



President & Chief Executive Officer  
**Takehiro Kamigama**

## Making optimum use of materials and harnessing *Monozukuri* to the fullest, TDK is going from strength to strength

As TDK marks the 80th anniversary of its founding, we have established a new Medium-Term Plan and are creating new business opportunities centered around magnetics as the core. Along with the constant evolution of *Monozukuri*, this will carry us as a group toward the next milestone of a hundred years.

### ■ Summary of fiscal 2015 ended March, 31 2015

#### Well-balanced earnings structure established

After completing a large-scale structural reform and changing course towards a growth strategy, we achieved increased sales and earnings for three years in a row, as of fiscal 2015.

Our consolidated net sales jumped 10% and for the first time exceeded the trillion yen mark, amounting to ¥1,082.6 billion. Operating income rose 98% to ¥72.5 billion, and the operating income ratio climbed three points to 6.7%. With ¥49.4 billion, the current term net income was about three times higher than in the previous term. In response to strong demand, we implemented capital expenditures in excess of ¥100 billion, the largest ever, and cash flow also improved, so that we achieved a net cash position for the first time in seven terms.

In the current term, growing demand in the automotive sector as well as in the smartphone market for China and North America has led to record sales in the passive components and film application products segments. Within the passive components segment, ceramic capacitors, inductive devices, high-frequency components, as well as piezoelectric material components all did better than in the preceding term, generating increased sales and earnings. In the film application products

segment, we achieved sales not only to manufacturers of new type smartphones, who are our main customers for rechargeable batteries, but were also able to cultivate new customers in the Chinese market, resulting in higher sales and earnings over the preceding term.

In the past, TDK had a problem with a somewhat uneven earnings structure, as reduced profitability of the passive components business led to a dominance of the HDD heads business. By optimizing manufacturing bases and implementing other structural reform measures, and by counterbalancing the passive components and magnetic application products segment including HDD heads business with the film application products segment, we were able to establish a solid earnings balance between these three key segments.

Under the newly formulated medium-term plan for the period from fiscal 2016 to fiscal 2018, we have begun to move forward toward further growth. In order to promote a deeper understanding of the direction in which the company will be progressing from now on, I intend to look back in time and touch upon some problems that we confronted and transformations that we have undergone.

■ A structural reform to rebuild TDK

## Regaining the source of our competitiveness: Integrated production

Some of the difficult events that TDK had to face in recent times were the global economic crisis triggered by the Lehman Brothers collapse in September 2008, the Great East Japan Earthquake in 2011, the reshuffle of HDD manufacturers, the great floods in Thailand, and the yen exchange rate climbing as high as ¥75 to the U.S. dollar. With the aim of dealing more efficiently with drastic changes in the management environment, we embarked on a large scale structural reform starting in fiscal 2013.

We sold the organic EL business which was only peripheral to our operations, and also reorganized our business portfolio in other ways, such as retreating from the data tape and Blu-ray businesses. This allowed us to concentrate management resources on growth sectors and areas central to our business. Various other reform measures were also implemented, mostly focused on improving the profitability of passive components centered on multilayer ceramic capacitors.

Although TDK used to command a high market share in the multilayer ceramic capacitor category, we had lost ground and our presence had diminished gradually. Major reasons for this were seen in the timing of facilities investment in the face of expanded demand, and a delay in starting to develop the ultra-small components required for smartphones, but as a matter of fact, our overall *Monozukuri* product creation power in the passive components sector was suffering from problems.

In 1966, TDK was the first company to locally develop a cassette tape product in Japan. While devising and perfecting proprietary magnetic materials technology and coating techniques, we became extremely competitive on the world stage, and the TDK brand was successfully established as a solid presence. Later, we adapted the system of horizontal labor division that had been used for the business-to-customer (B to C) cassette tape field also to the business-to-business (B to B) operations in the passive components sector.

A major strength of TDK since its beginnings had been integrated production based on *Monozukuri* principles, with all processes from the source material to the final product being handled in-house. Creating products from the materials level up gave us an advantage in product evolution that cannot easily be duplicated. Furthermore, when all steps to completion are handled in-house, various issues that may occur in regard to manufacturing or technology become more readily apparent, and bold steps towards rationalization can be taken. By contrast, in the horizontal labor division production system, these advantages were gradually

lost, and the utilization of IT for materials procurement and production management also was hampered by delays. As a result, competitiveness suffered in terms of quality, lead time, and production costs.

