TDK has been an Official Partner since the first IAAF World Athletics Championships held in Helsinki, Finland in 1983.
https://www.tdk.com/athletic/
Contributing to the development of a sustainable society through cutting-edge technology that supports digital and energy transformation.

TDK was founded in 1935 to bring to market the world’s first magnetic material: ferrite. TDK’s founder created something of great value to the world that had not existed before. He believed strongly in the potential of ferrite and built a venture business with origins at the Tokyo Institute of Technology, even as the new material’s wide-ranging uses were yet to be discovered.

TDK has refined its craftsmanship in manufacturing —Monozukuri— by making excellent use of five core technologies: materials technology that starts with ferrite; process technology to access all of a material’s properties; evaluation and simulation technology; production technology; and product design technology. These assets have allowed TDK to continuously innovate unique products of demonstrated value which have helped to advance societal and technological progress. Today, TDK offers its excellence in manufacturing across a range of product groups which include capacitors, inductors, transformers, sensors, actuators, magnetic heads, magnets, power supplies, batteries, and many types of electronic components and electronic devices.

With the arrival of a highly advanced “smart society” utilizing IoT, AI, big data, robotics and other technology, we are seeing the beginnings of a transformation in digital technology and energy. Electronic components and devices will play an even more important role in making these new systems a reality. Focused on our priority markets in automotive, information and communication technology (ICT) and industrial and energy, TDK will contribute to the lives of individuals and society as a whole.

Today, TDK does business in more than 30 countries and regions around the world, with over 200 manufacturing, R&D and sales sites and nearly 105,000 employees. Approximately 90% of our employees are located outside of Japan, and the diversity of our workforce, who represent a wide variety of backgrounds, is one of our major strengths.

As stated in our corporate motto, “Contribute to culture and industry through creativity,” our commitment to benefiting the world and contributing to society continues to be passed down as part of our corporate DNA. As part of that, we are actively engaged in efforts to support the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015. TDK will aim for further growth through creativity and innovation, supporting the coming digital and energy transformation that will contribute to society’s sustainable development.

President & CEO TDK Corporation
Shigenao Ishiguro

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— Corporate Motto —
Contribute to culture and industry through creativity

— Corporate Principles —
*Vision* *Courage* *Trust*
Constant value creation
—Continuing to supply valuable products and grow in changing markets—

Ferrite was invented in 1930 by Drs. Yogoro Kato and Takeshi Takei of the Department of Electrochemistry at the Tokyo Institute of Technology. TDK was founded in 1935 to develop industrial methods of producing ferrite.

TDK shares listed on the First Section of the Tokyo Stock Exchange

Establishes TDK Electronics Corporation, a local subsidiary in New York (with manufacturing and sales sites later established around the world)

In response to the changing times, TDK has consistently promoted technological innovation so as to supply products that meet the needs of society, applying and developing proprietary core technologies centered on ferrite-based materials technology and process technology. In addition, through proactive mergers and acquisitions, TDK has positively tackled the transformation of our main business portfolio and made efforts to expand new technologies in anticipation of future social demands. Such unique business development has been the driving force behind TDK’s continued supply of valuable products and continued growth in changing markets over more than eight decades.

TDK Corporation | Company Profile 2019
TDK's three focus markets and main products

Automotive

Supporting safe and environment-friendly “connected cars”

The world of car electronics keeps climbing to new levels of safety, comfort, and environmental compatibility. Limiting the volume of exhaust gas from automobiles is key to solving the serious problem of carbon dioxide emissions. This necessitates the rapid electrification, such as xEVs (hybrid, plug-in hybrid, and battery electric vehicles). In addition, the “connected car,” which is constantly linked to the Internet, will enable the realization of advanced driver assistance systems (ADAS) and autonomous driving to further improve safety, accuracy, and comfort. TDK provides a wide range of electronic components and devices to assist the electrification and connectivity of automobiles. TDK’s highly reliable products, ideal for automotive use, will support both the safety of automobiles and environmental countermeasures.

For the realization of an ultra-high speed, large-capacity network society

As well as being advanced information tools with not only mobile phone but also personal computer, camera, and other functions, smartphones are also a social infrastructure connecting to homes, cars, and factories. Because of the arrival of ultra-high speed and large-capacity telecommunications like LTE and 5G, smartphones have evolved into key devices of the IoT society, even faster and connected to all kinds of things. Moreover, 5G is going to change our whole lives, beginning with the fields of transport, medical, and logistics. TDK’s products are essential to the new ultra-high speed, large-capacity network society. Our electronic components and sensors utilizing TDK’s proprietary core technologies are going to support the further evolution of the smartphone. Our high reliability electronic components, such as RF components and products for power supply will contribute to the development of such telecommunications infrastructure as base stations and servers, the foundations of 5G.

