

Over 100-Year History of TOYO DENKI SEIZO K.K.

Our company was founded in 1918 with the intention of “domestic production of electrical machinery for railway vehicles”. A spectacular feeling that we want to export products to domestic as well as to many Orient countries and contribute to the development of the country has come from the name of “TOYO DENKI SEIZO K.K.”. And this feeling has been handed down to successive employees, and now our products are contributing to the development of social infrastructure systems around the world.

to high economic growth

1918–1949



Group photo of our employees with technical advisors from the partner British Dick Kerr company

1918 ● Technical cooperation with British company Dick Kerr and establishment of the Company with capital of 3 million yen

1919 ● Operation started at Yokohama Factory



Yokohama factory at the start of operations (Hodogaya-ku, Yokohama)

1972 ● Development of brushless motor generator (BLMG), first in the world

● Development of 150 kVA 440 Hz static CVCF, first in Japan

1973 ● Completion of commuter pass issuing system

1977 ● Completion of large high-speed automatic drafting machine

1978 ● Developed our proprietary AFE chopper device

1983 ● Completion of onboard supplementary ticket issuing machine

1985 ● The current Yokohama Plant was completed

● Delivery of superimposed field excitation equipment for 205 series electric train of Japanese National Railways

1988 ● Completion of world-first heat-pipe-type 8-unit motor batch control VVVF inverter and delivery to Tokyu Electric Railway Co.

1989 ● Development of small VVVF inverter using reverse conductive GTO thyristor, first in Japan

From foundation to postwar

1920 ● Control equipment and traction motor delivered directly to Keihan Electric Railway Co., LTD

1921 ● Development of pantograph, first in Japan

1926 ● Start of manufacturing of three-phase current commutator motor (Schragetype, later AS motor)

1932 ● Development of electric equipment for trolleybus, first in Japan
● Completion of controller with regeneration brake using compound motor, first in Japan

1935 ● Development of diesel electric railcar, first in Japan, and delivery to Sagami Railway

1949 ● Our stocks was listed on Tokyo Stock Exchange



Early domestic pantograph



Three-phase current commutator motor (Schrage-type, later AS motor)

1990–2025

1990 ● Development of stroke-switching-type door closing machine, first in Japan

● Development of intelligent door system, first in Japan

1991 ● Development of lightweight VVVF inverter using 1,500 V massproduction-type reverse conductive GTO thyristor, first in Japan

1997 ● Completion of onboard supplementary ticket issuing machine with support for automatic ticket checker

1998 ● Delivery of VVVF inverter and other electric equipment for Beijing Subway's East-West Line train



Beijing subway east-west line train

2000 ● Completion of permanent-magnet synchronous motor (Eco-drive motor)

2004 ● Joint development of the first full-flat, super-low floor light rail vehicle (LRV) produced in Japan

● Succeeded in development and running of in-wheel motor for car

2007 ● The new public transport smart card Pasmo goes into service (delivery of automatic Commuter pass issuing machine with support for smart card passes and smart card charge machines to station facilities)

2008 ● Start of sales of the “VF66 series” of general-purpose inverters

2012 ● Order receipt of handsets for conductors for JR West

2014 ● Delivery of electrical machinery for Joetsu and Hokuriku Shinkansen E7

2018 ● May, Shiga-Ryuo Plant completed

● June, TOYO DENKI SEIZO K.K. 100th anniversary

● Order received for consigned research and development of superconducting flywheel power storage system for railways



Los Angeles County Metropolitan Transportation Authority P3010 LRV

2022 ● Delivery of automobile testing system using In-Tyre-House Dynamo® (ITHD)®

● First remote monitoring system installed in VVVF equipment for Aichi Rapid Transit Co.

● Transitioned to Standard Market of the Tokyo Stock Exchange



In-Tyre-House Dynamo® (ITHD)®

2023 ● Received order for electrical equipment for newly built railway vehicles for Indonesian domestically produced commuter railways

2025 ● Added QR Code payment function to in-train ticket issuing app developed by the Company

1950–1989

1950 ● Development of ST-type three-phase AC commutator motor (200-horsepower) (patented)

1952 ● Development of Parallel cardan drive device with hollow shaft, first in Japan

1958 ● Completion of traction motor and controller for the Japanese National Railways “Kodama” limited express

1959 ● Completion of Automatic Train Stop (ATS)

1960 ● Completion of traction motor and driving gear unit for Shinkansen testing car

● Order received for electric towing locomotive for the Panama Canal

● Development of constant-speed operation controller for vehicle, first in Japan

● Development of hydraulic winch for ship, first in Japan

1963 ● Delivery of electrical equipment for Shinkansen (pantograph, traction motors, driving gear units) to Japanese National Railways

1965 ● Development of thyristor static Leonard equipment series, first in Japan

1969 ● Completion of automotive brake test equipment



Parallel cardan traction motor with hollow shaft



Japan National Railway 151 series limited express train “Kodama”



Electric towing locomotive for the Panama Canal



Japan National Railway Series 0 Shinkansen

From postwar reconstruction

Global expansion and to the next 100 years