**TDK—All around you, and in your future**

With the rapid spread of smartphones and the evolution of personal computers, electrical appliances, automobiles, and industrial equipment, our daily lives have become ever more convenient and enjoyable. TDK’s considerable role in this electronic evolution continues to grow. By originating new ideas and crafting the technologies to realize them, TDK contributes to the advancement of human society on a global level. Although often unseen, our products are all around you, now and even more so in future. TDK—a name that stands for electronic components.

**Main Business Segments**

**Passive Components**
As well as active components, such as semiconductor chips, passive components like capacitors, inductors, high-frequency components are essential to electronic equipment. By turning passive components into chips and integrating them into modules, TDK helps to make electronic products more compact and powerful.

**Sensor Application Products**
Our wide product lineups including for example magnetic sensors, pressure sensors, temperature sensors, and inertia sensors are helping to usher in the age of IoT. We also offer modules with combinations of various sensors and devise innovative solutions for customers that comprise tailor-made software.

**Film Application Products**
We supply lithium polymer batteries for many different types of small electronic devices, including smartphones. And because of the high energy density of TDK batteries, these solutions will play a transformative role in the reach and efficacy of next generation products, including solar and wind power applications.

**Magnetic Application Products**
TDK is harnessing its expertise in magnetic materials and magnetic circuit technology to significantly increase power savings in electrical appliances and automobiles. Solutions include high-efficiency power supplies, various kinds of high-performance magnets, and magnetic heads for hard disk drives (HDDs).
Increasing prosperity in society through *Monozukuri* (excellence in manufacturing) and *Kotozukuri* (integrated solutions)

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; product design technology; and production 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 ferrite cores, inductors, transformers, ceramic capacitors, sensors, actuators, magnetic heads, magnets, power supplies, batteries, and many types of electronic components and electronic devices.

We will continue to actively develop integrated solutions—*Kotozukuri*—to complement *Monozukuri* in electronic components. *Kotozukuri* describes the action of discerning the specific needs present in the market and incorporating that insight back into the development of products and services, thereby providing optimal solutions for customers.

TDK has charted a path to sustained growth by incorporating both aspects—expansion through manufacturing excellence and design and delivery of optimized solutions.

In the near future we will see highly advanced “smart society” developments that utilize IoT, big data, artificial intelligence, robots, and other novel technologies. This constant evolution will require cutting-edge advancements in electronics technology, which in turn secures a vital and growing role for electronic components and devices. TDK solutions—in our priority markets of ICT (information and communication technology), automotive, industrial equipment and energy—will continue to shape the field as it builds momentum.

Our commitment: to utilize our global network of more than 30 countries and regions around the world to rapidly deliver creative, high value products. As a company that is constantly innovating, TDK’s continued growth allows us to contribute to the development of a more prosperous society.

*Shigenao Ishiguro*
President & CEO
TDK Corporation

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**Corporate Motto**
Contribute to culture and industry through creativity

**Corporate Principles**
“Vision” “Courage” “Trust”
The magnetic material ferrite was invented by Dr. Yogoro Kato and Dr. Takeshi Takei. The company that became TDK was founded with the aim of realizing the industrial potential of this material, successfully creating the world’s first ferrite core product. The birth of a new material marked the beginning of a dramatic evolution in electric and electronic technology on a worldwide scale. At the time, the radio was an important source of information for people, but reception was often plagued by problems such as noise and interference. The new technology based on ferrite enabled much better reception with clearer voice quality. Ferrite cores also proved highly useful in other areas such as television and the telephone, leading to a drastic improvement in performance and productivity. The rapid spread of better products made people’s lives more pleasant and convenient.

As electronic devices kept shrinking in size and weight, the inductors (coils) that form an indispensable part of a myriad of circuits also needed to become much smaller. Rising to the challenge, TDK pioneered the development of multilayer chip inductors in 1980. An epoch-making idea called fine multilayering technology involves printing the pattern of internal electrodes on a sheet of ferrite or the like with metal paste and stacking these alternately on two sides. The notebook computers as well as small video cameras, mobile phones and many other electronic devices that have flourished since the 80s would not have been possible without this technology.