TDK therefore embarked on a program of restoring the passive components business as a pillar of earnings, and we actively pursued the consolidation of domestic bases. We closed outdated manufacturing sites of passive components, and concentrated domestic production on fewer sites. We also transferred some of the outsourced production back to in-house operations. In this way, we streamlined the *Monozukuri* process that had become too convoluted, and we purposefully progressed on the path of returning to integrated production. This not only helped in reducing fixed costs, it also contributed to shorter lead times and lower logistical expenses. And equally important, we were able to foster human resources with a clear and immediate grasp of the entire process, from raw material to finished product.

In the area of multilayer ceramic capacitors, relying on our strengths in materials technology and process technology, we concentrated our management resources on creating outstanding products for the automotive sector and for industrial and energy-related equipment, and directed marketing efforts at selected targets. Through these reforms, we were able to return the passive components business to a stable and solid earnings structure.

Having begun overseas operations in the 1950s, TDK now operates about 100 sites in more than 30 countries around the globe. We have built a truly global operations base, with 91% of our net sales being generated overseas, and 88% of our products also being manufactured outside of Japan. However, becoming a global corporation was not easy, as a number of obstacles had to be overcome.

One of these was ensuring a true synergy effect from the integration of the German electronic parts giant EPCOS Inc., which was acquired in August 2008 with an investment of approximately ¥170 billion. In addition to consolidating production bases, we tried to improve manufacturing processes through cooperation between TDK engineers specializing in magnetic heads and engineers from EPCOS. We also were eventually able to achieve stronger penetration of the Chinese market, thereby returning both EPCOS and our high-frequency components business to solid profitability. By harnessing the sophisticated technological expertise of EPCOS, for example in applications and modules, we are transitioning to the stage where the maximum benefit from the acquisition can be achieved.

We also took drastic measures to reform the global sales framework. Starting from April 2014, we divided our various product families laterally into three key strategy market segments, namely “Automotive,” “ICT,” and “Industrial Equipment and Energy.” In this way, we strengthened the base for effective business development where “Development & Manufacturing” and “Sales” can work together in a unified relationship. The main purpose is to enable businesses of the TDK Group the world over to respond appropriately to the needs of customers who are expanding their supply chain globally, by promoting wide-ranging business development in various regions. In order to make this approach work effectively, we are promoting high-level cooperation and quick decision making through measures such as global management conferences that link our worldwide

bases with each other. We also have formed a global R&D structure with four key bases: Japan, U.S.A., China, and Europe. In Japan, the focus is on new materials and new manufacturing processes as well as new products, while the other bases are strong in performing R&D that closely tracks the situation of customers.

Having completed the structural reform and returned to a growth trajectory, our company will mark its 80th anniversary this year. As we turn our attention to 2035 and the 100th anniversary as our next milestone, we need to maintain sustained competitiveness and further expand our corporate value by creating businesses that are oriented towards the future. The Medium-Term Plan which has taken effect in fiscal 2016 is an expression of this forward-looking stance.

### New Medium-Term Plan

#### Basic Policy

Advance autonomous collaboration of the group and realize further growth

#### Key Concepts

- 1 Pursue “zero - defect quality” based on superior technical capabilities
- 2 Drive genuine globalization with speedy management
- 3 Develop a new business with the revenue of over ¥100 billion following the three major business segments
- 4 Innovate the corporate culture and cultivate courageous spirits

■ New Medium-Term Plan

## Creating business focused on the 100th anniversary

The new Medium-Term Plan retains “Automotive,” “ICT Net work,” and “Industrial Equipment and Energy” as the three key markets for TDK, with the five key business sectors being defined as inductive devices, high-frequency components, piezoelectric material components, HDD magnetic heads, and rechargeable batteries. In addition, the new policy also sets a target of creating revenue on the order of ¥100 billion in new business ventures by fiscal 2018, with a view towards developing future revenue pillars for TDK.

Among the three key markets, the share of the automotive sector which accounted for 17% of sales in fiscal 2015 is to be expanded to 30% by fiscal 2018, which forms another important goal. More than 40 years ago, TDK turned its attention to electrical

equipment in automobiles, and entered that market by offering components such as magnets, inductors, and capacitors, which enabled us to build a solid customer base. While retaining this business foundation, we are now going beyond the existing lineup by increasingly offering customized products, and in addition to selling to Tier 1\* suppliers, we are engaged in efforts to expand our customer base among manufacturers of finished vehicles.

