

TDK Investors Meeting 2021

TDK Corporation Corporate Communications Group May 24, 2021

Attendees

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Shigenao Ishiguro President & CEO



Seiji Osaka Executive Vice President, GM of Corporate Strategy HQ



Tetsuji YamanishiNoExecutive Vice President,SerGlobal Chief ComplianceCECOfficer,BusGM of Finance &Accounting HQ



Noboru Saito Senior Vice President, CEO of Sensor Systems Business Company



Michael Pocsatko Senior Vice President, GM of Corporate Marketing & Incubation HQ



Andreas Keller Senior Vice President, GM of Human Resources HQ



Shigeki Sato Senior Vice President, GM of Technology & Intellectual Property HQ



Fumio Sashida Corporate Officer, CEO of Energy Solutions Business Company



Ji Bin Geng Corporate Officer, GM of Energy Devices Business Group of Energy Solutions Business Company



Taro Ikushima Corporate Officer, CEO of Electronic Components Business Company



Presentation

Medium-Term Plan (from FY2022 to FY2024)

Shigenao Ishiguro, President & CEO Tetsuji Yamanishi, Executive Vice President



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Medium-Term Plan (from FY2022 to FY2024)

Review of the Previous Medium-Term Plan





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Results of our growth strategies

- ▼Downturn in the automotive market (to FY2021/1H)
- ▼Worsening tension between the U.S. and China (Chinese economy slowdown)
- ▼COVID-19 lockdowns (production activities suspension)
- riangle "New Normal" (remote work and education)
- \Rightarrow Expanding the share of rechargeable batteries
- \triangle Expanding 5G-related demand
- \Rightarrow Rechargeable batteries, passive components, and sensors \triangle Expanding EX-related demand
 - \Rightarrow The launch of new power cell products

Results of efforts to improve social value

- E: Full-scale activities of Sustainability Promotion HQ
- S: Full-scale deployment of Global HR Project
- S: Reinforcement of diversity activities
- G: Introduction of global common regulations (KITEI Project)

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Global Changes

(1)

2

Land and Capital created wealth





defense policy

Conflict of initiative made used technology

COVID-19 Pandemic



Information and Data create wealth

Change of values of sustainability ~ Change of requirement to companies

- Contribute to social sustainability through business activities.
- Environment, Energy, Society, Human rights...SDGs.

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5G, AI and RE will become the social infrastructure to uphold the evolution of industries and devices (DX/EX)

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Key Innovations for the next 10 years

New Infrastructure



Next generation communication and hardware performance enhancement enable high level of data analysis in practical level. Evolution and prevalence of AI make data analytics and forecasts more accurate and accelerate optimization and automation.

AI



As the society becomes more conscious of environment issues, demand for renewable energy will rise and energy cost will drop and the renewable energy will prevail.



2

5G communication will impact on multiple industries

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Source : DTC

AI will evolve from recognition accuracy, motion learning, **公TDK Attracting Tomorrow** context understanding and prevail in every industry 2 AI's technological evolution based on deep learning (~2030) AI Recognition **Context Understanding Motion Learning** Recognize images more Learn to move like Understand context accurately than human (Link sentences and images) skilled human CAGR 2016 2020 2025 (2018-25)4 Billion USD 16 Billion USD 169 Billion USD 55.6% 2010 2020 2030 Quantum Computing Image Multi-modal Symbol Knowledge **Robotics** Interaction recognition recognition aroundina acquisition Autonomous Higher "Soft touch & Action Direction Comprehensive action accuracy in prediction Lift up" by Understanding of AI responding to aggregated image abnormal recognizing the language evolution environmental knowledae recognition detection situation changes Anti-crime Auto drive Education Nurse care Main Image diagnosis Surveillance Logistics Translation Cooking **Secretary** applications Advertisement Construction Security **E-Commerce** White collar cleaning Marketing Manufacturing

Source: Deloitte based on Allied Research "Global Artificial Intelligence AI Market 2018-2025" and various books and materials

Renewable Energy

3



Mega Trends in Energy Industry



Oecarbonized

- ✓ Electricity producers will focus on renewable energy
 - Paris Protocol requests elimination of CO₂ emission
 - Almost all electricity demand needs to be supplied by renewable energy.