The storage capacity of hard disk drives (HDDs) has grown dramatically over the past 20 years, moving from the order of megabytes (MB) to gigabytes (GB) and now to terabytes (TB), each step involving an increase by a factor of 1,000. This amazing achievement was made possible by TDK technology. The magnetic heads that allow extremely high recording densities were developed by applying thin-film process technology on the nanometer level. As a result, notebook computers can hold much greater volumes of information, and home-use HDD recorders can easily store many hours of high-definition video programs, ready for convenient viewing at any time.

The 1960s saw the birth of a standard for encapsulating magnetic recording tape in a cassette shell (C-cassette). Building on this development, TDK developed the world’s first cassette tape designed specifically for music. The compact and handy cassette took the world by storm as a convenient recording medium for music as well as the spoken word. The introduction of easily portable cassette tape players created a new lifestyle, allowing young people to take their favorite music anywhere for enjoyment at any time. TDK proceeded to introduce a succession of high-performance cassette tapes that made the TDK name a household word around the world.

1935
Invention of a revolutionary magnetic material for electronics called ferrite
The magnetic material ferrite was invented by Dr. Yogoro Kato and Dr. Takeshi Takei. The company that became TDK was founded with the aim of realizing the industrial potential of this material, successfully creating the world’s first ferrite core product. The birth of a new material marked the beginning of a dramatic evolution in electric and electronic technology on a worldwide scale. At the time, the radio was an important source of information for people, but reception was often plagued by problems such as noise and interference. The new technology based on ferrite enabled much better reception with clearer voice quality. Ferrite cores also proved highly useful in other areas such as television and the telephone, leading to a drastic improvement in performance and productivity. The rapid spread of better products made people’s lives more pleasant and convenient.

1968
The world’s first cassette tape designed for music revolutionizes music enjoyment
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Aiming for zero traffic accidents and making autonomous driving a reality

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 the key to solving the serious problem of carbon dioxide emissions. This necessitates the rapid development and introduction of new vehicle configurations known collectively as xEV (HEV/PHEV/BEV). In addition, the “connected car” that 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 that support the electrification of automobiles. TDK’s outstanding reliability meets the severe demands of the automotive environment while reducing environmental impact.

Conserving energy, saving fuel

For xEVs to become widely accepted, reduced fuel and electric power consumption are essential. TDK’s power supply unit - consisting of compact, high-efficiency DC-DC converter and on-board charger - enables energy-saving mobility. Additional support comes from powerful neodymium magnets which augment the efficiency of drive motors, plus a wide variety of other products.

1. A Power supply unit for xEVs

Our power supply unit has two products: a DC-DC converter that down-converts the high voltage of the xEV’s main battery to the level required by automotive electronic equipment and a high capacity, high-efficiency on-board charger. The unit’s compact size sets it apart in the industry, and its strong performance and reliability support energy-smart mobility.

2. Neodymium magnets

Powerful neodymium magnets contribute to reduced energy requirements and current consumption in xEV drive motors. The smaller size and lighter weight of the motors also contribute to higher efficiency and better fuel economy.

3. Safer, more eco-friendly vehicles

TDK sensors are making cars safer and more eco-friendly. With TDK’s high-reliability electronic components and other products, manufacturers are creating advanced driver assistant systems that will prevent accidents, leading to “cars that don’t crash.”

4. Magnetic sensors

TMR sensors (an application of HDD head technology) accurately detect EPS steering angle and motor position. Our Hall sensors are contactless, making them ideal for switches and many other applications.

Supporting the safe and environment-friendly “connected car”

1. Temperature sensors

Our temperature sensors-NTC thermistors that employ semiconductor ceramics-feature excellent long-term stability and responsiveness. In addition to their conventional use in air conditioners and automotive transmissions, their accuracy supports a broad range of applications, such as xEV drive motors and batteries.

