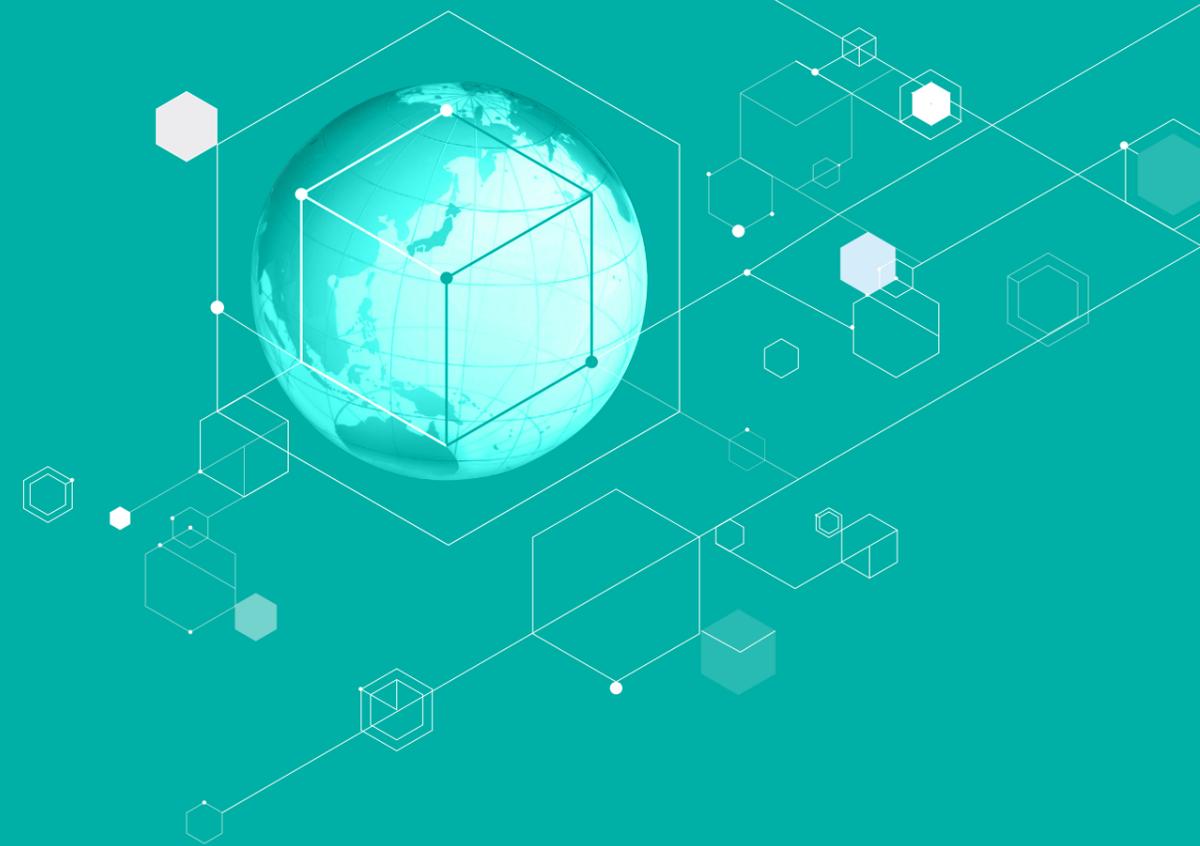


# CSR Report 2018

English version



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### 【Editorial Policy】

The TDK Group believes it is crucial to forge ahead with corporate social responsibility (CSR) initiatives based on proper understanding of the expectations and demands of our various stakeholders. With a view to making public the TDK Group's CSR approach and fiscal year initiatives progress report, as well as our future directions, we publish our CSR report annually in the two media formats of the Web and booklet form.

This Report provides information on the progress and performance indicators of important themes based on important CSR issues determined in fiscal 2015, while also listing comments from employees engaged in those efforts. As activities closely opened to today's social trends, we have also engaged in the exchange of views with experts and stakeholders and are pleased to introduce some of them.

In addition, we present an online profile of our Environment, Social, and Governance (ESG) Information by sectors, and encourage viewing of this data as well.

### Report Formats:

The report is available as a booklet and a web version, in slightly different formats to match the characteristics of the respective media.

- **Booklet:** A digest version focusing on the main points of activity.
- **Web version:** Conformed to the "core" option of the Global Reporting Initiative (GRI) standards, featuring both comprehensive information and detailed data centering on fiscal 2017 activity reports <http://www.global.tdk.com/corp/en/csr/>

### Period Covered:

Fiscal 2017 (April 1, 2017 – March 31, 2018)  
Some information covers activities outside this period.

### Organizations Covered:

TDK Group\*1  
\*1 TDK Group: TDK Corporation and 142 consolidated subsidiaries in Japan and overseas

### Major Organizational Changes during the Period Covered:

In the first quarter, TDK acquired 100% of the shares of InvenSense, Inc. and turned InvenSense, Inc. and its subsidiaries into consolidated affiliates.

### Date of Issue:

August 2018 (Previous issue: September 2017; next issue: scheduled for August 2019)

### Contact Information:

CSR Group, Legal & Compliance HQ  
TEL: +81-3-6852-7115

## Corporate Philosophy

Corporate Philosophy			
Corporate Motto	Contribute to culture and industry through creativity		
Corporate Principles	<b>Vision</b> Always take a new step forward with a vision in mind. Creation and construction are not born without vision.	<b>Courage</b> Always perform with courage. Performing power is born by confronting contradiction and overcoming it.	<b>Trust</b> Always try to build trust. Trust is born from a spirit of honesty and service.

## Corporate Vision (Vision 2035)

TDK was founded in 1935, based on the founder's vision and belief - "contribute to the advancement of the society through the commercial production of ferrite, a magnetic material which originates from Japan". TDK achieved four world-class innovations including "ferrite, magnetic tape, multilayer materials, magnetic heads", and has been offering products to support the advancement of the society. TDK will continue to strive to achieve further innovation and create value for customers through the delivery of outstanding quality products and services, by utilizing the diverse global resources. Based on TDK's corporate motto, TDK will continue to "contribute to culture and industry through creativity", by revitalizing and protecting the global environment and creating a pleasant and safe society.

## TDK Value

Customer Focus	<b>We have;</b> <ul style="list-style-type: none"> <li>Strong determination to contribute to our customers' success</li> <li>Passion to be a trusted partner for our customers</li> </ul>	HR Development	<b>We have;</b> <ul style="list-style-type: none"> <li>Aspiration to continuously improve ourselves</li> <li>Motivation to contribute to the advancement of society and growth of businesses</li> </ul>
	<b>Therefore we can;</b> <ul style="list-style-type: none"> <li>Deliver inspirational value by standing in the customer's shoes</li> <li>Offer outstanding quality products, services and technology to satisfy our customers</li> </ul>		<b>Therefore we can;</b> <ul style="list-style-type: none"> <li>Define clear vision/goals and drive ourselves to achieve them</li> <li>Support the development of our colleagues and build enthusiastic teams</li> </ul>
Challenge	<b>We have;</b> <ul style="list-style-type: none"> <li>Culture to turn adverse challenges into chances to develop ourselves</li> <li>Strong determination to accomplish our business goals by overcoming adversity</li> </ul>	Diversity	<b>We have;</b> <ul style="list-style-type: none"> <li>Global network with diverse culture</li> <li>Teams which respect each other and teamwork which encourages development</li> </ul>
	<b>Therefore we can;</b> <ul style="list-style-type: none"> <li>Accept challenges to make innovative breakthroughs and continue to create new value</li> <li>Lead our colleagues and collaborate as a team by sharing the same value</li> </ul>		<b>Therefore we can;</b> <ul style="list-style-type: none"> <li>Embrace different ideas and opinions</li> <li>Clearly express our opinions with sincerity through open discussions</li> </ul>

## TDK Code of Conduct\*2

The TDK Code of Conduct stipulates specific behavior guidelines so that the TDK Group and all of its directors and employees comply with the requisite laws, ordinances and social norms. Furthermore, the TDK Group has compiled the Corporate Charter of Business Behavior outlining the universal matters that should be practiced commonly by the Group.

\*2 TDK Code of Conduct is available at the following website. [http://www.global.tdk.com/corp/en/about\\_tdk/code\\_of\\_conduct/](http://www.global.tdk.com/corp/en/about_tdk/code_of_conduct/)



## TDK's cutting-edge technologies: Balancing corporate growth and social sustainability

### — Toward a society with “no one left behind”

In 2017, major changes took place in the landscape of electronic components. The accelerated advance of electric vehicles in the world had a huge impact on the demand for components and devices. The governments of the United Kingdom and France, for example, announced plans to end the sale of gasoline- and diesel-powered cars by 2040. The inter-related trends toward EVs and autonomous driving have gained significant momentum.

I recently had my first experience of an autonomous driving car at a home appliance show, and I came away with the surety that these vehicles will soon be a common sight on the roads. With that being the case, I am confident that communication devices which rely on

artificial intelligence, such as smart speakers, are going to expand as well. Devices that can be operated by voice input and are designed to be accessible for non-technical users will also see rapid growth in the coming years. These trends illustrate a key aspect of our collective future: we have entered an age in which cutting-edge technologies can empower marginalized members of society, such as the elderly and disabled. This direction is consistent with the “no one left behind” pledge in the United Nations Sustainable Development Goals.

As a manufacturer, TDK aims to contribute directly to the realization of this vision for society. We supply values that satisfy the needs of customers and foster solutions to global social issues.

### — *Monozukuri* (manufacturing excellence) and *Kotozukuri* (integrated solutions)

Our new Medium-Term Plan, which has kicked off in fiscal 2018, has the central theme of “Value Creation 2020.” It cites three pillars that we will strengthen over the medium to long term: “Commercial Value”, “Asset Value”, and “Social Value.” Our idea is to create more than simply financial value.

Social Value reflects our determination to further strengthen the link between our business and social sustainability. To this end, we will advance not only our tradition of *Monozukuri* but also *Kotozukuri*. *Kotozukuri* involves combining TDK's various technologies and products to supply solutions that meet the needs of customers and contribute to society. As a result, we will be able to connect an even wider customer base with quality TDK components.

Through the fusion of *Kotozukuri* and *Monozukuri*, we hope to create new values.

In order to realize this vision, we will actively engage in dialogue beyond the boundaries of our industry connections and employ a broad perspective to examine the landscape of possibility. Doing so will enable us to meet the needs of customers as they emerge, in real time. Throughout this work, we must constantly be thinking about how our technologies can provide practical value. Our starting place must first be to clearly identify the issues to be solved, the needs, and the goals of the customer, and from there to supply useful technologies accordingly.

### — Aligning corporate growth and social contribution

The most important factor in the achievement of our new Medium-Term Plan is human resources. The development of human resources, we can say, is the greatest issue facing TDK. In particular, from now on we must put a lot of effort into the development of global human resources. We will achieve this goal by creating systems that identify the particular strengths and skills possessed by each individual, and matching those individuals with the appropriate career paths. To incorporate the dynamism of our acquired companies and utilize the strengths of their employees, we must redouble our efforts to expand diversity.

We will also continue to put efforts into material procurement that takes the environment and human rights into consideration. In particular, at a time when demand for batteries and motors is expected to grow as a result of the diffusion of electric vehicles and other factors, I think it is an important duty for

us to procure rare metals, which are essential for the manufacture of electronic components, with due consideration for the environment and human rights. At the same time, we will strive to reduce the environmental load throughout the entire life cycle of products, including the development of magnets that do not use rare metals and the reduced size and increased efficiency of products.