b Decentralized

- ✓ Cost reduction of renewable energy
 - Due to increase of installations, economy scale will work on cost reduction of renewable energy
 - Increase of distribution cost makes renewable energy cost competitive
- ✓ Better utilization of electricity distribution

C Digitalized

- \checkmark Resolving issues with renewable energy
 - Digital technologies will solve the instability of renewable energy generation
 - Adjust and optimize renewable energy generation as entire grid

Key Technology Trends in 7 Strategic Markets



*Sensor fusion: Collectively processing data from many sensors to achieve greater recognition function than could be obtained from only 1 sensor

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Outlook 2030: millimeter wave compatible 5G smartphones will appear and diffuse, while edge AI makes smartphones intelligent, leading to Attracting Tomorrow greater amounts of content being consumed and increased use of clouds



Changes to the layers of businesses involved in 5G smartphones, and functional requirements of devices/components



*Grayed out since they are not expected to become a reality until 2030 or later

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Key Technology Trends in 7 Strategic Markets



*Sensor fusion: Collectively processing data from many sensors to achieve greater recognition function than could be obtained from only 1 sensor

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Outlook 2030: EVs will link up with the power grid, wireless charging will become more efficient, systems will have higher voltage, parts will Attracting Tomorrow be integrated, systems will be safer, and energy sources will diversify



Changes to the layers of businesses involved in EVs, and functional requirements of devices/components



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2CX: Customer Experience, Consumer Experience





Value Creation Cycle

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~Accelerate DX and EX in order to realize 2CX and create value for a sustainable society

Achieve Sustainable Growth

Digital Solution

Sensors, data storages, and electronic components supporting digital transformation

<Data storage>

HDD heads

Industrial storages

<Transducer>

Temperature sensors Hall IC MEMS sensors Piezo actuators

Pressure sensors TMR magnetic sensors MEMS microphones

<Electronic components>

5G~High-frequency components RF inductors Noise suppression components Heat countermeasure components Anechoic chambers & EMC measurement systems

Corporate Marketing & Incubation HQ

Corporate venture capital

Global R&D center function (Japan, U.S., Europe, China)

Energy Solution

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Batteries, power supplies, and electronic components supporting effective use of energy

<Energy storages>

Small / medium size rechargeable batteries

<Power supplies>

Bi-directional power supplies Programmable power supplies High quality medical / industrial power supplies EV power supplies (DC-DC, onboard chargers)

<Motor & generators>

Magnets for EV / wind power generations

<Electronic components>

Automotive MLCCHigh capacitance MLCCPower inductorsTransformers

- ◆ Global HR system
- Global common regulations
- Global sustainability promotion function

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Corporate Strategy



(Yen billions)	FY March 2021 Result	FY March 2024 Target	CAGR
Net sales	1,479.0	2,000.0	11%

CAGR

Passive Components	7%
Sensor Application Products	25%
Magnetic Application Products	12%
Energy Application Products	11%

TDK Group's Materiality



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Medium-Term Policy : Accelerate DX and EX in order to realize 2CX and create value for a sustainable society

Energy transformation (EX): Contribution to energy and environmental solutions by minimizing waste heat and noise with electronic devices	Quality Management	HR Management	Supply Chain Management	Opportunity & Risk Management	Pursuing Both Delegation of Authority and	Asset Efficiency Improvement
Effective use of energy and expanding use of renewable energy toward the realization of net zero CO ₂ emissions in 2050 Provide products and solutions for creating clean energy to realize a zero-carbon society Provide products and solutions for realizing an efficient energy society by storing, converting, and controlling energy	 Pursue zero- defect product quality Reduce quality costs Maximize 	 Develop human resources to lead the TDK Group Foster greater diversity and inclusion 	 Enhance global procurement capabilities and mechanisms Ensure responsible procurement 	 Identify and capture business opportunities effectively by strengthening marketing capability with full use of digital 	 Ensure speed and transparency in operations, based on the clearly defined roles, authorities and responsibilities of each organization 	 Rebuild business portfolio Optimize facilities and manufacturing sites
Digital transformation (DX): Promotion of the digitization of society by adding software technology to material science and process technology Provide products and solutions to help build resilient communication network infrastructure	customer satisfaction with product and service quality	 Improve employee engagement and job satisfaction to attract and retain talented employees 	• Ensure societal and environmental consideration in the supply chain	 technology Strengthen the group's risk management capabilities 	 Make management systems of each group company more effective and efficient, aligned with the group's unified policy 	
Provide products and solutions for supporting robotics and mobility to promote human capability enhancement and complementation Promote digitalization at TDK					 Implement appropriate post- merger integration (PMI) for acquired companies 	