2. Pressure sensors

Our high-performance, high-accuracy pressure sensors detect particles that can clog diesel engine filters. Once detected, these particles can be removed and incinerated. In this way, sensors can help automakers to meet increasingly stringent vehicle emissions standards.

3. High reliability electronic components / Common mode filters, Power inductors, Ceramic chip capacitors, Varistors, 3-terminal feed-through filters

As cars rely more on electric and electronic systems, noise emitted by automotive components has the potential of disrupting operation and causing serious and even fatal accidents. TDK produces noise countermeasure components and other highly dependable electronic components that ensure the safety of automotive LANs and electronic control units (ECUs).

4. TDK sensors are making cars safer and more eco-friendly. With TDK’s high-reliability electronic components and other products, manufacturers are creating advanced driver assistant systems that will prevent accidents, leading to “cars that don’t crash.”

The smoothly “connected” car of the future

As ICT technology continues to evolve, the era of V2X⁶ will arrive, in which each automotive network connects with multiple external networks. In this era of enhanced connection, TDK’s high-frequency components will become more important than ever.

⁶ V2X: Vehicle to X (Vehicle, Everything)
Becoming even smarter
The capabilities of smartphones continue to evolve. TDK sensors and actuators set the groundwork for this growth toward higher mobile intelligence.

- Sensors/ MEMS microphones, Atmospheric pressure sensors
  Sophisticated MEMS (MicroElectroMechanical Systems) technology supports the creation of microphones with excellent performance, atmospheric pressure sensors that supply highly accurate position information, and other advanced capabilities.

- Lens actuators for camera modules
  Compact actuators realize high-speed auto-focus and image stabilizing functions for cameras integrated in smartphones and other devices.

More convenient and engaging communication
Advanced high-frequency components and modules offered by TDK improve high-frequency range performance and turn smartphones into better communicators.

- High-frequency components/ Diplexer, Balun
  The TDK portfolio consists of high-frequency components that are indispensable for the send/receive systems of smartphones. Especially important are "diplexers" used in the antenna input/output circuitry to either mix or divide two frequencies, and "baluns" used to handle balanced/unbalanced changeover and impedance conversion.

Making smartphone batteries last longer
The more advanced the functionality of a mobile device, the more important battery life becomes. By developing high-capacity lithium polymer batteries, power inductors, and related parts, TDK makes smartphones last longer and consume less power.

- Lithium polymer batteries
  This type of rechargeable battery is widely used in smartphones and other mobile devices. It provides excellent performance and is ideal for low-profile designs.

- TFM series of thin-film power inductors
  The power supply circuitry of smartphones and similar devices requires highly compact power inductors for improved power conversion efficiency.

High density component mounting that transcends conventional thinking
TDK leads the charge in the realization of amazingly thin and compact smartphones. Going far beyond simply mounting components on a substrate, TDK has succeeded in creating a method for embedding components in the actual substrate, resulting in much higher mounting density.

- Semiconductor Embedded Substrate (SESUB)
  TDK’s SESUB technology allows embedding integrated circuit chips directly in the resin substrate. A SESUB module with a three-dimensional arrangement of components offers enormous space saving advantages while realizing high performance.

Others

- Wireless power transfer coils
  The future of mobile device charging is wireless. TDK’s sending and receiving coil units are compatible with various wireless power transfer standards, so charging can be performed by simply placing a handheld device in a cradle. No wired connection is necessary.

TDK products play an important role in the realization of these new network technologies. Our wide variety of electronic components and modules make full use of advanced core technologies and dramatically expand the possibilities of the smartphone as we move toward the implementation of 5G in 2020.