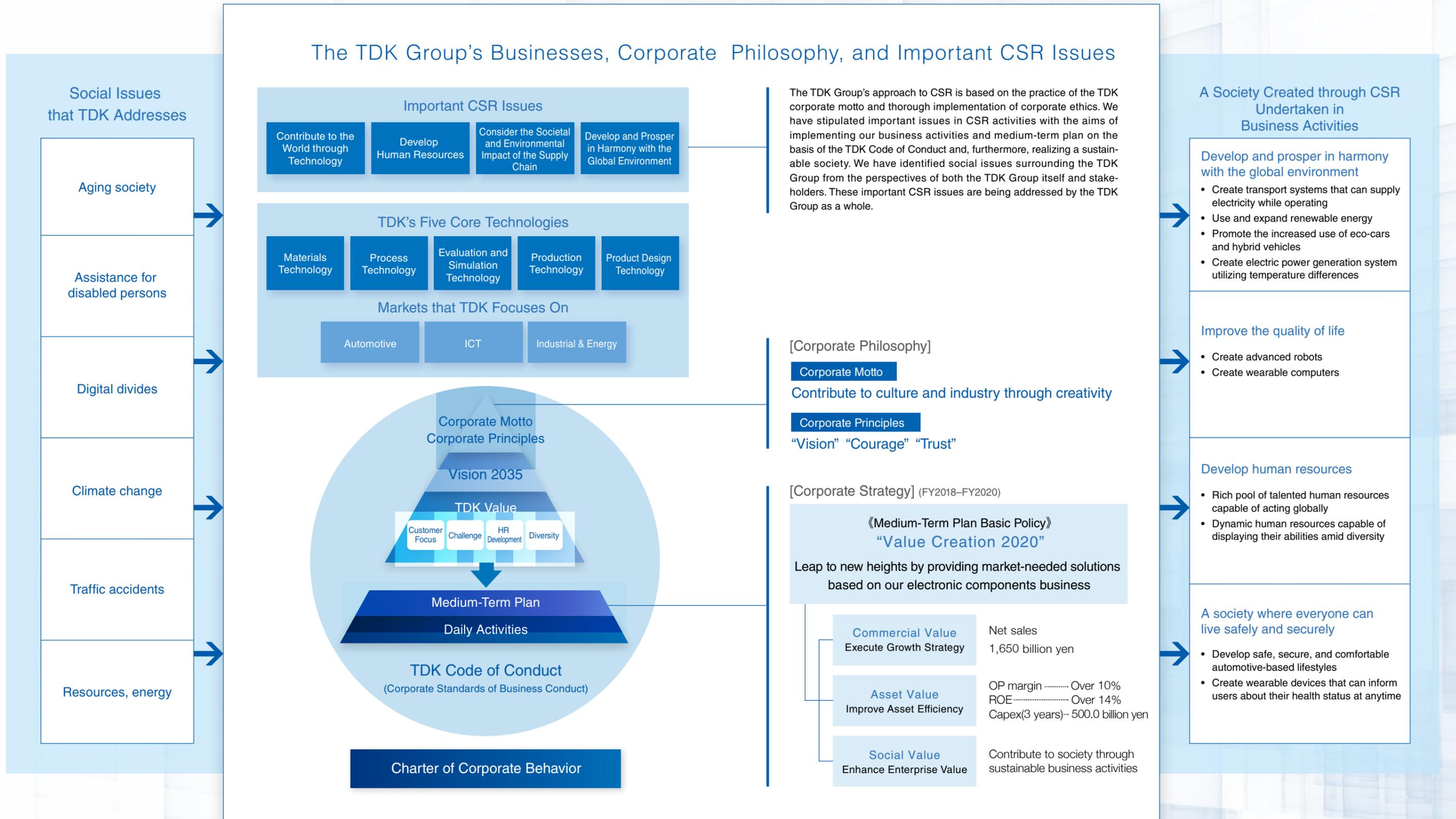
I believe that corporate growth and social sustainability are like two sides of the same coin. Business growth becomes truly sustainable when it contributes to society, and a healthy society in turn sustains consistent growth in the business sector. The pursuit of both of these factors together, I am sure, will raise our value as a company and generate increased Social Value.

**Shigenao Ishiguro**

President and CEO, TDK Corporation

# A Society Created through CSR Undertaken in Business Activities

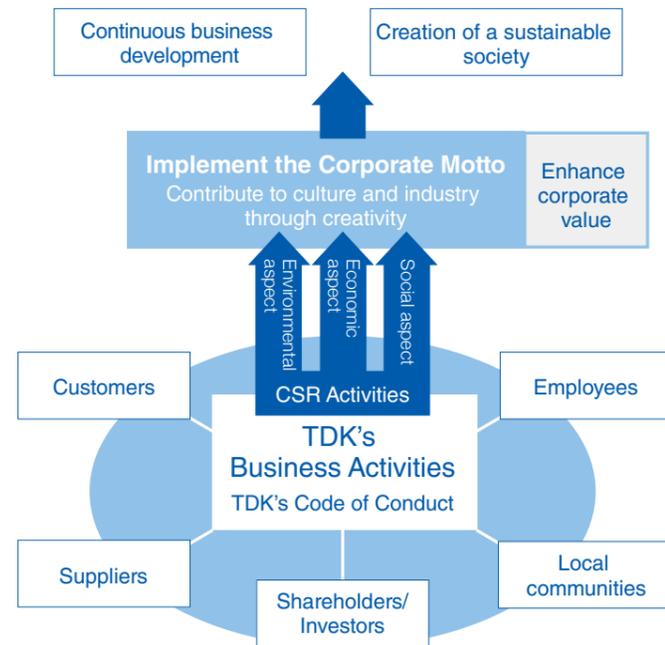
Our society is facing various issues. The TDK Group seeks to solve social issues through business activities based on our corporate principles.



## The TDK Group CSR Management

### Linkage between TDK Group CSR and the Corporate Philosophy

The TDK Group's approach to CSR is based on the practice of the TDK corporate motto and thorough implementation of corporate ethics. Recognizing that TDK is a social entity supported by stakeholders, such as customers, suppliers, employees, shareholders, investors, and local communities, we promote CSR activities through our business activities on the basis of the TDK Code of Conduct and maintain communication with these stakeholders. By carrying out the TDK corporate motto, we increase corporate value, and subsequently contribute to continuous business development and the creation of a sustainable society.



### CSR Promotion Structure

Based on the activities of the Business Ethics & CSR Committee, which reports directly to the Board of Directors, the entire TDK Group acts in concert to address a wide range of CSR topics through collaboration with the CSR Group and other departments and business groups at TDK headquarters and TDK sites around the world.

#### Business Ethics & CSR Committee

The TDK Business Ethics & CSR Committee, an organization reporting directly to the Board of Directors, is chaired by a director or corporate officer appointed by the Board, with its membership designated by major HQ Function Managers and the Chair. The Committee's mission is to resolve TDK Code of Conduct related problems impacting employees in TDK Group companies around the world. It also issues reports at the start of each quarter addressing the status of implementation and operation of the Code of Conduct.

#### CSR Group

The CSR Group has in-depth knowledge of social issues and requirements and promotes CSR programs in a professional manner. The CSR Group strategically examines the various demands received from customers and society from such perspectives as their urgency and importance, their impact on TDK, the capabilities of TDK, and the degree of contribution to society. Working closely with other departments in the company, the CSR Group formulates policies and implements responsive actions. The CSR Group also promotes CSR awareness in TDK and organizes training programs. The CSR Group is currently organized as a part of the Legal & Compliance HQ.

#### Organization



(As of April 1, 2018)

## The TDK Group's Materiality

TDK believes it is important to promote CSR activities that respond to changes in stakeholders and the social and business environment surrounding the Group. From fiscal 2013 TDK has promoted the study of materiality in accordance with the fourth edition of the Global Reporting Initiative guidelines (GRI-G4),\*1 and in fiscal 2015, with the approval of management, we finalized our materiality. With regard to the designated important CSR issues of "Contribute to the World through Technology," "Develop Human Resources," "Consider the Societal and Environmental Impact of the Supply Chain," and "Develop and Prosper in Harmony with the Global Environment," we are continuing to promote activities.

\*1 The details of the Materiality Finalization Process may be viewed on the following website. [http://www.global.tdk.com/corp/en/csr/csr\\_philosophy/csr02000.htm](http://www.global.tdk.com/corp/en/csr/csr_philosophy/csr02000.htm)

### The Materiality Finalization Process

GRI-G4 made a revision from requiring comprehensive information disclosure to requiring information disclosure with the focus on materiality. The objective of this revision was to encourage companies to determine their reporting content purposefully by getting management to be more deeply involved in CSR. TDK held discussions with stakeholders outside the company, implemented a dialogue with management, and finalized materiality through the following process.



### Finalization of the Materiality

The prioritization in Steps 2 and 3 was conducted on the basis of 46 items chosen in consideration of items required by the GRI-G4, and 19 material issues were identified. These issues were further sorted and classified and finally condensed into the following 10 important themes for the promotion of activities from now on. After approval has been received from the Executive Committee, the competent departments in the TDK headquarters are taking the initiative in setting key performance indicators in coordination with TDK Group companies in order to promote related activities.

Important CSR Issues	Important Themes
1 Contribute to the World through Technology	<ul style="list-style-type: none"> <li>Addressing social issues by developing new kinds of products the world has not yet seen</li> <li>Pursue zero-defect product quality</li> </ul>
2 Develop Human Resources	<ul style="list-style-type: none"> <li>Develop global human resources</li> <li>Cultivate a corporate culture that respects diversity</li> </ul>
3 Consider the Societal and Environmental Impact of the Supply Chain	<ul style="list-style-type: none"> <li>Consider the work environment at manufacturing sites</li> <li>Consider the work environment of suppliers</li> <li>Response to conflict minerals</li> </ul>
4 Develop and Prosper in Harmony with the Global Environment	<ul style="list-style-type: none"> <li>Reduce environmental load throughout life cycle stages</li> <li>Creating a framework for gauging product contributions</li> </ul>
Management	<ul style="list-style-type: none"> <li>Ensure corporate governance and compliance</li> </ul>

High Importance for stakeholders (vertical axis)

Business activities in consideration of biodiversity, Supply of product information to consumers, Protection of customer privacy (horizontal axis)

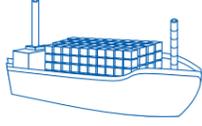
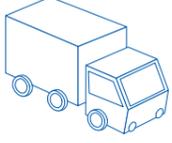
High Importance for the TDK Group (horizontal axis)

## Fiscal 2017 Activity Goals and Achievements, Fiscal 2018 Goals

Based on its finalized materiality, the TDK Group works through the PDCA (plan-do-check-act) cycle to promote initiatives aimed at realizing a sustainable society and company. Here, we report on our fiscal 2017 activity goals and achievements, and fiscal 2018 goals.