\* The highest level of suppliers in the automotive sector, delivering directly to car manufacturers

The ICT market is at a stage where the move to LTE is spreading beyond China, extending also to regions such as Europe and India. In Japan, the transition to 4.5G is progressing, and in the long run 5G is expected

to emerge as well. This not only will lead to an increase in the number of parts, but will also involve more complex circuitry and intensify the need for space-saving components and highly efficient power management. To meet such demands, highly sophisticated technology will be crucial. In areas such as camera modules and lithium polymer batteries, TDK is aiming for deep market penetration by offering high-added-value products made possible by our advanced thin-film technology, process technology, and packaging technology. In the high-frequency components sector, we are going beyond obtaining reference specifications to active collaboration with major chip manufacturers, and are also moving into modular products.

Areas identified as having high growth potential for new business operations are magnetic sensors for automobiles and industrial equipment, energy units for cars and industrial equipment, including wireless power transfer systems, highly efficient, ultra-thin wireless charging systems for wearable devices, miniature modules for health care products, and thin-film parts. As indicated above, magnetic sensors for automobiles are especially promising in this regard. In the area of thin film products, the combination of process technology and materials technology perfected for HDD magnetic heads, along with components such as common mode filters, RF filters, inductors, and MEMS parts is enabling us to create a succession of new products that stand out in terms of small dimensions and low profile. In

#### ■ A TDK-style Monozukuri revolution called “TDK Industry 4.5”

### — Towards the realization of “Zero Defect Quality”

I believe that we have to thoroughly advance our *Monozukuri* culture as well. Under the growth strategy banner, we will be taking a determined and forward-looking stance.

As labor costs in China keep rising and the situation in the former “factory of the world” is drastically changing, TDK is planning to return some of the production that was moved overseas back to Japan. However, the reasoning for this change is not merely based on the above mentioned changes in the production environment.

The trend towards extensive use of electric and electronic equipment in automobiles is becoming ever stronger, and in our daily lives smartphones are expected to perform a myriad of functions. The age where robots will become an integral part of some aspects of daily life also seems not too far off. Even more than until now, electronic components will pervade the fabric of society, and they may increasingly

November 2013, we established the Thin-Film Device Center and is now forging ahead with development and production, having concentrated management resources in a single location.

During the period of the medium-term plan, I intend to utilize funds for growth oriented-investments as described above. During the three years until fiscal 2015, total capital expenditures amounted to ¥256 billion, which will be raised to ¥350 – 400 billion in the new three-year period. This will include new plants in Akita Prefecture and strengthened production capacities for the five key business sectors. The new manufacturing sites in Akita, unlike old sites that have been aging for 30 to 40 years, which we have been progressively closing, are positioned as “mother plants” for *Monozukuri* technology development. R&D expenditures will also be increased to about ¥230 billion over the course of three years. The target for dividends over the period will be a 30% payout ratio, and we will aim to ensure stable dividends through the growth of earnings per share.

Through the steady implementation of measures, we will continue to push towards the achievement of a quantitative plan calling for both operating income ratio and ROE of at least 10% by fiscal 2018. For fiscal 2016, which can be seen as a starting point towards our 100th anniversary, we aim to top the profit figures at each stage for the first time in 14 years. We can expect the various seeds that have been sown over the years to bear fruit one after the other.

play a vital role also in situations that are a matter of life and death. If this is so, the matter of “quality” will undoubtedly be the focus of close attention and scrutiny. TDK will relentlessly pursue “Zero Defect Quality” and create a *Monozukuri* culture that ensures powerful competitiveness in this regard.

I strongly believe in the “location free” concept. What this really means is that regardless of factors such as labor cost and personnel proficiency, the same quality can be produced at any site, regardless of its geographical location. An absolute requirement for this is integrated production, covering all steps starting from the material and progressing through front-end processes and assembly processes to the back-end processes. By performing upstream control whereby problems are detected and back traced to the preceding process, causes for nonconformance can be found and eliminated. The improved yield also contributes to a

higher profit ratio. In this regard, the reconfiguration of production sites in Japan that we have been pursuing was only one step towards the further evolution of *Monozukuri*. The first actual realization of the “location free” concept will come in the form of two new key production bases that will be built at a cost of ¥25 billion in Akita Prefecture (at the Honjo and Inakura plants), with construction scheduled to complete in summer 2016.

