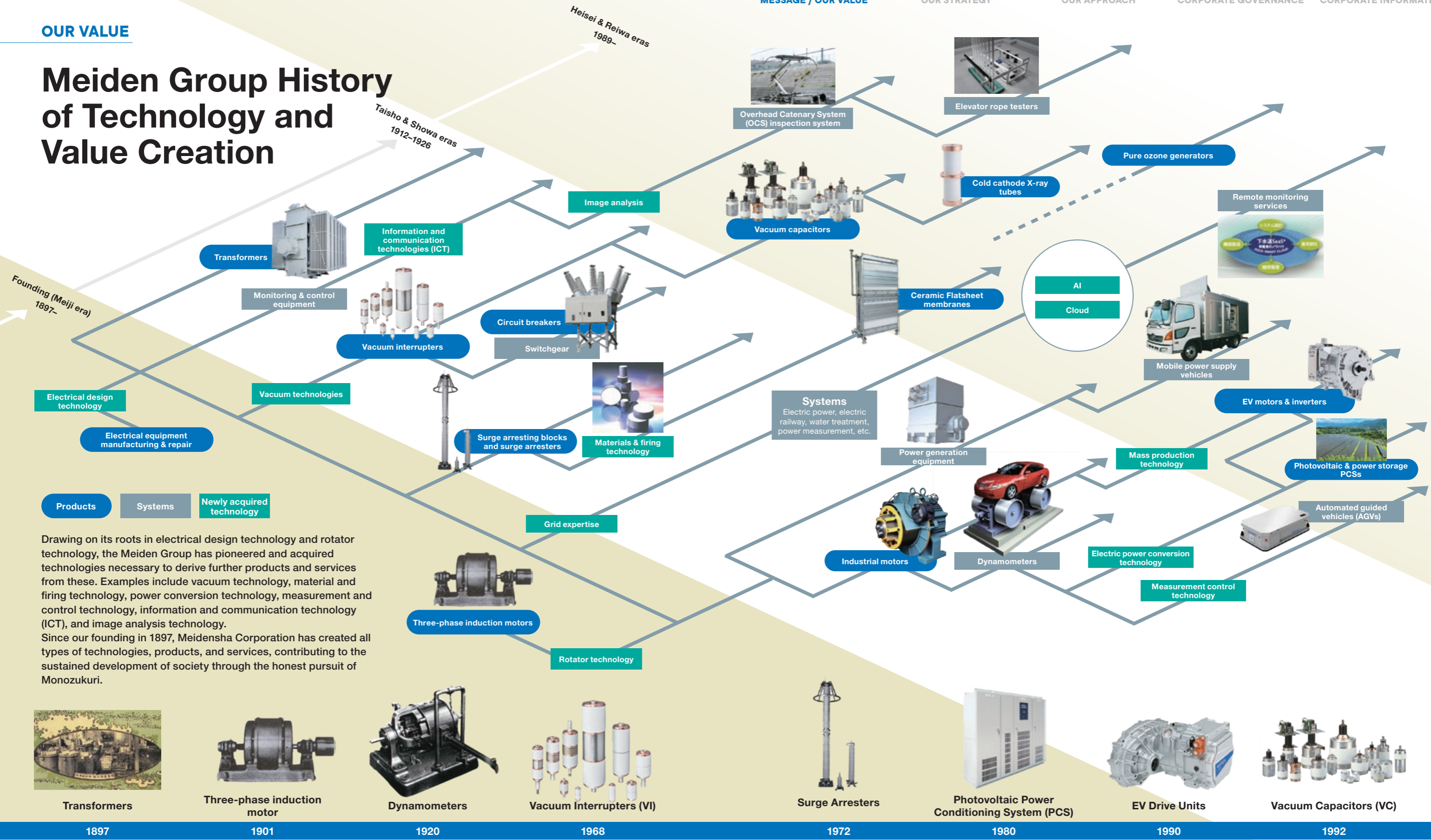


OUR VALUE

Meiden Group History of Technology and Value Creation



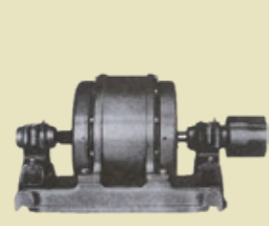
Drawing on its roots in electrical design technology and rotator technology, the Meiden Group has pioneered and acquired technologies necessary to derive further products and services from these. Examples include vacuum technology, material and firing technology, power conversion technology, measurement and control technology, information and communication technology (ICT), and image analysis technology. Since our founding in 1897, Meidensha Corporation has created all types of technologies, products, and services, contributing to the sustained development of society through the honest pursuit of Monozukuri.



Transformers

1897

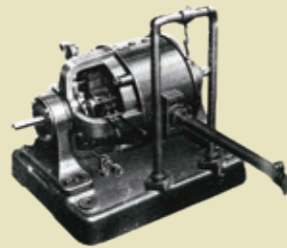
We have manufactured air-cooled transformers since our founding. As we entered the Showa era (1926-1989), we greatly increased the manufacture of transformers to keep up with the dramatic rise in electric power demand. Also during this time, dielectric strength increased further with the introduction of insulating oil injection using vacuum technology. The photo shows a transformer assembly in about 1900. (Source: Commemorative postcard album from the time of the Osaka factory relocation)



Three-phase induction motor

1901

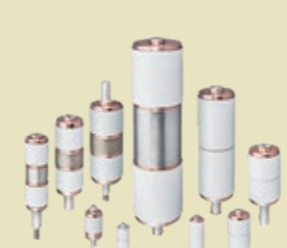
In 1901, while Japan was still heavily dependent on foreign products for most of its industrial equipment, we successfully developed our first electric motor. Production of motors began in earnest in 1906. This era laid the foundation for Meidensha's value creation, which continues today.



Dynamometers

1920

We delivered Japan's first electric dynamometer (10 HP) in 1920 and Japan's first chassis dynamometer in 1927. We have contributed significantly to the development of automotive technology, for example by developing the roller dynamometer, which won the Ohm Technology Award in 1985.



Vacuum Interrupters (VI)

1968

We became the first domestic circuit breaker manufacturer to enter a technical partnership with GE of the U.S.A. In 1974, we developed our own technology with which VIs, which had previously been made of glass, could be made with ceramic. This enabled smaller sizes, mass production, and lower costs. We also got a quick start expanding overseas sales and developing for higher voltages, which became the foundation for later vacuum technologies.



Surge Arresters

1972

We began developing zinc oxide blocks for electric power systems. Subsequently, we successfully developed a groundbreaking Gapless Metal Oxide Surge Arrester (MOSA) for Electric Power Systems with greater reliability than that offered by conventional surge arresters. In 2014, we won an "IEEE Milestone" for our contributions to the development of surge arresters.



Photovoltaic Power Conditioning System (PCS)

1980

PCS development began in the early 1980s, with persistent research and verification leading to high conversion efficiency. Meidensha has also added a power storage battery PCS to its lineup and has proposed optimal system configurations to meet recent rising demand for renewable energy and stabilize the grid.



EV Drive Units

1990

Utilizing the motor technology of our founder, we began developing EV motors and inverters. In 2009, Mitsubishi Motors Corporation chose our motor for its i-MiEV, the world's first mass-produced EV. Our technology continues to pave the way for appealing vehicles and a decarbonized society.



Vacuum Capacitors (VC)

1992

Using vacuum technology that we had accumulated while developing and manufacturing vacuum circuit breakers and VIs, Meidensha began VC development and manufacturing. We were the only VC manufacturer in Japan. Even today, VCs continue to support the high-frequency energy power supply for industrial equipment.