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Delivering the ultra-high speed/ large-capacity network society

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:: Field  –Industrial & Energy–

Contributing to clean cities

One of the key challenges for humankind in the 21st century will be to build a prosperous society, while reducing the adverse effects of carbon dioxide emissions. Renewable energy systems such as wind and solar power installations are important clean energy sources. In the industrial equipment and rail transport industries, TDK will contribute to efficient energy use through more compact and lighter designs resulting in higher efficiency and increased accuracy. TDK is harnessing its unique materials and processing technologies to provide essential devices to these sectors and contribute to a clean and smart global society.

Contributions to renewable energy

Wind and solar power installations are being increasingly used worldwide as environment-friendly sources of renewable energy. In particular, large scale offshore wind farms are recently becoming a trend. TDK supplies film capacitors and large neodymium magnets that boost the efficiency of wind power generation.

Supporting higher efficiency in transportation infrastructures

Rail-based transportation is currently being reappraised worldwide for its energy efficiency and low carbon emissions. As with all transportation modes, railways require high levels of infrastructure reliability and safety. TDK’s products meet these needs with rugged, high-efficiency converters, inverters, power modules, and similar products that meet the specification requirements of various countries.

Making industrial robots more sophisticated

The use of robots in all areas of industry, including manufacturing and services, has increased dramatically over the last several years. TDK will continue to play an important role in increasing robot adoption by boosting the efficiency and accuracy of robots. TDK supplies magnets for electric motors and different types of sensors that make these robots smarter while reducing energy consumption.

Toward a thoroughly energy-conscious society

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**TDK: Connecting to the future**

In 2035, TDK will celebrate its 100th anniversary. At that time, the Internet of Things (IoT) will be a fully realized concept, having ushered in changes that transform people’s daily lives and the conduct of business. Electronic components and devices from TDK will be an integral part of this future. How might some of the patterns that exist in 2035 engage TDK products? Let’s take a look.

**How the IoT works**

With the IoT, all kinds of things are connected to the Internet, and data collected by sensors are stored in the cloud. AI systems with learning capability direct the accumulation of data and provide appropriate feedback. In all of these tasks, electronic components play a vital role.

1. **Home**
   - Two-way communication with the home
     - A wearable device that goes anywhere with its owner controls the air-conditioning, lighting, refrigerator, and other electrical systems in the house. Robots equipped with AI will be able to act as agents, providing advice about health and living conditions, and helping with all sorts of domestic chores.
     - **SESUB** technology from TDK opens up such future possibilities.

2. **Automotive**
   - Safe and smooth traffic systems sustained by autonomous driving and wireless power transfer
     - All vehicles on the streets of the city are electric and drive themselves. Their batteries are charged by wireless power transfer points embedded in the roads at regular intervals. AI assists in analyzing cloud-based traffic safety data and wirelessly sends instructions to the vehicles to eliminate traffic jams.
     - **Wireless power transfer** from TDK opens up such future possibilities.

3. **Health Care**
   - Life data sensing in daily life supports an active and healthy lifestyle
     - TDK sensors embedded in wearable devices perform life data sensing on a constant basis. When a patient visits a clinic, medical professionals can call up these data from secure data centers. Detailed life diagnostic data can assist in establishing a diagnosis, determining underlying causes of illnesses, and provide guidance for a healthy life.
     - **Sensors** from TDK open up such future possibilities.

4. **Energy**
   - Distributing renewable energy with high efficiency using AI
     - Offshore wind farms increasingly deliver significant amounts of power. High-performance magnets used in the generators of these systems produce electrical energy extremely efficiently. Within the “smart grid”, AI then optimizes the distribution of power generated by offshore turbines and solar power installations to businesses and homes.
     - **Magnets** from TDK open up such future possibilities.
Realizing ultimate motorization with capable power devices

The main focus of our current work is how to charge a stationary vehicle. The basic technology is already in place, and we are now at the stage where improvements in safety and versatility are being targeted. However, we are also looking toward the future, setting our sights on the charging of a moving vehicle. This eventually will lead to a solution that fundamentally overcomes the main drawbacks of electric vehicles, such as the time required for charging and the limited running distance. Of course, this will not be easy. In order to supply electricity in the brief moment that a vehicle passes over the coil, it is necessary to establish sophisticated elemental technology which does not yet exist, and a huge infrastructure with coils embedded in the road must be developed. The challenges are manifold, but the rewards will be nothing less than the ultimate motorization. We envision this as a world where electric vehicles combined with autonomous driving technology substantially solve environmental issues. Through an extended process of repeated trial and error, we intend to approach this goal step by step.