Important CSR Issues	Important Themes	Main Points	Functions	Fiscal 2017 Goals	Fiscal 2017 Achievements	Fiscal 2018 Goals
1 Contribute to the World through Technology	Contribute to resolving social issues through development and provision of new products in three priority markets	TDK aims to solve social issues, such as helping to save, store and reuse energy, through original technological development and supply of products in markets, especially the automotive, ICT, industrial and energy.	Technology HQ Each business group	<ul style="list-style-type: none"> <li>Continue to promote the development of products that contribute to the solution of social issues in the priority strategic markets of automotive, ICT, and industrial and energy</li> </ul>	<ul style="list-style-type: none"> <li>Boosting development of DC-DC converters for automotive use, solid-state batteries, motion sensors, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Promote development and sale of "First to Market" products</li> </ul>
	Addressing social issues by developing new kinds of products the world has not yet seen	TDK aims to solve social issues through unique technological development.				
	Pursue zero-defect product quality	On the basis of our high level of technology, we will pursue zero-defect product quality through uniformly managed production processes from materials to manufacturing.	Quality Assurance Function Each business group	<ul style="list-style-type: none"> <li>Number of important claims: 0</li> </ul>	<ul style="list-style-type: none"> <li>Number of important claims: 0</li> </ul>	<ul style="list-style-type: none"> <li>Number of important claims: 0</li> </ul>
2 Develop Human Resources	Develop global human resources	Toward the promotion of genuine globalization, we will strive to develop the human resources that will serve as its foundation.	Human Resource Development Function	<ul style="list-style-type: none"> <li>Establish a global consolidated human resource database</li> </ul>	<ul style="list-style-type: none"> <li>Expand scope of use of global consolidated human resource database</li> </ul>	<ul style="list-style-type: none"> <li>Further expand scope of use of global consolidated human resource database</li> <li>Introduce global selective training</li> </ul>
	Cultivate a corporate culture that respects diversity	In order to continue generating innovative creativity, we will build a tolerant corporate culture that respects the diversity of human resources.	Human Resource Development Function	<ul style="list-style-type: none"> <li>Compile consolidated management database, and get a solid grasp of the data</li> </ul>	<ul style="list-style-type: none"> <li>Complete the consolidated management database</li> </ul>	<ul style="list-style-type: none"> <li>Consider expansion and improve accuracy of human resource attribute information collected by the consolidate management database</li> <li>Implement human resource meetings globally and by area</li> </ul>
3 Consider the Societal and Environmental Impact of the Supply Chain	Consider the work environment at manufacturing sites	In light of the latest requirements, we will gauge considerations for the labor environment at production sites, which we need as a supplier, and if necessary implement education and guidance toward improvement.	CSR Function Human Resource Development Function	<ul style="list-style-type: none"> <li>Perform 100% CSR self-checks at manufacturing sites</li> <li>Secure 100% opportunities for third-party CSR audits once every two years (China and Asia region)</li> </ul>	<ul style="list-style-type: none"> <li>100% implementation</li> <li>100% implementation</li> </ul>	<ul style="list-style-type: none"> <li>Perform 100% CSR self-checks at manufacturing sites</li> <li>Perform 100% labor and ethics risk assessment at manufacturing sites</li> <li>Secure 100% opportunities for third-party CSR audits once every two years (China and Asia region)</li> <li>Perform 100% CSR self-checks at dispatch companies used by manufacturing sites in the China and Asia areas</li> </ul>
	Consider the work environment of suppliers	In light of the latest requirements, we will gauge considerations for the labor environment at suppliers, which we need as a buyer, and if necessary implement education and guidance toward improvement.	Procurement Function Each business group	<ul style="list-style-type: none"> <li>CSR-compliant supplier ratio: over 95%</li> </ul>	<ul style="list-style-type: none"> <li>CSR-compliant supplier ratio: 91.2%</li> </ul>	<ul style="list-style-type: none"> <li>CSR-compliant supplier ratio: over 95%</li> <li>Build a setup to conduct CSR efforts to sub-contractors</li> </ul>
	Response to conflict minerals	We will execute our social responsibility as a midstream company appropriately through the continued implementation of required efforts and an understanding of the latest requirements.	Procurement Function Quality Assurance Function	<ul style="list-style-type: none"> <li>Confirmed DRC conflict-free supplier ratio: over 85%</li> <li>Monitor number of customer responses</li> </ul>	<ul style="list-style-type: none"> <li>Confirmed DRC conflict-free supplier ratio: 92.3%</li> <li>Implement monitoring</li> </ul>	<ul style="list-style-type: none"> <li>DRC conflict-free procurement supplier ratio: over 90%</li> <li>Monitor number of customer responses</li> </ul>
4 Develop and Prosper in Harmony with the Global Environment	Reduce environmental load throughout life cycle stages	We will promote environmental activities on the basis of the TDK Environmental Vision 2035*1.	Safety and Environment Function	<ul style="list-style-type: none"> <li>Improve energy origin CO2 emissions basic-unit by 2.0% compared with fiscal 2014</li> <li>Improve product-based CO2 reduction contributions basic-unit by 2.7% compared with the previous year</li> </ul>	<ul style="list-style-type: none"> <li>Worsened by 10.5% compared with fiscal 2014</li> <li>Improved by 12.9% compared with the previous year</li> </ul>	<ul style="list-style-type: none"> <li>Improve energy origin CO2 emissions basic-unit by 1.7% compared with the previous year</li> <li>Improve product-based CO2 reduction contributions basic-unit by 2.7% compared with the previous year</li> </ul>
	Creating a framework for gauging product contributions	Through the setting of common gauging product contributions in the industry, we will promote social understanding of TDK's environmental contribution value.	Safety and Environment Function	<ul style="list-style-type: none"> <li>Continue to implement standardization and awareness activities in collaboration with industry associations</li> </ul>	<ul style="list-style-type: none"> <li>Estimated contribution potential of Japanese electronic component makers and implementation of announcements</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement standardization and awareness activities in collaboration with industry associations</li> </ul>
Management	Ensure corporate governance and compliance	Through the development of appropriate corporate governance and thorough implementation of compliance, we will aim to enhance our corporate value.	CSR Function Compliance Function	<ul style="list-style-type: none"> <li>Achieve 100% participation in compliance e-learning</li> </ul>	<ul style="list-style-type: none"> <li>Achieved 99% participation in compliance e-learning</li> </ul>	<ul style="list-style-type: none"> <li>Achieve 100% participation in corporate ethics e-learning</li> <li>Achieve 100% participation in compliance e-learning</li> </ul>

\*1 Details of the goals and achievements of environmental activities, please see the following website: [https://www.global.tdk.com/corp/en/csr/environmental\\_responsibility/csr03200.htm](https://www.global.tdk.com/corp/en/csr/environmental_responsibility/csr03200.htm)

<p><b>Important CSR Issues within the Value Chain</b></p> <p>The TDK value chain extending from procurement of raw materials to development, manufacturing, logistics, and sales extends throughout various regions of the world and involves numerous social issues. Here we present the things we consider for society in each stage and TDK's initiatives for important CSR issues.</p>	 <p><b>Procurement</b></p> <p>TDK procures raw materials from around the world. Consideration for human rights and the environment by suppliers is also a part of TDK's role.</p>	 <p><b>Development</b></p> <p>The development process of technology and human resources hold the key to how TDK products can contribute to society and the environment.</p>	 <p><b>Manufacturing</b></p> <p>The environment and human resources will be priority areas, including reduction of the environmental load at the time of manufacturing, the eradication of defective products, and labor health and safety.</p>	 <p><b>Logistics</b></p> <p>The mission of logistics is the stable, reliable, and timely supply of TDK products to customers.</p>	 <p><b>Sales</b></p> <p>We seek to maintain high product quality while providing products that satisfy customers through contribution to society and environment issues.</p>
<p>[Important CSR Issues]</p> <p><b>Contribute to the World through Technology</b></p> <p><b>[Important Themes]</b></p> <ul style="list-style-type: none"> <li>■ Addressing social issues by developing new kinds of products the world has not yet seen</li> <li>■ Pursue zero-defect product quality</li> </ul>	<ul style="list-style-type: none"> <li>● Ensure the quality of purchased products</li> </ul>	<ul style="list-style-type: none"> <li>● <b>New product development through sustained research and development</b> Research and development expenditure <b>103,457</b> million yen</li> <li>● Product assessments</li> <li>● Building of upstream-management-type quality assurance structure</li> </ul>	<ul style="list-style-type: none"> <li>● Manufacturing process capable of reproduction without variation</li> </ul>	<ul style="list-style-type: none"> <li>● Ensure logistics quality</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Promote sales of products that solve environmental and social issues</b></li> <li>● Customer satisfaction</li> </ul>
<p>[Important CSR Issues]</p> <p><b>Develop Human Resources</b></p> <p><b>[Important Themes]</b></p> <ul style="list-style-type: none"> <li>■ Develop global human resources</li> <li>■ Cultivate a corporate culture that respects diversity</li> </ul>	<p>● <b>Promote Global Human Resource Training Program</b> IMD Training participants (total to date): <b>350</b> persons Overseas Trainee Program participants (total to date): <b>31</b> persons</p>				
<p>[Important CSR Issues]</p> <p><b>Consider the Societal and Environmental Impact of the Supply Chain</b></p> <p><b>[Important Themes]</b></p> <ul style="list-style-type: none"> <li>■ Consider the work environment at manufacturing sites</li> <li>■ Consider the work environment of suppliers</li> <li>■ Response to conflict minerals</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Use CSR check sheets and implement CSR audits</b> CSR-compliant supplier ratio <b>91.2%</b></li> <li>● <b>Conflict minerals survey</b> Confirmed DRC conflict-free supplier ratio <b>92.3%</b></li> </ul>	<ul style="list-style-type: none"> <li>● Technological innovation</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Implement CSR self-checks, and CSR self-audits by third party organizations</b> CSR self-checks at manufacturing sites <b>100%</b></li> </ul>		<ul style="list-style-type: none"> <li>● <b>Appropriate responses to CSR surveys and other inquiries from customers</b></li> </ul>
<p>[Important CSR Issues]</p> <p><b>Develop and Prosper in Harmony with the Global Environment</b></p> <p><b>[Important Themes]</b></p> <ul style="list-style-type: none"> <li>■ Reduce environmental load throughout life cycle stages</li> <li>■ Creating a framework for gauging product contributions</li> </ul>	<ul style="list-style-type: none"> <li>● Green procurement</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Creation of products contributing to the environment</b></li> <li>● Product assessments</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Reduce the environmental load of plants</b> CO<sub>2</sub> emissions from production activities <b>1,647</b> thousand t-CO<sub>2</sub></li> </ul>	<ul style="list-style-type: none"> <li>● Reduce the environmental load in logistics</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Promote sales of products that contribute to the environment</b> Reduction of CO<sub>2</sub> emissions through products <b>2,041</b> thousand t-CO<sub>2</sub></li> </ul>

# Contribute to the World through Technology



- Addressing social issues by developing new kinds of products the world has not yet seen
- Pursue zero-defect product quality

## Addressing social issues by developing new kinds of products the world has not yet seen

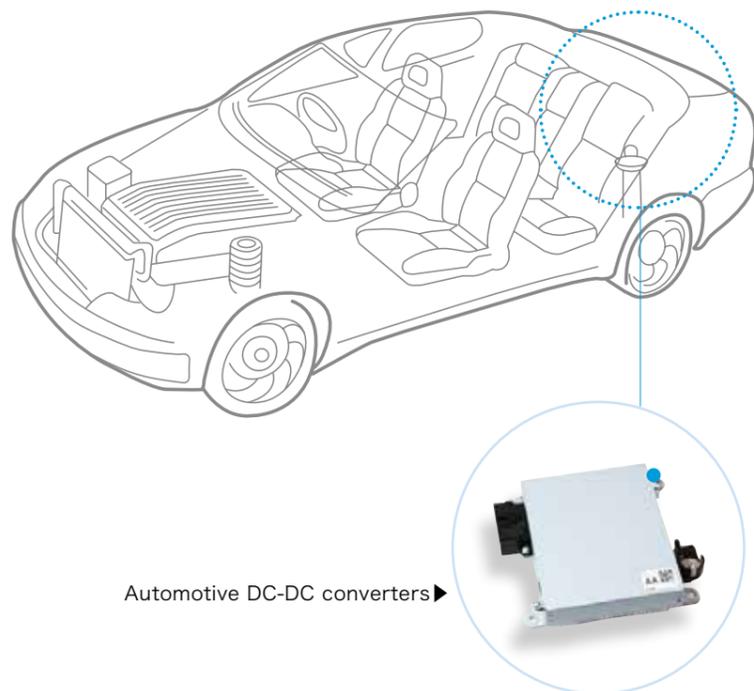
### The high-level fusion of *Monozukuri* and *Kotozukuri*

TDK contributes to society by anticipating customer needs and developing creative responses to issues affecting customers and society as a whole. Breakthrough solutions are created by combining different technologies and products that arise from the manufacturing excellence or *Monozukuri* that TDK has cultivated for more than eight decades. TDK is now taking *Monozukuri* to the next level to create solutions with expanded value for customers, partners and society: (a concept we call) *Kotozukuri*.