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Value Creation 2023

~Business Strategy~

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Value Creation 2023

~Passive Components Business Strategy~

Electronic Components: Launch distinctive products for strategic growth markets using proprietary elemental technologies





• Ferrite Substrates optimized

Piezoelectric)

Power Inductor for Automotive Grade: Optimize products with multiple elemental technologies for growing applications (e.g., ADAS, Autonomous driving)



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Ceramic High Frequency Components Market and Strategic Products

LTCC = Low Temperature Co-fired Ceramics

- Conductors are formed on the ceramic sheet with silver paste and fired simultaneously in multiple layers
- High Frequency Components using LTCC technology

RF Filters, Diplexer, Coupler, Balun, Antenna …



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MLCC Market and Strategy



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~Sensor Business Strategy~

Expansion of Sensor Business

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Measures for Sensor Business toward Positive Profit





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~HDD Head Business Strategy~

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Head/HGA demand will increase



10discs 20Heads (20TB)





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5discs 10Heads (5TB)

We are ready for all advanced technology (New technology implementation is a chance!!)



TAMR (HAMR): Thermal(Heat) assist magnetic Head

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Key Strategy for Growth

Succeed as the world's only independent manufacturer in the field of magnetic head storage by supplying technologies catering to the needs in the era of large-capacity data storage

> Retain MAMR technology leadership and make smooth transition to TAMR:

- ✓ Successfully ramp the MAMR 1st generation, and extend the MAMR to 2nd and 3rd generation.
- ✓ Advance the TAMR technology and prepare for mass-production.
- ✓ Support all customers for technological migration.

> Optimize production capacity and operations to support future growth:

- ✓ Prepare the wafer and backend capacity to support new technology mix, such as TDMR, MAMR and TAMR, and demand growth in the HDD industry.
- ✓ Achieve operation excellence by continuing to deploy automation, Smart Factory system, AI and Big Data.

> Effectively utilize high-precision suspension technology into new fields:

- ✓ Launch next generation Tri-stage actuator technology to support high-capacity N/L drives.
- ✓ Apply HDD Suspension component technologies for micro electronic components in ICT market.

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Value Creation 2023

~Energy Solutions Business Strategy~

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Energy Solutions for Sustainable Society



directional DC-DC converter and ESS

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Mid-Term LIB Market Overview and Strategy

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Power Supply Business

No. 1 Share in Industrial and Medical Healthcare Segment







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Energy

For the use of renewable energy, a bi-directional converter is a key device. which is suitable for efficiently charging and discharging batteries.

AC, DC Grid

Semiconductor Mnfg. / Tester

A programmable power supply with excellent operability that is widely used in semiconductor Mhfg. equipment, ICs and storage

battery testers.

IC Tester

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Genesys Series

Medical Healthcare

The customers in this space demand the ultimate quality and reliability of our power's proposition in MRI, PCR tester, Patient monitor, etc.

MRI



CME Series





EV Power Supply

<u>Contribute to xEV market expansion by "Value adding" & "Modularization"</u>

- Value adding : Enable to adapt increase of electric power demand because of multi-functionalization (for safety, improvement of comfort, etc.) and fast charging, by making current & voltage higher with our high-performance components and power supply system.
- Modularization : Realize weight saving by low-profiling & miniaturization utilizing original HTC-PCB and high-power density design.

Trend of xEV power management





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Value Creation 2023

~Financial Strategy~

Mid-Term Financial Strategy / Capital Allocation Policy

- Make aggressive growth investment to grasp accelerating DX/EX trend and improve cash flow generating capability, which leads strong financial base to support sustainable growth
 - Investment will be allocated to core biz with inclined distribution to improve cash flow
 - Secure positive 3 years total free cash flow (after SH return), maintain financial discipline
 - Implement stable shareholders return through growth of earnings per share



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Corporate Motto & Principles







Corporate Motto Contribute to culture and industry through creativity Vision Courage Trust

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