Contributing to a healthy and more convenient lifestyle through revolutionary semiconductor embedded substrate (SESUB) technology

I am involved in developing new businesses for the Taiwanese and Chinese markets, based on TDK’s SESUB technology for modular packaging of semiconductors. The key advantage of this technology is the fact that it enables the combination of many functions within a highly compact space. It will be indispensable for the evolution of the IoT, in particular in the area of wearable devices, where it is bound to significantly change the world we live in. Sensors directly integrated in a module are able to pick up a range of information about the human body. By transmitting this information and integrating it for example with smartphones or electrical appliances, our daily life can be made more comfortable and health-oriented. I therefore believe that SESUB has the potential to bring about positive changes in the patterns of human life. As an engineer, I want to be part of such developments and I will work with enthusiasm towards realizing that vision.

Proprietary magnet technology creates new value in the renewable energy field

As the global environment is changing, renewable energy sources are the focus of increasing attention all around the world. Taking the market for wind power generation as an example, realizing higher efficiency is a key goal. To achieve this, systems are getting larger and are being moved from onshore to offshore locations. Neodymium magnets, which are said to have especially strong magnetic power and high heat resistance, are playing an active role here. TDK distinguishes itself from rivals and contributes to increased efficiency through three technologies: magnetic material technology, which runs in TDK’s DNA and is our greatest strength; state-of-the-art automation technology to achieve high quality and mass production; and thin-film coating technology. TDK’s magnets are opening up a new age. By promoting cross-division collaboration and exploring various technological opportunities, we will continue to devote ourselves to creating new products for the future and supplying our customers with more advanced and more diverse added value.

A wide variety of sensors to improve the quality of life

My work involves sensing of various data related to the human body. I aim to contribute to a healthier life by taking advantage of the wide arsenal of TDK’s sensor technology to detect information that could not be assessed so far. One example is pathology analysis. There are many possibilities for activities in this field, for example discovering risk factors in a patient’s life in order to develop ways to prevent the progress of a disease, or monitoring tremors in limbs to administer medication with optimized timing. If we succeed in developing systems that perform actions automatically in response to sensor data, and if such systems can be turned into viable products, the daily life of humans is bound to change significantly. We want to improve the quality of life through compact and lightweight devices that do not impose a burden on the wearer.

Jeff Wu
Development
R&D Center
TDK Taiwan Corporation

Masahide Ohnishi
Development
EV Wireless Power Transfer System BU
Energy Systems Business Group
TDK Corporation

Wenhsiang Wu
Development
IoT Systems Business Unit
New Business Promotion Center
TDK Corporation

Philippe Margerte
Sales & Marketing
TDK Europe GmbH
TDK’s versatile product lineup

Many different kinds of electronic components and devices sustain electronic society.
TDK’s exclusive mastery of core technologies combined with Monozukuri power, i.e. the capability to produce outstanding products in a spirit of craftsmanship drives our activities in a wide range of fields.

<table>
<thead>
<tr>
<th>Net sales by segment (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated Net Sales</td>
</tr>
<tr>
<td>1,271.7</td>
</tr>
<tr>
<td>Passive Components</td>
</tr>
<tr>
<td>776</td>
</tr>
<tr>
<td>Magnetic Application Products</td>
</tr>
<tr>
<td>337.2</td>
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<tr>
<td>Film Application Products</td>
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<tr>
<td>297.6</td>
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<tr>
<td>Other</td>
</tr>
<tr>
<td>26.2</td>
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<tr>
<td>4.1%</td>
</tr>
</tbody>
</table>

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.