The some products demonstrate the high-level fusion of *Kotozukuri* and *Monozukuri* to which TDK aspires. In this section, we take a closer look at how leaders from various divisions deploy these concepts in their work.

## Automotive DC-DC converters

### Automotive DC-DC Converters, Contributing to Reducing the Environmental Load of Cars



Recent years have seen policies announced to promote a shift to EVs in Europe, China, and elsewhere, and the widespread use of EVs is expected to accelerate worldwide. Automotive DC-DC converters are responsible for charging auxiliary batteries in EVs, and for supplying the power needed in electrical systems, and high-efficiency DC-DC converters are also in demand for extending vehicle cruising range. Making full use of the power electronics technology accrued through its development of consumer and industrial switching power supplies, TDK is developing and offering automotive DC-DC converters that are smaller, lighter, highly efficient, and highly reliable.



## Material



**Atsushi Yakuwa**  
 Manager  
 Prepreg Production Group  
 Production Division, EV Power BU  
 Energy Systems Business Group  
 TDK Corporation

### Expanding the scope of vision beyond materials to anticipate solutions and contribute to the safety of environment-friendly vehicles

I am a leader in the Manufacturing Group. The high heat dissipation substrate prepreg\*1 I was in charge of developing offers outstanding thermal conductivity, allowing it to be installed on the circuits of components that emit enormous heat. This innovation also contributed to the development of a new DC-DC converter, which while compact and lightweight still offers high output. Embedded within the product, the material does not call attention to itself or indicate the investment of time put into its development. With this project, I realized it is important that we look not only at the material, but refine our sensitivity so that we are constantly aware of our contribution to *Kotozukuri*, while also sharing our thinking with those involved in *Monozukuri*. Going forward, I hope to contribute to the development of even more compact, higher-performance DC-DC converters, taking on the challenge of new materials and processes so that we can aid in boosting the popularity and greater safety of environmentally friendly vehicles.



\*1 Prepreg: A semi-hardened glass or carbon fiber cloth impregnated with a thermosetting resin.



## Process



**Kenji Kotegawa**  
 Senior Manager  
 Monozukuri Element Development  
 Department  
 Monozukuri Center  
 Production Engineering HQ  
 TDK Corporation

### Introduction of robot cells\*2 makes low-volume, high-mix *Monozukuri* possible stable, high-quality manufacturing contributes to automobile safety

I am in charge of deploying robot cells in the manufacture of the DC-DC converter. This production technique has allowed us to adjust the number of cells to respond flexibly to changes in volume, which in turn has enabled low-volume, high-mix production without picking, reducing costs and making traceability by individual product possible. Working with other departments, the ability to identify manufacturing problems and quickly provide feedback to the design team were particularly important factors. Variability or flaws in automotive components can have serious consequences for life and health. The introduction of robot cells to ensure a stable supply of high-quality products is thus directly connected to automotive safety. Accelerating the cycle by which improvements are reflected in design, as we did with this project, increases our First to Market advantage. This is why we hope to continue using *Monozukuri* technology to play a part in *Kotozukuri* that responds to market needs.



\*2 Robot cell: A method in manufacturing where one or more robots are employed in the assembly of products.

### 3 Component



**Masahiro Gamou**  
 Manager  
 Development Division  
 EV Power BU  
 Energy Systems Business Group  
 TDK Corporation

#### TDK's *Monozukuri* conceives new components from materials and realizes solutions for customers

I am responsible for the optimization and miniaturization of magnetic components. All car makers have a common need of requiring the DC-DC converter to be smaller, capable of handling very high current and also be highly efficient. But each customer has different specifications, which presents a challenge for us.

In order to realize *Kotozukuri* for each customer, we can draw upon our original innovation: ferrite. This essential material, our core resource, allows us to create new products and solutions that competitors cannot.

Ferrite, uniquely among the various magnetic materials, has the advantages of being low in cost, able to operate in high frequency, and capable of taking myriad shapes. Working with other TDK divisions, we can create high value-added products from ferrite. In other words, by approaching and advancing our *Monozukuri* with new ideas, we can bring about true fusion. I look forward to working closely with other departments and divisions with different experiences and knowledge in order to shape the next generation of *Monozukuri*.



### 4 Solution



**Yoshiaki Ishikawa**  
 Development Division  
 EV Power BU  
 Energy Systems Business Group  
 TDK Corporation

#### Advancing *Kotozukuri* and *Monozukuri* that aligns with customer needs

My job is designing the substrate for the DC-DC converter. Since this product serves as the vehicle's power supply source, any failure could risk an accident.

We need to consider every factor, including the extent to which we can predict dangerous situations, overall safety, and reducing the vehicle's environmental load.

At times, customer needs range well beyond anything we might imagine, making it essential that we build close relationships with their suppliers and ensure we are all headed in the same direction. In that sense, you could say my role is that of a liaison with the *Monozukuri* worksites, helping customers achieve their own *Kotozukuri*.

Working with everyone involved in manufacturing at TDK, I hope to be more in tune with our customers, ensuring I approach my design work from their point of view, and continuing to take on the challenge of resolving social issues such as safety and the environment.



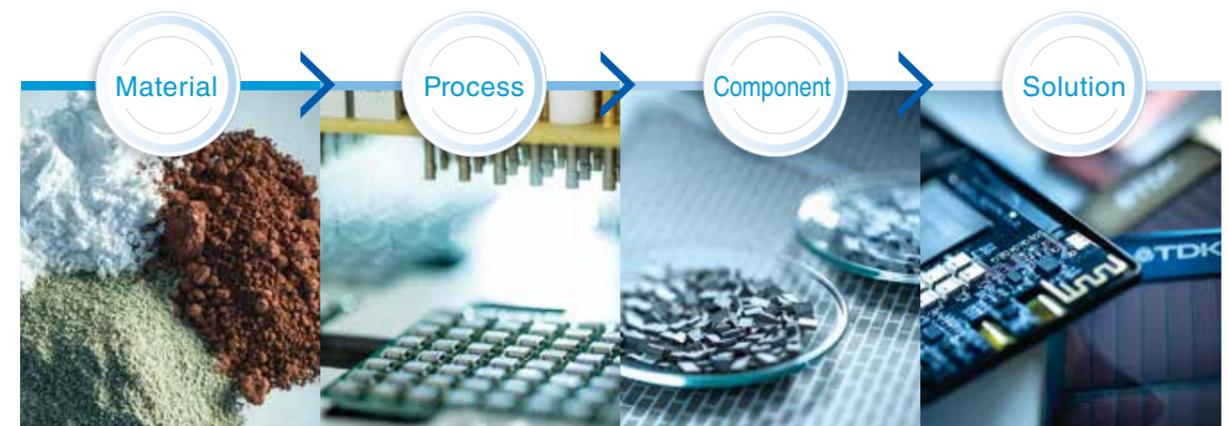
## Solid-state rechargeable batteries

### Safe battery technology for IoT: CeraCharge™ the world's first solid-state rechargeable battery in SMD technology



CeraCharge™ is a unique battery based on solid ceramic-based electrodes and electrolyte produced with multilayer technology. This enables a relatively high energy density based on Li-ion battery technologies and smallest volume to be combined with the high volume manufacturing benefits of multilayer components. As a key safety feature, CeraCharge™ eliminates the risk of fire, explosion, or leakage.

CeraCharge™ will open up a wide range of possible applications – particularly in devices intended for the Internet of Things, such as energy storage devices for Bluetooth Beacon, wearables, energy harvesting, or backup battery for real-time clocks.



New kinds of solid lithium-oxide powders enable safe energy storage.

An extremely precise manufacturing process combined material know-how with multilayer and thermal process control.

The CeraCharge™ design was validated and aligned to the real needs of both our customers and their customers.

CeraCharge™ was developed to provide a reliable and safe energy source, especially for compact mobile applications.

1 **Material & Process**



**Dr. Yongli Wang**  
Co-project leader CeraCharge™, Piezo & Protection Devices Business Group, Corporate R&D Materials, Deutschlandsberg, Austria

**Combining our material and multilayer technology know-how with our thermal process expertise**

Material and process go hand in hand with CeraCharge™. It was first necessary to create new kinds of solid ceramic materials that could store sufficient energy safely and be able to perform up to 1,000 charge/discharge cycles. The solution was innovative lithium-based oxide powders for both electrodes and electrolyte that are perfectly matched to each other and are capable of being co-fired in a special multilayer process.

In addition to the materials themselves, an extremely precise manufacturing process had to be implemented for the high-volume production of the multilayer components. Our challenge was to transfer the breakthrough technology to the Piezo & Protection Devices Business Group (PPD) and integrate it into an industrial-scale process. To do so, we faced the key challenge of combining our knowledge about all-ceramic-battery material systems and multilayer technology with our expertise in precise thermal process control for the copper inner electrodes.

We succeeded in setting up sample production on a pilot line thanks to the extensive material know-how at the TDK Technology HQ in Chiba, Japan, and the industry-leading competence of PPD for multilayer processing, thermal process control and back-end processes acquired through years of experience with a broad range of ceramic and piezo products at the PPD in Deutschlandsberg, Austria. The introduction of such novel components into the existing PPD ecosystem required a totally new mindset and multicultural communication to enable an efficient cooperative development process between the BG, Technology and IP HQ.

The challenge will be to tap into the technological competence from the entire TDK organization and our lead customers in order to provide solutions that fulfill dynamically changing requirements with more flexible designs, shorter lead times, better performance, higher quality and more reliability.

2 **Component**



**Masahiro Oishi**  
Co-project leader CeraCharge™, Piezo & Protection Devices Business Group, Corporate R&D Materials, Deutschlandsberg, Austria

**More than 30 key customers were visited to gather valuable feedback about applications and markets**

My focus during the transfer of the CeraCharge™ technology from TDK's Technology and Intellectual Property HQ in Japan to the PPD BG in Deutschlandsberg, Austria, was on the development of the actual component. The first stage involved material screening and development and process screening. For these purposes we developed first prototypes and established valid characterization procedures. The definition and implementation of a supply chain for the material demand throughout the R&D process was a special challenge in order to be able to produce CeraCharge™ prototypes. All along, our objective was to develop a marketable component, and in order to promote the new product to the customers, actual demonstrators were built. Already in the early stages of development, more than 30 key customers were visited and shown the product's features and specification range. We used these meetings to gather valuable feedback about the potential applications and markets as well as validate and align our design to the real needs of our customers and their customers, and this information was fed back into the development process. At the same time, we intensified cooperative development activities with IC companies on a system level. To create even more value for customers and users, we focused not only on the development of the CeraCharge™ component alone, but also considered how CeraCharge™ can be used and how we can create new markets.

3 **Solution**



**Markus Puff**  
Head of Corporate R&D, Piezo & Protection Devices Business Group, Deutschlandsberg, Austria

**The development focus is always on the solution and how customers integrate CeraCharge™ into their systems**

In the context of the "Kotozukuri" philosophy for creating solutions with expanded value for customers, partners and society, we sought to create a CeraCharge™ solution that meets all market requirements. To accomplish this goal, it is necessary for all aspects of material and process design and component development to be optimally coordinated and interconnected. For this we defined USPs and benefits, analyzed the advantages and disadvantages of the technology on system level, performed benchmarking and feasibility studies, and explored cooperation with IC companies and other market leaders. Our development focus is always on the solution and the target applications with a strong emphasis on the benefits for our customers and how they integrate CeraCharge™ into their systems. Over the entire development process, open and direct fact-based communication among the global, multicultural team proved to be the key to solving any challenges that arose. In order to realize our objectives and make a substantial contribution to the next generation of energy storage devices, we must further broaden and deepen our application know-how. At the same time, we must also intensify the cooperation between Technology HQ, PPD BG, Sales, customers and other partners in order to enhance the benefits and user experience of the new CeraCharge™ technology.