In Germany, the “Industrie 4.0” concept refers to the 4th industrial revolution, pursued jointly by the industrial, governmental, and academic sectors. It envisions the creation of smart factories where production lines utilizing the Internet of Things (IoT) autonomously exchange information, thereby drastically improving efficiency. To this idea, which is seen to produce a paradigm shift that

could rival the industrial revolution in importance, TDK is bringing its own strong concern for quality, aiming to realize new types of factories under the “TDK Industry 4.5” program. A monitoring system network comprising cameras and sensors will enable the autonomous detection of problems in the manufacturing line in real-time, with analysis being performed in the cloud and the results being fed back to the process for upstream control. This not only facilitates the pursuit of zero defect quality, but also revolutionizes inventory control and energy efficiency. After the start in Akita, it is planned to expand the concept to China and eventually to sites around the globe.

“TDK Industry 4.5” is not simply an attempt to create smart factories. It is a full-fledged *Monozukuri* revolution that reflects the unique quality dedication of TDK.

#### ■ A strength nurtured and polished over 80 years magnetics technology

### — Strongly dominating a field with a high entry barrier

With a view towards the future and the 100th anniversary of the Company's founding, here are my thoughts on what the technological foundation of TDK should be.

Tokyo Denki Kagaku Kogyo K.K., the forerunner of TDK, was founded in 1935 in order to commercialize ferrite, a magnetic material that had been invented by Dr. Yogoro Kato and Dr. Takeshi Takei of the Tokyo Institute of Technology. Taking its beginnings in an epoch-making invention, the Company continued to refine and improve magnetic materials from the molecular level, resulting in breakthroughs such as the first domestically produced cassette tape in 1966 and advancements in magnetic heads for hard disk drives, enabling dramatic increases in storage capacity. The company's history is characterized by a long stream of innovations. Without a doubt, “magnetics technology” is at the very root of TDK's competitiveness. Although we did temporarily venture into optical media such as CDs, MDs, DVDs, and Blu-ray discs as well, our history is built on magnetics technology.

As we reach our 80th year, we will continue to enhance and deepen our mastery of magnetics technology. That clearly is the best way to further bolster our position of strength in the industry. The magnetics field where we have superior competence presents a very high hurdle for entry by competitors.

In 2015, we adopted “Attracting Tomorrow” as our new communication message. This refers both to the power and ability to attract people as well as to the properties of a magnet that attracts iron. The slogan is intended to demonstrate our aim of “attracting the

future,” both through our strength in magnetics technology and through our ongoing efforts at improvement, in Japan as well as overseas.

In this respect, I would like to briefly touch upon the outlook for the future.

Magnetic heads for HDDs are a pillar of our earnings. On one hand, the spread of mobile devices and the lower prices of solid state drives (SSDs) are causing a reduction in demand for such heads for use in personal computers. On the other hand, the spread of cloud computing and the accompanying growth of data centers are causing an expansion in demand. Furthermore, the number of magnetic heads per HDD is increasing in the type of hard disks used by data centers, and the move to Big Data is expected to result in continued solid demand. The next generation of magnetic heads, called thermal assisted magnetic recording heads, which use a laser to realize the next breakthrough in recording density is currently under development.

By increasing production efficiency and increasing competitiveness on the cost side, we aim for rapid market penetration of the new technology, thereby further bolstering our unique position as the only specialized magnetic heads manufacturer.

However, in the long run it will be necessary to ensure that our company can enjoy sustained growth, even if the market for HDD magnetic heads should shrink drastically. The subsequent field where we expect to develop our next pillar of earnings is TMR sensors, a type of magnetic sensor developed through the application of spintronics, as briefly mentioned

previously. By harnessing expertise and know-how gained in the development of HDD heads, we can overcome difficult technical challenges, enabling us to meet the stringent accuracy demands of customers. TMR sensors from TDK boast excellent angle detection precision as well as high stability over a wide temperature range. Our first target area, where mass production has already begun, is the automotive market. Starting with angle sensors, we plan to expand our lineup to include applications such as rotation sensors. Furthermore, in a world where the IoT has become commonplace, many different kinds of devices that surround us in daily life will be equipped with sensors. We intend to combine unique TDK components such as piezoelectric and thermoelectric elements into integrated magnetic sensors

that will give us an advantage in the market, and which will also enable us to counter optical and other sensors in the industrial equipment field.

With regard to the “electrification” of the automobile, I believe that hydraulic control is increasingly being replaced by electric power. As a result, demand for magnets used in small electric motors with high performance is expanding. In the area of electric appliances for the home, the demand for high-efficiency motors also is likely to grow, and looking further ahead into the future, robots will also require a large number of small electric motors. This clearly points toward the enormous potential of magnets. The magnet business, which is in TDK’s DNA, is bound to open up many future possibilities as well.