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.

Passive Components
Ceramic capacitors
Used for noise suppression and signal processing in a wide range of electronic devices indispensable for daily life. A single smartphone contains more than 400 multilayer ceramic chip capacitors.

High-frequency components and modules
TDK supplies high-frequency components and modules based on advanced technologies such as LTCC technology, thin-film technology, ferrite material technology and sensor 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

Magnetic Application Products
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 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 wind and solar power generation systems.

Flash memory applied devices
TDK supplies solid state drives (SSD) 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.

Radio wave anechoic chamber
Radio wave 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 EM & EMC measurement services to support effective noise countermeasures.

Mechatronics (production equipment)
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 bonders as well as a range of other advanced factory automation equipment.

For details, please visit “Product Center” of the TDK website

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Five-fold core competence for creating cutting-edge electronic components

Material

The culmination of over 80 years of experience and know-how: “Materials technology”

Advanced materials technology pursues the characteristics of the source material from the atom level on up, to meet highly sophisticated needs. Control of main raw material composition as well as microadditives is an effective approach for achieving specific targeted properties. In over 80 years of operation, TDK has accumulated an enormous wealth of experience and knowledge that leaves competitors far behind.

Process

“Process technology” realizes control on the nanometer level

Process technology is the science of getting the best out of the characteristics of the material. Thin-film technology and spintronics are just two examples where manipulation on the order of nanometers is employed to create state-of-the-art electronic components. For example, thin-film technology is applied for the formation of electrodes, coils, and head elements on wafers to produce HDD heads, sensors, actuators, and similar products.

Analysis & Simulation

“Analysis & simulation technology” is applied to accurately analyze ultra-fine aspects of a process.

Even the most advanced materials and process technology would not lead to successful product development without accurate and trustworthy analysis and simulation techniques. Starting from material analysis, TDK evaluation and simulation technology is widely applied to assess structural and thermal aspects, analyze electromagnetic field properties, and perform noise measurement and design noise countermeasures using an anechoic chamber.

QCDS (Quality/Cost/Delivery/Service)

“Production technology”: Outstanding facilities developed and manufactured in-house

Excellent products can only come from excellent manufacturing facilities. TDK not only develops innovative manufacturing techniques but realizes these by building much of the required equipment in-house. This comprehensive approach is the key to superior Monozukuri craftsmanship. We supply services meeting market needs by better quality, lower cost, shorter lead times and promoting integrated production from materials to finished products.

Product Design

Product design technology combines expertise with innovation to create new ideas

Product design uses insight into how our products are used, integrating materials and electronic components from our many product lines, to create electronic devices and modules with safe, optimal configurations. It also encompasses software design that harnesses the full features of those devices and modules. Additionally, TDK supplies energy units which combine power conversion, storage, and energy control functions. These integrated solutions have quickly become crucial for life in a sustainable society.

What is a nanometer?

A nanometer (nm) is one billionth of a meter. Technology that operates on such a submicroscopic scale is called nanotechnology, a field where TDK plays a pioneering role.
The global network of the worldwide leader in electronics

TDK is expanding on a global network, pursuing business operations in more than 30 countries and regions around the world. Cutting-edge R&D culminating in industry-leading technologies and an optimized production framework enable us to flexibly respond to a wide range of customer needs.