Industrial & Energy

Toward a sustainable society

One of the key challenges for humankind in the 21st century will be to effectively utilize limited resources to build an affluent society while reducing the adverse environmental impact, such as carbon dioxide emissions, as much as possible. Renewable energy systems, such as wind and solar power installations, are attracting attention as clean energy sources. The industrial equipment and rail transport industries also are required to pursue higher efficiency and lightness for the effective utilization of energy. TDK is harnessing its unique materials and process technologies to provide key devices to these sectors and thereby contribute to the realization of a sustainable and smart society.
Passive Components

Ceramic capacitors

Used for noise suppression and signal processing in a wide range of electronic devices indispensable for daily life. More than 3,000 multilayer ceramic chip capacitors, the most commonly used type of ceramic capacitors, can be found in a single automobile, and use is expected to increase even further in the future.

Inductive devices

The lineup includes coils of different types including wound, multilayer, and thin-film, as well as transformers and noise countermeasure components. These contribute significantly to fuel economy in cars, higher efficiency in communication systems, as well as higher sensitivity and longer battery life in smartphones.

High-frequency components

TDK supplies high-frequency components and modules based on advanced technologies such as LTCC technology, thin-film technology, ferrite material technology and SESUB technology*. Ongoing development of new products in this area contributes to the world’s most advanced mobile devices.

* LTCC: Low Temperature Co-fired Ceramic, multilayer substrate
* SESUB: Semiconductor Embedded in SUBstrate

Piezoelectric material products, circuit protection devices

Piezoelectric actuators and other products utilizing piezoelectric materials contribute to enhanced fuel economy in automotive engines. Other key items in this area are circuit protection devices such as varistors and arrestors.

Aluminum electrolytic capacitors and film capacitors

Aluminum electrolytic capacitors feature high capacitance and come in various types, such as large products for industrial equipment, higher liability axial lead types for automotive applications, etc. Film capacitors have high voltage and low loss characteristics and are used in many different applications.

Sensor Application Products

Sensors

The lineup includes temperature sensors, pressure sensors, gear tooth sensors, current sensors and various other sensors that are essential for realizing multifunction capability in electronic devices, improving the functionality of car electronics, and driving progress in factory automation and office automation. Furthermore, TDK offers a variety of motion sensors including acceleration and gyro sensors, along with atmospheric pressure sensors and similar, providing added value to ICT equipment.

Magnetic Application Products

HDD magnetic heads and suspensions

TDK’s high-performance magnetic heads have continuously supported increases in HDD recording capacity for many years. TDK will continue contributing to even higher recording capacities by new magnetic head technologies that incorporate energy assist recording methods.

Magnets

In addition to ferrite magnets and neodymium magnets, TDK also offers rare earth free magnets. These contribute to energy and resource conservation and higher efficiency in the automotive sector as well as infrastructure and industrial equipment.

Energy Application Products

Energy devices

TDK contributes to the storage of electrical energy in many instances, ranging from low-profile batteries in tiny devices such as smartphones to the massive high-capacity batteries of solar power generation systems.

Power supplies

Designed mainly for industrial equipment, the lineup includes AC-DC converters, and power supplies for charging storage batteries. Automotive power supplies for xEV are also available.

Other

Flash memory applied devices

TDK supplies solid state drives (SSDs) with proprietary memory control chips and CompactFlash cards for industrial use. These are found for example in communication base stations and traffic control systems, providing support for the age of big data.

Anechoic chambers

Anechoic chambers from TDK have gained an excellent reputation around the world as top-level tools for measurement accuracy, efficiency, and reliability. TDK also offers EMC solutions comprising highly accurate EMC measurement services to support effective noise countermeasures.

Mechatronics

TDK’s expertise in mechatronics gained in the production of outstanding electronic components is available in the form of production equipment. We provide load ports for various wafer sizes and flip-chip bonder as well as a range of other advanced factory automation equipment.
More than 80 years of history