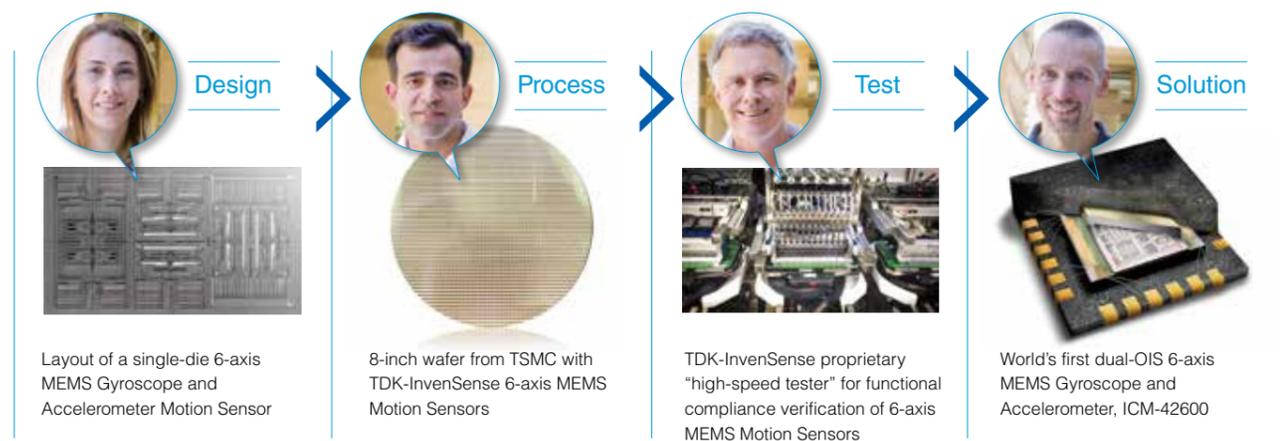
## Motion sensors

### ICM-42600 6-axis motion sensor with 2 auxiliary interfaces to support dual-OIS camera modules for Smartphones

MEMS Motion Sensors are Semiconductors that include microscopic structures whose exact movement is measured through capacitance changes in surrounding electrodes. Acceleration and rotation are measured along 3 axis, allowing the sensor to accurately track the changes in position and orientation of a device. Motion Sensors provide critical inputs to control and navigation systems. One key application is the use of motion sensors to control Optical Image Stabilization (OIS) in camera modules for Smartphone and Digital Cameras. TDK-InvenSense new motion sensor can support 2 independent OIS systems, a key enabler of dual-camera OIS solutions in Smartphones, and a World first.



▲ICM-42600: World's first 6-axis MEMS Motion Sensor supporting dual-camera with dual-OIS image stabilization



▶The full article of Motion sensors can be found on our website.  
<http://www.global.tdk.com/corp/en/csr/important/technology/csr30000.htm>

## Pursue "Zero-defect Product Quality"

With its proprietary technology, TDK has emphasized the pursuit of zero-defect product quality, based on *Monozukuri* that contributes to culture and industry through creativity. This is because we believe the key to successful *Kotozukuri*, or providing integrated solutions, lies in the pursuit of zero-defect product quality.

### The Pursuit of Zero-defect Product Quality Starts from the Breaking Point

#### ●Protecting customer safety is our lifeline

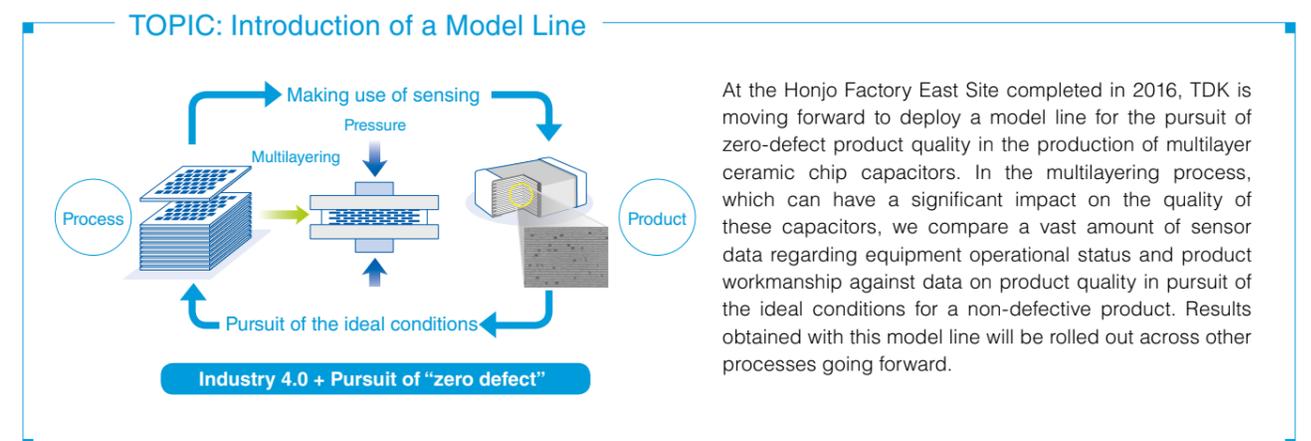
Why pursue zero-defect product quality? First and foremost, the objective is to protect customer safety, which is the lifeline of TDK's business. Only by building product quality into every level, from development and production processes onward, can we respond to the needs of our customers. For example, conducting pre-risk assessments during design screening and prior to mass production allows us evaluate latent risks, with the goal of achieving zero product defects when we do move to mass production. After taking those efforts to the breaking point, we work even harder. That is the true pursuit of zero-defect product quality.



**Satoru Sueki**  
General Manager of Quality Assurance HQ  
Corporate Officer  
TDK Corporation

#### ●Everyone participates in working toward a larger goal

In pursuing zero-defect product quality, it is crucial that each of us thinks and acts in terms of what each of us can do from the standpoint of our respective positions. This leads to the creation of value, and to the development of a global workforce comprised of employees who draw on their individual capabilities and bring ever greater motivation to enhancing their value of their work. The pursuit of zero-defect product quality involves more than simply reaching a numerical goal. As social changes progress, the quality expected of us will also grow. Today, we face issues such as an aging society and widening inequality, and going forward, we will be expected to generate value from a humanitarian and social welfare perspective. We will continue our pursuit of zero-defect product quality, responding to the evolving need for greater quality as we work toward this larger goal.



# Develop Human Resources



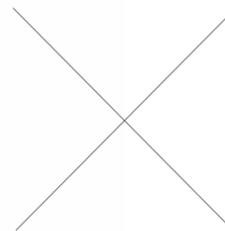
- Develop global human resources
- Cultivate a corporate culture that respects diversity



## Stakeholder Dialogue

Diversity rooted in common values and a license to create

**Peter David Pedersen**  
 Co-founder, E-Square Inc.  
 (sustainability consultancy),  
 Executive Director, TACL  
 — The Academy for Corporate Leadership



## — Develop Global Human Resources

Orchestrating the HR Vision as a 'trusted enabler'

**Andreas Keller**  
 Corporate Officer  
 General Manager of Human Resources HQ  
 TDK Corporation



Date of implementation: March 6, 2018

Building on last year's first dialogue on Global Human Resource Development and a year of new one, Human Resources General Manager Andreas Keller and consultant Peter David Pedersen discuss the current state of HR-related initiatives and the road ahead.

### Dialogue on Global Human Resource Development

In March 2018, General Manager of Human Resources HQ Andreas Keller sat down with sustainability expert and corporate consultant Peter David Pedersen to take stock of corporate HR-related initiatives. The discussion built upon last year's dialogue, covering subsequent developments influenced by the 2017 dialogue. The discussion revisited the current state of HR development at TDK in the context of its needs as an increasingly diverse corporate group in a world of intensifying competition.

### State of Human Resources: Addressing and Accommodating Diversity

Since 2000, the TDK Group has grown rapidly through multiple mergers and acquisitions (M&As). Today the group boasts a portfolio of more than 100 companies and over 100,000 group employees. Moreover, only 10% of TDK personnel are now located in Japan and roughly 80% have joined the group through M&As.

This growth has been accompanied by new needs in the areas of HR. Key challenges include establishing a platform to ensure that diverse talented entities and individuals can fully engage as group members rooted in a core concept of harnessing diversity for greater resilience and global success.

### Milestones and the Road Ahead

A number of HR-related initiatives were launched following last year's dialogue. Major milestones included a global HR meeting and the first group-wide career development program launching in 2018.

These initiatives are part of the new Global HR Mid-term Plan 2018-2020, which includes key performance indicators (KPIs) for each initiative. The initiatives include succession planning, defining global competencies, global grading, talent management and outreach to raise awareness of global HR initiatives. All of this is supported by an IT talent management system that is being rolled out to enable the integration of these activities.

"The idea is not just to utilize talent from Japan, but from around the world. In order to do so, we need to have common platforms and definitions of certain things like global competencies and evaluation criteria," Keller explained. In addition, standardized global KPIs will make it easier for local and global management to monitor and manage risk to improve the resilience of TDK, he added.

### Strength through Unity

Keller reported that last year's dialogue had contributed to the TDK Group organizing its inaugural global HR and Administration meeting. (See page 23 for details.)

"At the meeting we were able to firm up our vision and mission statements with the primary objective of functioning as an enabler for group members. We are now aligned and heading in the same direction," Keller explained.

Meeting participants agreed on the need to better share TDK's common values and enhance group-wide compliance while harnessing the unique strength and culture of group companies. This vision and mission statement subsequently formed the cornerstone of the new Global HR Mid-term Plan. The second global HR meeting will be held in 2018 to build on last year's progress. The gathering will bring TDK personnel to Akita Prefecture in Japan—the birthplace of TDK.

### Identifying and Tapping Talent

One of the areas that saw significant progress in fiscal 2017 was talent management and development. The new Territorial Career Development Program (TCDP) is TDK Group's first group-wide career development initiative. This scheme is an example of intra-group sharing of know-how and best practices. It was premised on a subsidiary-run program with a long and successful track record in Greater China. A key pillar of HR efforts to develop next-generation talent worldwide, the new initiative has been adapted to be applied across the group with the roll out happening in spring 2018 in Europe, Asia and the Americas. The goals of the annual program include strengthening leadership and management, fostering a supportive corporate culture and creating stronger bonds among TDK Group members.

"We have received so many applications. Expectations on both the part of management and employees are extremely high," Keller said, adding that the program is expected to bring more non-Japanese employees to HQ.

### Embracing 'Enabling' and Referencing Research

Pedersen praised the initiatives, direction and progress made over the past year. "I'd say you are definitely on the right track. I would keep 'trusted enabler' at the center of your discussions always," Pedersen said. He emphasized the need for companies to engage and enable employees by giving them a "license to create or innovate."

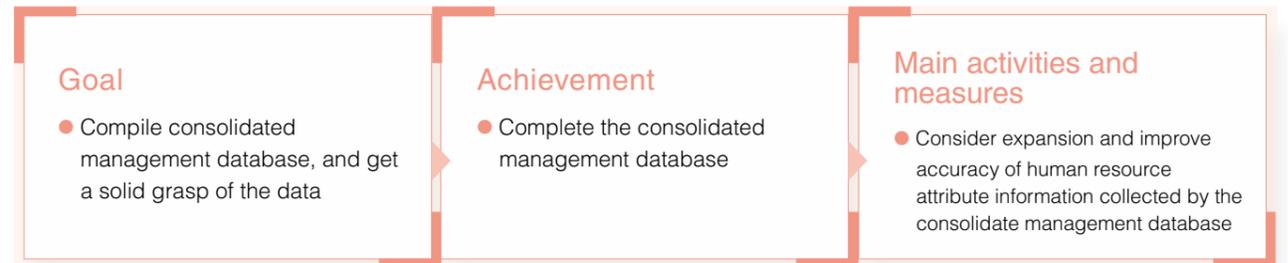
"If employees feel that they are part of a company it becomes possible for people from diverse backgrounds to come together around an issue and provide their own ideas and create something together," Pedersen said.