EMEA
- TDK-Lambda UK Ltd. (UK)
- TDK-Lambda Ltd. (Israel)
- TDK-Micronas GmbH (Germany)
- TDK-Microwave Ltd. (UK)
- ICense NV (Belgium)
- EPCOS AG (Germany)
- TDK-EPC AG & Co. KG (Germany)
- EPCOS Elektronikai Alkatrész Kft. (Hungary)
- EPCOS Electronic Components S.A. (Spain)
- EPCOS s.r.o. (Czech)
- Tronics Microsystems SA (France)
- Biextrional Spa A (Italy)
- Biextrional Ireland ltd (Ireland)
- EPCOS OHG (Austria)
- EPCOS Croatia d.o.o. (Croatia)
* Major production and R&D bases, as of Mar 2018

China & Asia
- TDK Hong Kong Co., Ltd. (Hong Kong)
- SAE Magnetics (H.K.) Ltd. (Hong Kong)
- TDK Dalian Corporation (Dalian)
- TDK Xiamen Co., Ltd. (Xiamen)
- Qingdao TDK Electronics Co., Ltd (Qingdao)
- TDK (Suzhou) Co., Ltd. (Suzhou)
- Amperex Technology Ltd. (Hong Kong)
- Wuxi TDK-Lambda Electronics., Ltd. (Wuxi)
- Acrathon Precision Technologies (HK) Ltd. (Hong Kong)
- TDK Dongguan Technology Co., Ltd. (Dongguan)
- Nantias Technology Limited (Hong Kong)
- Guangdong TDK Rare Earth High Technology Material Co., Ltd. (Meizhou)
- EPCOS (Zhuhai) Co., Ltd. (Zhuhai)
- EPCOS (Zhuhai FZT) Co., Ltd. (Zhuhai)
- EPCOS (Xiaogan) Co., Ltd. (Xiaogan)
- EPCOS (Xiamen) Co., Ltd. (Xiamen)
- TDK-Taiwan Corporation (Taiwan)
- TDK Korea Corporation (Korea)
- TDK (Malaysia) Sdn. Bhd. (Malaysia)
- TDK (Thailand) Co., Ltd. (Thailand)
- TDK Philippines Corporation (Philippines)
- TDK-Lambda Malaysia Sdn. Bhd. (Malaysia)
- Magnecomp Precision Technology Public Co., Ltd. (Thailand)
- Hutchinson Technology Operations (Thailand) Co., Ltd. (Thailand)
- EPCOS India Private Ltd. (India)
- EPCOS Sdn. Bhd. (Malaysia)
- PT. EPCOS Indonesia (Indonesia)

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

Americas
- TDK Ferrites Corporation (U.S.A., Oklahoma)
- TDK Components U.S.A., Inc. (U.S.A., Georgia)
- TDK RF Solutions Inc. (U.S.A., Texas)
- Headway Technologies, Inc. (U.S.A., California)
- TDK Lambda Americas Inc. (U.S.A., California)
- Hutchinson Technology Incorporated (U.S.A., Minnesota)
- InvenSense, Inc. (U.S.A., California)
- Chirp Microsystems, Inc. (U.S.A., California)
- EPCOS do Brasil Ltda. (Brazil)

* Major production and R&D bases, as of Mar 2018
History

1935
Tokyo Denki Kogaku Kogyo K.K. established in Tamura-cho, Shibaku, Tokyo City for commercial production of ferrite cores.

1937
Kamata Plant constructed, mass production of ferrite cores started.

1940
Hirasawa Plant constructed in Hirasawa-cho (current Nikaho city), Akita prefecture.

1951
Production of ceramic capacitors started at the Hirasawa Plant.

1953
"Synchro Tape"—magnetic recording tape introduced.