1935  ■  Tokyo Denki Kagaku Kogyo K.K. (TDK) established for commercial production of ferrite cores
1937  ■  Mass production of ferrite cores begins
1951  ■  Mass production of ceramic capacitors begins
1959  ■  First TDK office outside Japan opens in Los Angeles
1960  ■  TDK shares listed on the Tokyo Stock Exchange
1961  ■  TDK Synchro Cassette Tapes introduced
1966  ■  The world’s first cassette tape designed by TDK specifically for music and revolutionizing entertainment
1968  ■  TDK shares listed on the Tokyo Stock Exchange
1970  ■  TDK subsidiary established in Duesseldorf
1972  ■  TDK Super Avilyn Video Cassette VHS format introduced
1980  ■  Super-advanced TDK multilayer technology sets new dimensions in miniaturization and performance
1982  ■  Magnetic heads using amorphous materials introduced
1983  ■  Company name changes to TDK Corporation
1986  ■  SAE Magnetics, a Chinese magnetic head manufacturer, joins the TDK Group
1987  ■  Thin-film magnetic heads from TDK enable amazingly high recording density
1990  ■  TDK Technical Center completed in Chiba prefecture, Japan
1994  ■  High-density recording magneto-resistive (MR) heads introduced

2000  ■  Headway Technologies, a US-based magnetic head manufacturer, joins the TDK Group
2003  ■  Innoveta Technologies, a US-based developer of power supplies for use in communications devices, joins the TDK Group
2005  ■  Amperex Technology, a Chinese manufacturer of lithium polymer batteries, joins the TDK Group
2007  ■  Lambda, a specialist in power supply systems, joins the TDK Group
2008  ■  EPCOS, one of the biggest electronic components manufacturers, joins the TDK Group
2009  ■  “TDK’s Development of Ferrite Materials and Their Applications” recognized as IEEE Milestone (Institute of Electrical and Electronics Engineers)
2010  ■  Micronas, a manufacturer of magnetic sensors, joins the TDK Group
2012  ■  Hutchinson Technology, a US-based manufacturer of HDD suspension assemblies, joins the TDK Group
2013  ■  Tronics Microsystems, a French and US-based MEMS inertial sensor specialist company joins the TDK Group
2014  ■  Business alliance with Qualcomm and the establishment of RF360 joint venture agreed
2015  ■  InvenSense, a US-based manufacturer of inertial sensors, joins the TDK Group
2017  ■  ICSense, a Belgium based ASIC specialist, joins the TDK Group
2018  ■  Chirp Microsystems, a Time-of-Flight MEMS sensor specialist company, joins the TDK Group
2019  ■  Relyon Plasma, a leading plasma technology company, joins the TDK Group
2020  ■  Faraday Semi, a developer of 3D embedded power solutions, joins the TDK Group

Four Great World-Class Innovations by TDK

Innovation 01  ■  Ferrite
Innovation 02  ■  Music cassette tapes
Innovation 03  ■  Fine multilayering technology
Innovation 04  ■  Thin-film head technology
The global network of the worldwide leader in electronics

EMEA

- iSense NV (Belgium)
- TDK CRISTALIA d.o.o. (Slovenia)
- TDK Electronics AG (Germany)
- TDK Electronics Components, S.A.U. (Spain)
- TDK Electronics GmbH & Co. KG (Germany)
- TDK Electronics s.r.o. (Czech)
- TDK foil Iceland ehf (Iceland)
- TDK foil Italy S.p.A. (Italy)
- TDK Hungary Components Kft. (Hungary)
- TDK-Lambda Ltd. (Israel)

China & Asia

- Acrathon Precision Technologies (HK) Ltd. (Hong Kong)
- Amperex Technology Ltd. (Hong Kong)
- Dongguan Amperex Technology Ltd. (Dongguan)
- Dongguan NV Technology Co., Ltd. (Dongguan)
- Guangdong TDK Rising Rare Earth High Technology Material Co., Ltd. (Meizhou)
- Hutchinson Technology Operations (Thailand) Co., Ltd. (Thailand)
- Mangecomp Precision Technology Public Co., Ltd. (Thailand)
- Navikey India Private Ltd. (India)
- Ningde Amperex Technology Ltd. (Ningde)
- PT. TDK ELECTRONICS INDONESIA (Indonesia)
- Qingdao TDK Electronics Co., Ltd. (Qingdao)
- S&F Magnetics (H.K.) Ltd. (Hong Kong)
- TDK Dalian Corporation (Dalian)
- TDK Dongguan Technology Co., Ltd. (Dongguan)
- TDK Electronics (Malaysia) SDN. BHD. (Malaysia)

Japan

- TDK Corporation
- TDK-Lambda Corporation
- TDK Akita Corporation
- TDK Shonai Corporation
- TDK Kofu Corporation
- TDK Precision Tool Corporation
- SolidGear Corporation

Americas

- Chirp Microsystems, Inc. (U.S.A.)
- Faraday Semi, Inc. (U.S.A.)
- Headway Technologies, Inc. (U.S.A.)
- Hutchinson Technology Incorporated (U.S.A.)
- Invensense, Inc. (U.S.A.)
- TDK Components U.S.A., Inc. (U.S.A.)
- TDK Electronics do Brasil Ltda. (Brazil)
- TDK Ferries Corporation (U.S.A.)
- TDK-Lambda Americas Inc. (U.S.A.)
- TDK RF Solutions Inc. (U.S.A.)