"With more than 100,000 group employees worldwide, it is crucial to have common group values. Moving forward, you will want to consider how to link or anchor these programs to the fundamental elements of the company—the original principles of TDK of vision, trust and courage," he added.

## Cultivate a Corporate Culture that Respects Diversity

Presented here are reports on an important theme—and progress made during fiscal 2017—on cultivating a corporate culture that respects diversity. Staff working outside of their home country share their background, experiences, and situation.

### Fiscal 2017 Goals and Achievements



### Technical Collaboration and Respecting Local Business Culture



I work in Israel, a country that has many innovative startups and prestigious universities. My job is to assess promising local technologies and to plan and promote collaboration with TDK's technology and products. When having a discussion, if you have an opinion to express, you sometimes have to interrupt others to get it out. That is a big difference from how things are done in Japan, so I appreciate the effort it takes to adapt to a different business culture. Our office has opened only recently, so we have no storehouse of know-how, and there are still many problems we face trying to communicate with each other in English, but we have been getting tremendous assistance from the folks at TDK-Lambda in Israel. While enjoying myself on the job, I will continue exploring ways to achieve better collaborations that will lead to outstanding new TDK products and services.



**Narutoshi Fukuzawa**  
 Manager  
 Israel R&D Office, Technology Planning Group  
 Technology and Intellectual Property HQ  
 TDK Corporation

### Meeting People of All Kinds Leads to Personal Growth



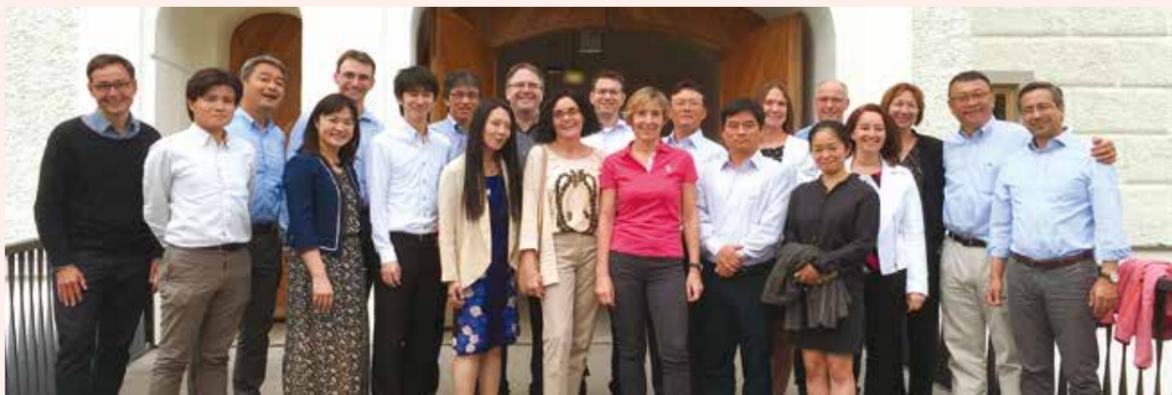
My job is to customize software products to meet the needs of customer around the world and to support resolving issues prior to the start of production. The most exciting things are learning a wide range of things both through my job and by working with others, plus working with new technologies. When you work overseas, it is important to step out of your personal comfort zone. In San Jose I am able to encounter people who have different cultures, languages and styles of working. Meeting those people and building trust have helped me to grow as a person. I will do my best to support customers with the idea of seeing things from "customer focus" in our TDK Value.



**Suma Veerabhadrapa**  
 Sr. Staff Application Engineer  
 MEMS Sensor Business Group  
 Sensor Systems Business Company  
 InvenSense, Inc.

### Global HR and Administration Meeting in Munich

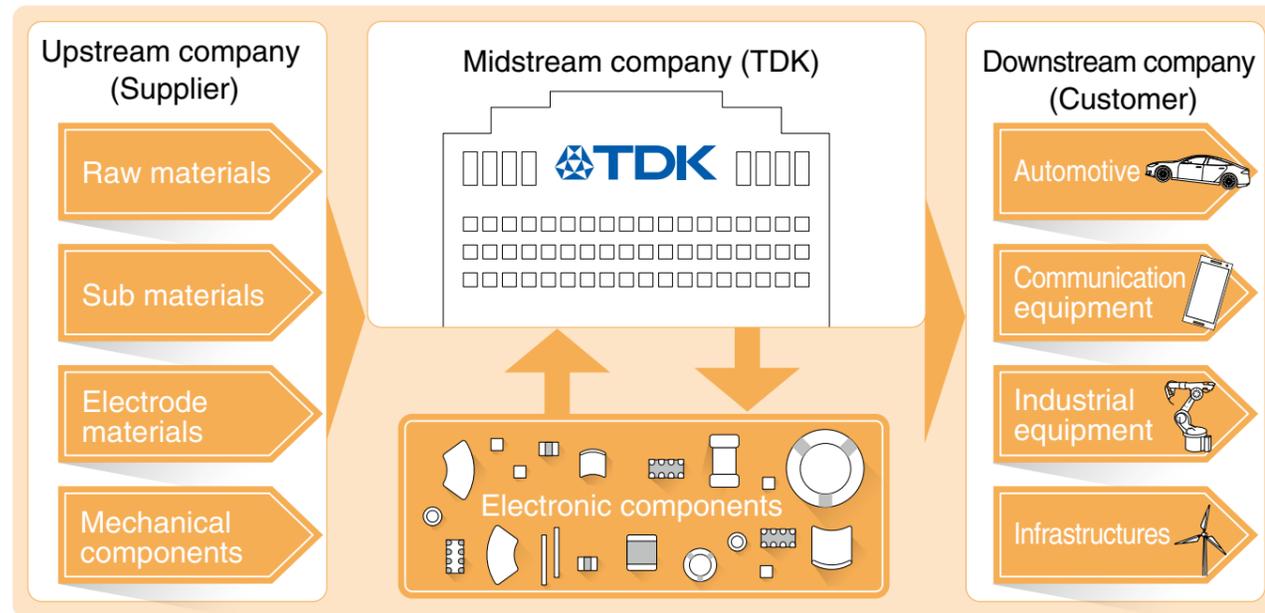
TDK held its inaugural global HR and Administration meeting bringing on July 13–14, 2017. The meeting brought over to TDK members from group operations around the world to Munich, Germany. During two days of meeting and workshops, participants crafted a vision and mission statement to guide future HR and Administration activities and policy. The gathering also set in motion a concerted effort to put in place a more integrated HR and administrative policy to realize a common platform to better harness the diverse talent of the TDK Group.



## Consider the Societal and Environmental Impact of the Supply Chain

- Important Themes**
- Consider the work environment at manufacturing sites
  - Consider the work environment of suppliers
  - Response to conflict minerals

## TDK's Supply Chain Responsibility



### Executing Our Responsibility as a Midstream Company

TDK offers high-value-added solutions based on materials and components technologies. As globalization accelerates and we expand our target markets, we develop ongoing relationships with a wide range of customers and business partners. Buyer and supplier relationships with other companies are not uncommon in some business areas.

Responsible management of supply chains is coming under strict scrutiny with the strengthening of legal systems and international industry initiatives. For example, the United Kingdom passed the Modern Slavery Act in March 2015, and the Electronic Industry Citizenship Coalition (EICC) changed its name to the Responsible Business Alliance (RBA) in October 2017. Because these trends greatly affect TDK's business environment, it is vital that we take suitable measures in our business supply chains.

A shared understanding of social issues and common investigative practices is essential for the practical and effective implementation of CSR in the supply chain. To bring improvements in efficiency to the entire supply chain, TDK is working with other organizations from the stage of formulating rules, cooperating with the industry as a whole, and proposing the standardization of investigative methods.

## Response to Conflict Minerals

Against the backdrop of rising interest in responsible mineral sourcing, we act in the capacity of a midstream company to promote problem-solving initiatives throughout the entire supply chain.

### TDK's Approaches

Human rights issues surrounding mineral procurement have emerged as a crucial social challenge worldwide, prompting keen and rising interest in responsible procurement of such resources. For example, there are cases when minerals mined in the Democratic Republic of the Congo (DRC) and adjoining countries serve as the source of funding for armed groups. This brought notice to how such minerals are used to bankroll conflict, resulting in human rights violations against local residents and other crises. At TDK, in April 2013, the TDK Group Policy on Conflict Minerals<sup>\*1</sup> was issued. This prompted each company to set up survey response systems based on the new rules, along with efforts in compliance with the OECD due diligence guidelines.

<sup>\*1</sup> Details of the TDK Group Policy on Conflict Minerals, please refer to the following website: [https://www.global.tdk.com/corp/en/csr/social/supplier\\_responsibility/csr02210.htm](https://www.global.tdk.com/corp/en/csr/social/supplier_responsibility/csr02210.htm)

### Fiscal 2017 Goals and Achievements

Goal	Achievement	Main activities and measures
<ul style="list-style-type: none"> <li>● Confirmed DRC conflict-free supplier ratio: over 85%</li> <li>● Monitor number of customer responses</li> </ul>	<ul style="list-style-type: none"> <li>● Confirmed DRC conflict-free supplier ratio: 92.3%</li> <li>● Implement monitoring</li> </ul>	<ul style="list-style-type: none"> <li>● Implementing surveys at Group companies and promotion of DRC conflict-free initiatives based on Group common KPI</li> <li>● Promotion of issue solutions in collaboration with industry associations</li> </ul>

### Responses to Surveys and Promotion of DRC Conflict-free at Each Group Company

TDK is calling upon suppliers to be DRC conflict-free and uses the Conflict Minerals Reporting Template (CMRT) developed by the Responsible Minerals Initiative (RMI)<sup>\*2</sup> to facilitate the collection of sourcing information relating to conflict minerals. In fiscal 2017, according to the conflict mineral survey conducted by our group companies, 92.3% of TDK's suppliers are DRC conflict-free, exceeding the year's goal of 85%. At this point in time, no minerals suspected of being involved in the funding of armed forces in the DRC and adjoining countries have been confirmed. Furthermore, TDK has been responding appropriately to requests from customers, and is monitoring the number of responses.

<sup>\*2</sup> Responsible Minerals Initiative (RMI): An organization of over 350 companies and associations that leads the effort for responsible mineral sourcing.

### Promotion of Issue Solutions in Collaboration with Industry Associations

TDK is a founding member of the Japan Electronics and Information Technology Industries Association (JEITA)'s Responsible Minerals Trade Working Group.<sup>\*3</sup> In fiscal 2017 TDK helped to lead JEITA's Conflict Minerals Inquiry Briefing. We have been cooperating with efforts to revise the EU's Conflict Mineral Data Exchange Standard (IPC-1755) and have been working on conflict-free certification for smelters.

<sup>\*3</sup> For details on JEITA's Responsible Minerals Trade Working Group, please refer to following website: [http://home.jeita.or.jp/mineral/eng/index\\_e.html](http://home.jeita.or.jp/mineral/eng/index_e.html)



JEITA's Conflict Minerals Inquiry Briefing (June 2017)



## Efforts as a Supplier (Consider the work environment at manufacturing sites)

As a supplier from which customers procure products, TDK channels tireless efforts into fulfilling its social and environmental responsibilities at all of our sites.

### TDK's Approach

As a supplier from which customers procure products, TDK is aware that making efforts to consider social and environmental factors at the Group's production sites and fulfilling its social responsibility are important also for the continuation of business. TDK strives to identify issues and make improvements by, for example, implementing CSR self-checks and conducting CSR audits in response to risks in the countries where sites are located.