1955
Disc-shaped capacitors "Uicon" introduced.

1958
TDK’s Paramistor—parametron arithmetic circuit won the Grand Prix at the Brussels World Exposition.

1959
TDK opened its first overseas office in Los Angeles, USA. TDK shares listed on the Tokyo over-the-counter market.

1960
Yawata Plant constructed in Ichikawa city, Chiba prefecture.

1961
TDK shares listed on the First Section of the Tokyo Stock Exchange.

1965
Audio cassette tapes introduced.

1968
TDK established a local subsidiary in New York, USA.

1969
Chikumagawa Plant constructed in Saku city, Nagano prefecture.

1970
Chokai Plant constructed in Nikaho-machi (current Nikaho city), Akita prefecture.

1972
Winchester Heads developed.

1978
Headquarters moved to 1-13-1 Nihonbashi, Chuo-ku, Tokyo.

1980
Magnetic heads using amorphous materials introduced.

1982
Mikumagawa Plant constructed in Hita city, Oita prefecture.

1983
Company name changed to TDK Corporation.

1985
TDK exhibited with a pavilion at the Tsukuba World’s Fair.

1986
TDK acquires SAE Magnetics (H.K.) Ltd., a magnetic head maker.

1989
Local subsidiaries established in Malaysia and Luxembourg.

1990
Technical Center completed in Ichikawa City, Chiba Prefecture.

1991
Local subsidiary established in Thailand.

1992
Plant constructed in Dallas, China.

1994
High-density recording MR heads introduced.

1995
TDK Malaysia became TDK’s first overseas plant to acquire ISO 14001 certification.

1996
TDK Xiamen Co., Ltd. (China) established

1997
Mikumagawa Plant acquired the first ISO 14001 certification as TDK Group.

1998
TDK Malaysia became TDK’s first overseas plant to acquire ISO 14001 certification.

2000
TDK acquired SAE Magnetics (H.K.) Ltd., a magnetic head maker.

2001
Multilayer chip capacitor manufacturing and sales company established in Suzhou, China.

2002
System of outside directors and corporate officers introduced.

2003
Takayama Plant in Hita city, Oita prefecture welfare office established.

2006
World’s first bare Blu-ray Disc released.

2007
TDK brand recording media sales business transferred to Imation Corp. (US company manufacturing and selling recording media)

2008
Germany based electronic device manufacturer EPCOS acquired.

2009
“Development of Ferrite Materials and Their Applications” recognized as IEEE Milestone.

2014
Ferrite selected as one of “Top 100 Innovations in Postwar Japan.”

2016
TDK acquired Hutchinson Technology Inc. (USA), a manufacturer of HDD suspension assemblies.

2017
Established RF360 Holdings Singapore PTE Ltd. as a joint venture with Qualcomm Incorporated (USA)

2018
TDK acquired InvenSense, Inc. (USA), a sensor specialist.
Encounters can lead to passion and excitement. Encounters can lead to affection and friendship. They open the door to new ideas, personal growth, fresh possibilities. The magnetic material ferrite was invented by Dr. Yogoro Kato and Dr. Takeshi Takei. The encounter between these two personalities led to the founding of TDK. The company then went on to new encounters in various sectors including music, computers, automobiles, and energy, always creating new benchmarks for what is possible. Simply waiting for the future to arrive is not enough. Progress does not happen by itself. Bolstered by its strength in magnetics, TDK will continue to actively imagine technologies that make the future happen, creating new standards for next-generation components. TDK makes small products that lead to big things.

New encounters.
New possibilities.

General Outline of TDK  (as of March 31, 2018)

Corporate Name: TDK Corporation
Corporate Headquarters: 2-5-1 Nihonbashi, Chuo-ku, Tokyo (as of November 26, 2018)
Date of Establishment: December 7, 1935
Authorized Number of Shares: 480,000,000 shares
Number of Shares Issued: 129,590,659 shares
Number of Shareholders: 21,565
Common Stock: 32,641,976,312 yen
Securities Traded: Tokyo Stock Exchange
Consolidated Net Sales: 1,271.7 billion yen (FY2018)
Consolidated Operating Income: 85.6 billion yen (FY2018)
Consolidated Net Income: 63.5 billion yen (FY2018)
Number of Employees: 102,883
Consolidated Subsidiaries: Domestic 15 companies
Overseas 127 companies
Equity-method Affiliates: Domestic 3 companies
Overseas 5 companies
Corporate Ratings: A3 (Moody’s), A- (Standard & Poor’s), A+ (R & I)
Short-term bond: A-2 (Standard & Poor’s)