■ Technology and founding spirit to carry us toward the 100th anniversary

## Truly competitive technology leads to management with a long-term perspective

I believe that the essence of TDK’s business model is a long-term stance, both with regard to developing business as well as technology. When I was responsible for the HDD magnetic heads sector, we took a full five years to eventually develop a new material that proved competitive. To create a new elemental technology or material, or to renew a *Monozukuri* process and develop a truly original product, about 5–8 years is necessary. If management aims only for short-term results, the organization as a whole will become prone to latching onto the obvious. This stifles originality and results in focusing on products in areas with a low entry barrier. Clearly, it is not the way to dominate the competition.

Taking the cue from my predecessors, I also strongly believe that one should try to plant seeds always with a long-term view. Following this concept across generations will enable us, as we did over the past 80 years, to bring forth innovative products that stand apart from the crowd. In this way, we can move toward our 100th anniversary while further enhancing corporate value.

The spirit of the Company’s founder, which is expressed by the corporate motto of “Contribute to culture and industry through creativity” should also be transmitted across generations. The founder’s vision and belief was “to realize the industrial potential of a unique Japanese magnetic material called ferrite, and thereby to contribute to the advancement of society.” This became the basis for the creation of a series of innovative products. For TDK to pursue sustainable development until its 100th year and beyond, we must

always be an entity that is relied upon by society. With this aim in mind, we shall endeavor to meet the expectations of society, both through innovative developments for example to help conserve energy or in the medical and health care sector which is becoming ever more important due to changing age demographics, and through a *Monozukuri* attitude of manufacturing products while being mindful of society and the environment.

It goes without saying that the source of all of our innovations is “people power.” TDK has always thought of its employees as its most important resource. As we are headed for the realization of true globalization, we will be even more intent to hire, train, and deploy capable individuals without regard to gender, nationality, creed, or religion. In order to accelerate growth on our way toward 2035, there is a need to deeply disseminate the founders’ spirit and the action guidelines among overseas personnel, which make up more than 90% of our workforce. On the occasion of starting the new Medium-Term Plan, we have therefore newly set down the Corporate Vision and TDK Value (action guideline) which interpret the corporate motto in terms that are attuned to the current age, and have embarked on a reform of corporate culture. Of course I am also bound by the TDK Value to lead by example. Also, in order to realize long-term shareholder value improvement we are engaged in establishing an “active governance structure.” From very early on, TDK has been making efforts to strengthen corporate governance. In 2002, we brought in outside directors. The chairman of the Board

## 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 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 its 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

We have;

- Strong determination to contribute to our customers’ success
- Passion to be a trusted partner for our customers

Therefore we can;

- Deliver inspirational value by standing in the customer’s shoes
- Offer outstanding quality products, services, and technology to satisfy our customers

#### Challenge

We have;

- Culture to turn adverse challenges into chances to develop ourselves
- Strong determination to accomplish our business goals by overcoming adversity

Therefore we can;

- Accept challenges to make innovative breakthroughs and continue to create new value
- Lead our colleagues and collaborate as a team by sharing the same value

#### HR Development

We have;

- Aspiration to continuously improve ourselves
- Motivation to contribute to the advancement of society and growth of businesses

Therefore we can;

- Define clear vision / goals and drive ourselves to achieve them
- Support the development of our colleagues and build enthusiastic teams

#### Diversity

We have;

- Global network with diverse culture
- Teams which respect each other and teamwork which encourages development

Therefore we can;

- Embrace different ideas and opinions
- Clearly express our opinions with sincerity through open discussions

of Directors as well as the chairs of the Compensation Advisory Committee and the Nomination Advisory Committee are also outside directors. We also actively recruit foreign corporate officers. In 2015, we had an evaluation of the Board of Directors performed by a third party. An analysis based on a comparison with the governance codes and rules of competitors both in Japan and overseas confirmed the effectiveness of the Board of Directors, but also brought to light a number of problems. Taking such outside opinions aboard, and implementing the Corporate Governance Code that applies to Tokyo Stock Exchange-listed companies since June 2015, we are strengthening our internal structure, and will further promote a constructive engagement and dialog we with shareholders and investors.

Based on a strong belief in the possibilities of magnetics, nurtured and honed over the course of 80 years, we will continue to work towards making TDK the company that the world thinks of when speaking of magnetics. We will not shirk our responsibilities and remain committed to the progress of solid manufacturing as embodied in the *Monozukuri* concept. The TDK revolution has only just begun. I look forward to your continued warm support for TDK’s future challenges.

October 2015  
President & Chief Executive Officer  
Takehiro Kamigama