### Fiscal 2017 Goals and Achievements

Goal	Achievement	Main activities and measures
<ul style="list-style-type: none"> <li>Perform 100% CSR self-checks at manufacturing sites</li> <li>Secure 100% opportunities for third-party CSR audits once every two years (China and Asia region)</li> </ul>	<ul style="list-style-type: none"> <li>100% implementation</li> <li>100% implementation</li> </ul>	<ul style="list-style-type: none"> <li>Implement CSR self-checks at all 82 sites</li> <li>Of the 39 targeted sites in the China and Asia region, implement independent third-party CSR audits at eight sites that have not undergone CSR audits by customers in the last two years</li> <li>Implement CSR internal auditor training in Japan (received by a total of 217 persons up to and including fiscal 2017)</li> </ul>

### Self-checks, Audits and Ongoing Improvement Efforts

TDK has compiled the TDK CSR Self-Check Sheet, based on the self-assessment requirement for membership in the RBA with the aims of identifying issues in CSR activities and replying speedily to customers. This self-assessment is implemented annually at all targeted manufacturing sites. Furthermore, TDK responds to requests from customers for CSR audits, seeing it as a good opportunity to further raise the level of CSR activities. Regarding manufacturing sites in high-risk regions of China and Asia, once every two years we conduct CSR self-audits using third-party auditing companies, including customer CSR audits. TDK has also been conducting CSR workshops and internal auditor training regularly to convey a systemic understanding of the requirements of CSR audits to employees and enhance CSR activities at manufacturing sites.

### CSR Trainings in Japan, China and Malaysia

In fiscal 2017, CSR training was conducted in Japan, China, and Malaysia to further enhance CSR activities. In Japan, 19 people participated, with RBA internal auditor training carried out. In China, 28 people participated, deepening understanding of the revised RBA Code of Conduct and the training system. In addition, 14 people participated in Malaysia, with a local CSR voluntary audit carried out, along with practical training on CSR auditing methods.



CSR training in Malaysia (December 2017)



## Efforts as a Buyer (Consider the Work Environment of Suppliers)

As a buyer procuring materials, TDK engages in CSR procurement, emphasizing communication and building strong relationships of trust. We believe that these efforts enhance the corporate value of both suppliers and TDK.

### TDK's Approach (Purchasing Principles, Purchasing Policies)

TDK engages in global production with production bases in Japan and other Asian countries, the Americas, and Europe. Within the procurement activities that support production, the development of global procurement structures are crucial, and we strive to use those systems to develop products rapidly to remain competitive in the race to be first to market in the electronics industry. Production bases engage in local procurement, but in today's society with ubiquitous IT networks, materials procurement activities require close collaboration with suppliers in ways that overcome time and distance. In addition, measures to fulfill corporate social responsibilities such as compliance with applicable laws and regulations, observance of social norms, and preservation of the global environment are promoted actively through partnerships between TDK and its suppliers. TDK puts these principles into practice by engaging in purchasing activities that adhere to our Purchasing Policies.\*1

\*1 Details of the TDK Purchasing Policies, please refer to the following website: [https://www.global.tdk.com/corp/en/about\\_tdk/procurement/pro02.htm](https://www.global.tdk.com/corp/en/about_tdk/procurement/pro02.htm)

### Fiscal 2017 Goals and Achievements

Goal	Achievement	Main activities and measures
<ul style="list-style-type: none"> <li>CSR-compliant supplier ratio: over 95%</li> </ul>	<ul style="list-style-type: none"> <li>CSR-compliant supplier ratio: 91.2%</li> </ul>	<ul style="list-style-type: none"> <li>Request CSR check sheet returns or implement CSR audits in response to conditions at Group companies based on Group-wide shared KPIs</li> </ul>

### Promotion of CSR procurement

TDK treats CSR as a key component of its purchasing policy, while striving to earn understanding of the importance of CSR from suppliers and encourage increased awareness in that area. We incorporate provisions into contractual agreements keyed to the specific conditions at each of our Group companies, while industriously advancing evaluations based on CSR check sheets, CSR audits, and other efforts. When problems are found in the details, individual requests for improvements are issued. In fiscal 2017, audits confirmed that 91.2% of suppliers of our Group companies were CSR compliant, an 8.8% improvement over fiscal 2016, but still short of the 95% target. We will continue to strengthen our efforts with regard to Group companies and suppliers.



Group CSR procurement training (November, 2017; Japan)

### CSR Audits of Major Contract Manufacturers

Since fiscal 2015, TDK has been conducting CSR audits of major contract manufacturers upon whom TDK has high dependence in China, a country in which there is high risk in the labor environment. In fiscal 2017, three CSR audits were conducted, and 21 issues were identified in total. One important item was a deficiency in protective equipment for workers, and requests were made for improvements in this area.



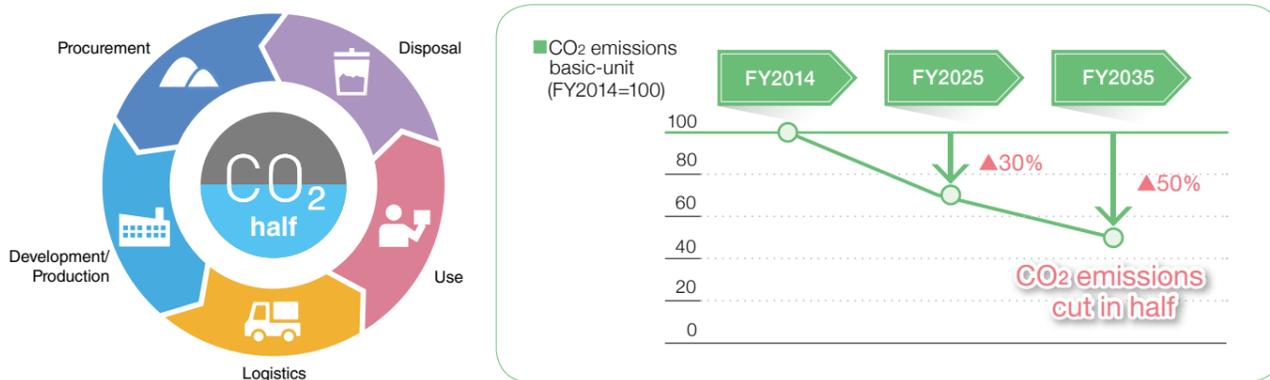
# Develop and Prosper in Harmony with the Global Environment

- Important Themes**
- Reduce environmental load throughout life cycle stages
  - Creating a framework for gauging product contributions

## Reduce Environmental Load throughout Life Cycle Stages

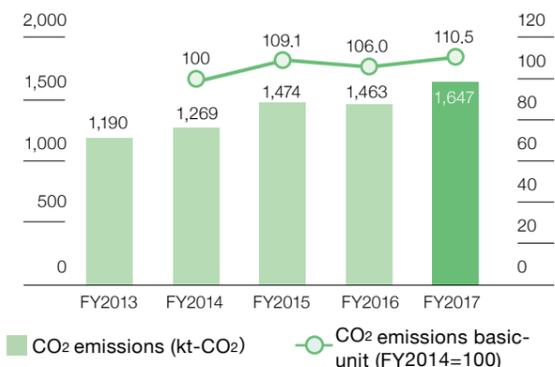
### TDK Environmental Vision 2035

At TDK, we believe that long-term environmental action plays a key role in the effort to achieve sustainable development in society. TDK Environmental Vision 2035, newly launched in fiscal 2016, sets the goal of "to halve the CO<sub>2</sub> emission basic-unit in a life-cycle perspective by 2035", based on operating businesses with low enough environmental load not to disturb natural cycles. This stance stems from the belief that minimizing the environmental load in business activities, and revitalizing the natural environment, is the duty of companies that supply products designed to contribute to its customers and the society. Moreover, modeled on the United Nations Climate Change Conference (COP 21) Paris Agreement, which seeks to curb global warming by achieving a balance between greenhouse gas emissions and absorption sources, this is also considered the ideal corporate posture for all TDK activities.

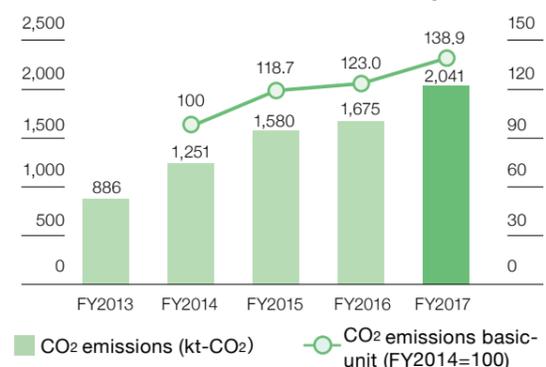


### Major achievements

Trends in CO<sub>2</sub> Emissions from Production Activities (Global)<sup>\*1</sup>



Trend in the Reduction of CO<sub>2</sub> Emissions through Products<sup>\*1</sup>



<sup>\*1</sup> A third party review of the calculation method was performed. Please refer to the detailed information on TDK web. [https://www.global.tdk.com/corp/en/csr/csr\\_data/csr05900.htm](https://www.global.tdk.com/corp/en/csr/csr_data/csr05900.htm)



**Osamu Hikita**  
General Manager of Production Engineering HQ, and Deputy General Manager of Technology and Intellectual Property HQ, and General Manager of Intellectual Property Rights Center of Technology and Intellectual Property HQ  
Corporate Officer  
TDK Corporation

### Increasing corporate value by reducing environmental impact at every life cycle stage

Creating a safe, healthy work environment that does the least harm to the global environment is a foundational premise of our business activities. TDK Environmental Vision 2035 will guide our efforts with regard to the global environment as we continue to deliver products and services that benefit customers and society. We must understand environmental impact from the perspectives of various stakeholders, as we generate impact through the entire life cycle of our products. Our formulation and implementation of a plan that incorporates efforts to reduce environmental impact into all business processes will shape our path forward. Toward that end, in fiscal 2018 we made an organizational change, integrating the departments in charge of production technology and environmental policy. This decision unifies environmental considerations and manufacturing initiatives, and it advances the pursuit of "zero defect quality" which will eliminate waste generated by defects and yields. Going forward, we will continue to improve corporate value by reducing environmental impact as our business contributes to society.



**Tetsuya Kuwashima**  
General Manager of Production Engineering and Environmental Planning Group  
Production Engineering HQ  
TDK Corporation

### Environmental load reduction, merit indicators and a lifecycle perspective

In the effort to halve our CO<sub>2</sub> emission intensity by 2035 as outlined in TDK Environmental Vision 2035, TDK has adopted standards for CO<sub>2</sub> conversion that calculate full-lifecycle environmental impact that extends across a series of business activities. The main life cycle stages for emissions in electronic components are generally: materials procurement, company operations, and product use. For this reason, we have augmented our efforts beyond improvements to the Group's manufacturing facilities and products themselves and begun working with procurement departments to ascertain the current status at suppliers so that we can visualize the environmental load in the supply chain. I also consider it important to set goals matching actual conditions at our business locations rather than basing goals on CO<sub>2</sub> conversion or numerical targets. Collective motivation toward goals is much easier to maintain when those goals can be mapped to practical circumstances. I aim to improve the TDK infrastructure so that all employees feel motivated to contribute via their autonomous actions to reducing our environmental load at all business sites.

## Reduce Environmental Load Throughout Life Cycle Stages

In order to reduce environmental impact on a global scale, efforts are needed that not only reduce our own environmental load but cover the entire value chain, as well. Presented here is an outline of TDK's lifecycle-based environmental approach and our main initiatives.



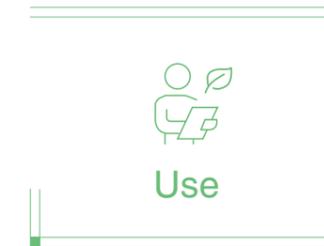
TDK is promoting green procurement and eliminating the use of restricted substances, while also taking measures to reduce suppliers' environmental impact.



TDK is promoting environmentally conscious design through product assessments and reducing environmental loads during manufacturing by cutting down on energy and resource use.