General Outline of TDK

- Date of Establishment: December 7, 1935
- Consolidated Net Sales: 1,381.8 billion yen
- Consolidated Operating Income: 107.8 billion yen
- Consolidated Net Income: 82.2 billion yen
- Number of Employees: 104,781

* Major production and R&D bases, as of Aug. 2019

* Fiscal year, ending March 31, 2019
We have realized the industry’s smallest 7-axis sensor module that combines gyroscope, accelerometer, and temperature sensing components on a single substrate. Highly accurate acceleration and direction measurement data are key to ensuring that a car will safely reach its destination.

Compact sensors that can measure even very weak biomagnetic fields enable the realization of biomagnetic field measurements without the insertion of a device into the body, something that was not possible in the past. This allows non-intrusive assessment of internal physiological activity in three dimensions.

Motion sensors together with dedicated software can provide the acceleration and direction data that are needed to guide a car to a given destination. They also support autonomous driving technologies that can safely divert cars to the side of the road in the event of a failure or emergency. MEMS sensors have substantial potential for the creation of a safe society with no traffic congestion or accidents.

We created a compact biomagnetic sensor by integrating MR* element process know-how gained in the magnetic head sector with magnetic circuit design technologies. Such sensors are ideal for devices that are more compact than existing products, making it feasible to perform diagnostic tasks with minimal stress for patients.

Attractive Mobility
Motion sensors together with dedicated software can provide the acceleration and direction data that are needed to guide a car to a given destination. They also support autonomous driving technologies that can safely divert cars to the side of the road in the event of a failure or emergency. This holds substantial potential for the creation of a safe society with no traffic congestion or accidents.

MEMS Motion Sensors
We have realized the industry’s smallest 7-axis sensor module that combines gyroscope, accelerometer, and temperature sensing components on a single substrate. Highly accurate acceleration and direction measurement data are key to ensuring that a car will safely reach its destination.

Attractive IoT
Motion and pressure sensors are also used in drones that carry out social missions such as transporting medical supplies to remote locations or islands. The sensors contribute to stable flight performance and provide accurate position information, thereby enabling drones to perform critical tasks in various places around the world.

Attractive Wellness
Attractive Mobility

Attractive IoT

Attractive Wellness

Biomagnetic Field Sensors
Compact sensors that can measure even very weak biomagnetic fields enable the realization of biomagnetic field measurements without the insertion of a device into the body, something that was not possible in the past. This allows non-intrusive assessment of internal physiological activity in three dimensions.

Attractive Wellness

Our Ideas for the Future
The application of silicon MEMS technology has enabled the development of MEMS microphones which operate on very low power while featuring a high clipping point. This makes it possible to design communication robots with superior sound perception capabilities.

Ultra-compact sensors can be integrated directly into headset displays to accurately assess spatial relationships. Systems using such sensors will bring interactive experiences to more and more people.

Robots equipped with MEMS microphones can detect voices and other sounds at relatively large distances, and the use of multiple microphones also enables the robot to identify the direction where the sound is coming from. Such applications will help hearing-impaired individuals and make it easier for persons with limited mobility to obtain help during an emergency.

VR and AR applications have enriched experiences in education and brought about significant progress and quality enhancement in learning by children. TDK’s ultrasonic sensors can detect a device’s orientation, rotation, position, and other information with high precision and determine accurately the movement of a hand in a virtual space.

Attractive Connections
With 5G viewers can enjoy the coverage of athletic events with multiple angles simultaneously, and downloading high-resolution movies is accomplished in a matter of seconds. TDK has integrated filtering functionality in antennas that receive and transmit radio waves to realize high-efficiency in this area significantly contributes to high-volume data communication.

MEMS Microphones

Attractive Robotics
Robots equipped with MEMS microphones can detect voices and other sounds at relatively large distances, and the use of multiple microphones also enables the robot to identify the direction where the sound is coming from. Such applications will help hearing-impaired individuals and make it easier for persons with limited mobility to obtain help during an emergency.

Attractive Experience
VR and AR applications have enriched experiences in education and brought about significant progress and quality enhancement in learning by children. TDK’s ultrasonic sensors can detect a device’s orientation, rotation, position, and other information with high precision and determine accurately the movement of a hand in a virtual space.

MEMS Ultrasonic

Time-of-Flight Sensors
Ultra-compact sensors can be integrated directly into headset displays to accurately assess spatial relationships. Systems using such sensors will bring interactive experiences to more and more people.