TDK is working with customers to reduce environmental load on top of enhancing in-house logistical efficiencies.



TDK is producing eco-friendly products to help customers reduce their environmental load, while promoting understanding of the value of doing so.



TDK is using recyclable materials and designing products for easy disassembly in consideration of the disposal of products at the end of their lifetime.

### Asking Suppliers to Take Further Environmental Action

TDK invites suppliers to briefing seminars for business partners. Issues to be addressed in fiscal 2018 will include reducing environmental impact at the procurement stage. TDK recognizes how important it is in management to assess environmental impact throughout the full lifecycle of products. Through these seminars TDK plans to emphasize to suppliers the importance of issues both societally and for business, and we will ask suppliers to take further environmental action and cooperate by making the necessary improvements.



Briefing seminar for suppliers (October 2017)

### Reducing Energy in Manufacturing and Fostering the Next-generation

TDK has been working to support improvements and other projects aimed at reducing environmental impact, particularly targeting manufacturing sites in the Group that have high CO<sub>2</sub> emissions. As a result, in fiscal 2017, the Group as a whole achieved a 2.1% year-on-year reduction in emissions, equivalent to 31,388 t-CO<sub>2</sub>. We have also been fostering the next-generation, sending energy specialists to provide training at each site, especially with regard to energy management.



On-site training by persons in charge of energy

### Ag-stacked Film Reduces Environmental Impact

TDK's Ag-stacked film (transparent conductive film) is used as a light-control film for windows and communication antennas. It features high transmittance with low resistance, and will have great potential for use in the fields of energy and organic solar cells in the future. Because of its low power consumption, Ag-stacked film can be used as a driving electrode for light-control film to reduce annual CO<sub>2</sub> emissions by 3.2 tons. The potential for saving energy will only increase with the further expansion of applications.



## Creating a Framework for Gauging Product Contributions

Striving through formulation of industry-shared standards, steps are taken to promote social understanding of the Company's environmental contribution value.

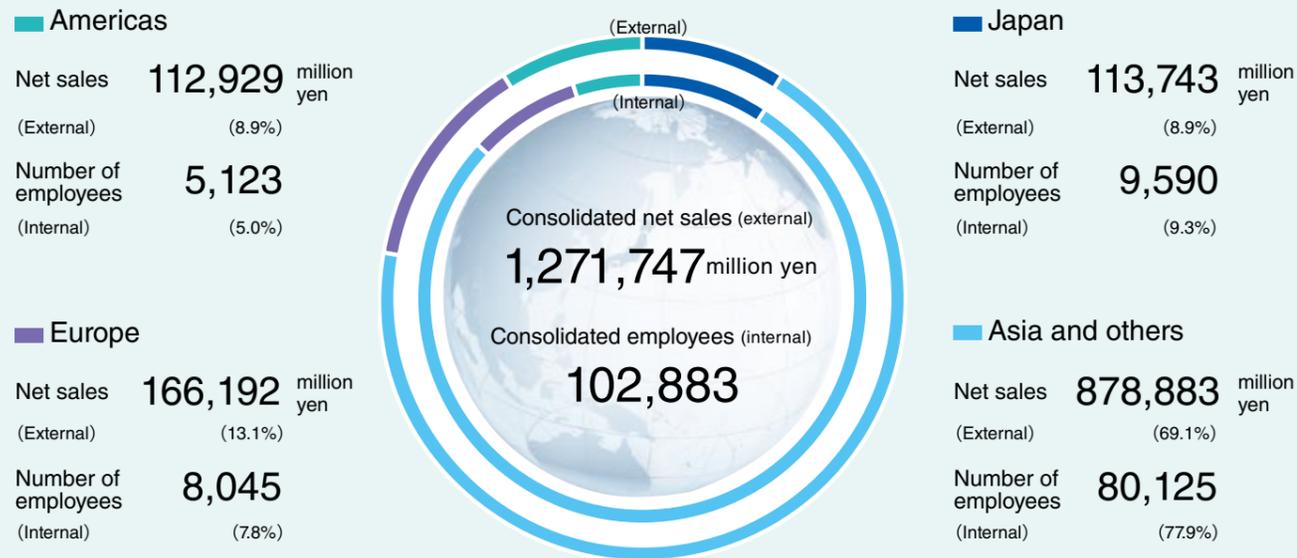
### Efforts at TDK

TDK has quantified and announced its greenhouse gas (GHG) emission reduction contribution by product, and is also working to establish industry standards for methods to quantify the reduction contribution of electronic components. In fiscal 2017, the Electronic Components LCA Working Group of the Electronic Components Board of JEITA, in collaboration with Mizuho Information & Research Institute, Inc., collected and classified examples of greenhouse gas emissions mitigation by electronic components, and outlined a basic approach to quantification. Based on this guideline, JEITA estimated the contribution potential of Japanese electronics manufacturers in the global market presently and in the future (2030), which it announced at the 13th Meeting of The Institute of Life Cycle Assessment, Japan in March 2018. Additionally, information on the contribution potential of electronic components in 2030 was provided to the Liaison Group of Japanese Electrical and Electronics Industries for Global Warming Prevention and will be adopted as explanatory materials for the Electrical and Electronics Industries' "Action Plan for Commitment to a Low-Carbon Society" being promoted by the Japan Business Federation, a government advisory council.

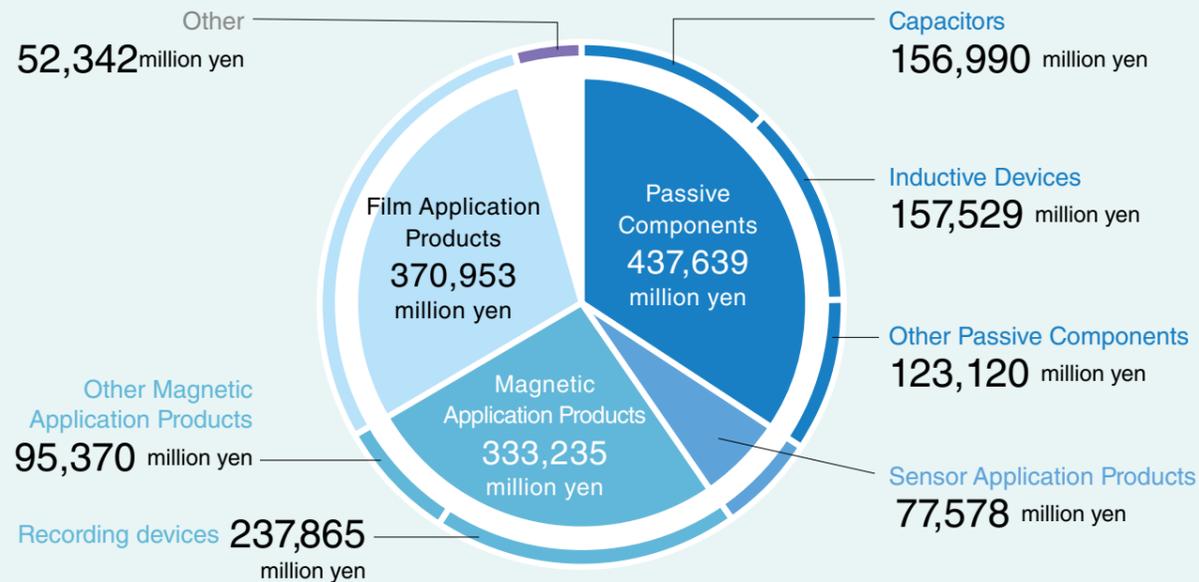
## TDK Group Outline

The TDK Group is active in over 30 countries and regions all over the globe, selecting suitable bases for plants, research facilities, and sales offices from the viewpoints of marketability, product range, distribution, etc. The TDK Group consists of 142 consolidated subsidiaries—15 in Japan and 127 overseas (60 in Asia, 45 in Europe, and 22 in the Americas). The Group's total work force is 102,883 persons.

Net sales **1,271,747** million yen | Operating income **85,633** million yen | Net income **63,463** million yen



### Net sales by product segment (fiscal year ended March 2018)



\* Following organizational changes conducted in the first quarter of the fiscal year ended March 2018, we have newly established the report segment Sensor Application Products. In addition, some products belonging to Other have been reassigned to Other Passive Components in the Passive Components segment, and some products belonging to Recording Devices in the Magnetic Application Products segment have been transferred to Other.

## Third-Party Opinion

To start, I would like to highlight two of the statements made by President Shigenao Ishiguro. The first is the aim to connect electronic components to solutions and the other is his vision of a society in which no one is left behind. The former is the core of his management philosophy and latter lays the foundation of TDK's ideals. In other words, the vision of a truly inclusive society directly informs the solutions which TDK is producing. This fiscal year's report foregrounds the connections that TDK has made between the technical strength of its electronic components and the realization of integrated solutions which promote a society with "no one left behind." These connections operate on all levels of the production chain and exemplify TDK's corporate social responsibility. I would like to share my observations on how CSR connects to such a grand aspiration. First, TDK actively looks externally for necessary assets which link technologies to solutions rather than relying solely on in-house expertise. M&A play a critical role in this process, and one which mandates that TDK develops its social awareness. The investment made into these social considerations will equip TDK to rise to any CSR challenges.

Next is the supply chain. As of this year, TDK has effectively embarked upon the Plan-Do-Check-Act (PDCA) cycle of improvement actions. This is a commendable new development. Among the topics reviewed, supply chain management in fiscal year 2017 was unique in that it did not meet the set goals. With any M&A, the acquired company's supply chain becomes part of the supply chain of the purchaser - suddenly expanding the scope and scale of what must be managed. Though the managers responsible for making such acquisitions a success face numerous challenges, it is critical that all involved prioritize this goal. In this way, each individual will be included in the effort to connect electronics components and solutions.

And then there is the human factor. The key to TDK group's growth rests on shared corporate values and how they are practiced. TDK will need leaders, more than ever before, who can contribute to an environment with shared common values and a commitment to work together toward the realization of those values. For this reason, one of the articles in this year's CSR Report I found particularly engaging concerns the development of the company's workforce. I congratulate the company on its development of 'trusted enablers' (those who are trusted by others and are able to actualize the ideals). These trusted enablers personify the type of people who can transcend national and cultural boundaries to help create an inclusive society with 'no one left behind'.

I was also very interested in the interviews with engineers in the section titled "Contribute to the World through Technology". Each engineer's heightened awareness and passion for their work is palpable, and their desire to generate high-quality solutions unites a truly global engineering team.

Next, I would like to comment on some steps TDK can take to add to this strong momentum. Increasing transparency, by sharing the information that guides decision-making, will support the company's goal of building Social Value. In supply chain matters, though the ratio of current suppliers who meet the CSR criteria is noted, neither prior compliance status of these suppliers nor the standards applied appear. In next year's report, I hope to see these criteria clearly identified. Ideally, the report would specify the areas that did not meet the criteria and resulting actions taken with non-compliant suppliers.

On the environmental front, the application of the life cycle perspective obliges TDK to investigate and report the quantity of CO<sub>2</sub> emissions in each production stage including product use and disposal. Effective methods of reduction are specific to each stage, making this information essential for the formulation and prioritization of countermeasures.

Finally, I believe TDK should foreground the concept of 'no one left behind' in its CSR policy. Management decisions informed by a solid CSR policy link growth with values. As such, TDK stands to benefit by clarifying the inclusive and inter-connected future which it seeks to create; doing so allows discernment of the decisions that facilitate the realization of such a society. By advocating measures the company is taking to move toward an ideal society, TDK's CSR and the company's management will step forward together as one.

Thank you for allowing me to share my opinions with you regarding this year's CSR report. I sincerely believe this year's report does an excellent job illustrating the ways that TDK is contributing to the future of our society - in Japan and throughout the world.



**Toshihiko Fujii**  
Visiting Professor  
Rule Making Strategy Research Center  
Tama University