



# **TDK Investor Day 2025**

**To Enhancement of Corporate Value  
through Pre-Financial Capital**

TDK Corporation  
September 1, 2025





▶ TDK is in **everything**  
*driving innovation and progress*

▶ Strive to be **better**, every day  
▶ *transforming TDK*

# In Everything, Better

▶ Creating impact from within  
*by our technology and venture spirit*

▶ Make the world **better**  
*and transforming society*



# Today's Agenda

**1**

**Opening Remarks**

**2**

**CHRO Session | Human Capital Management**

**3**

**CTO Session | Cutting-edge Technology**

**4**

**Q&A**



# Opening Remarks

**Noboru Saito**

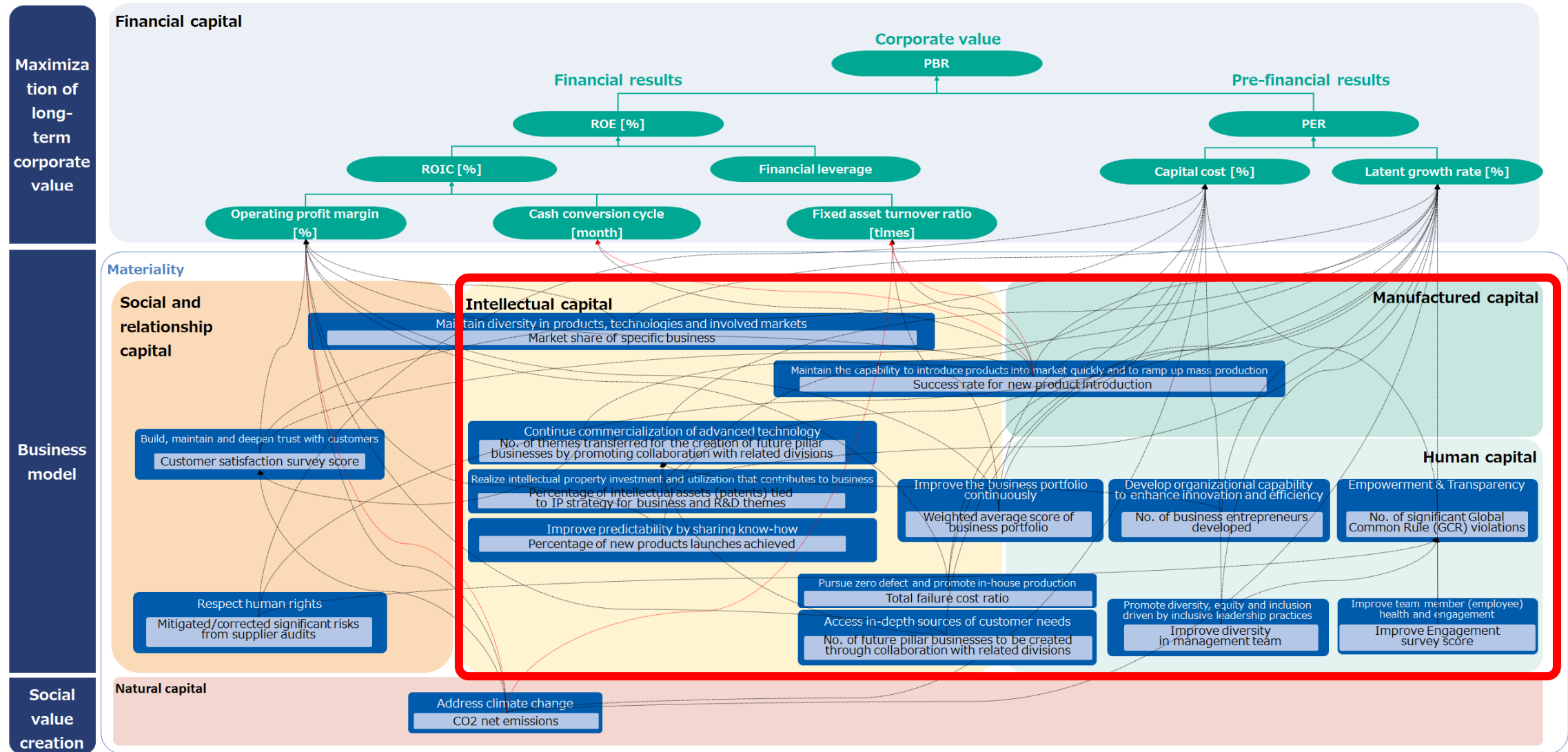
President & CEO

# My commitment as President & CEO (Material from Investor Day May 2024)

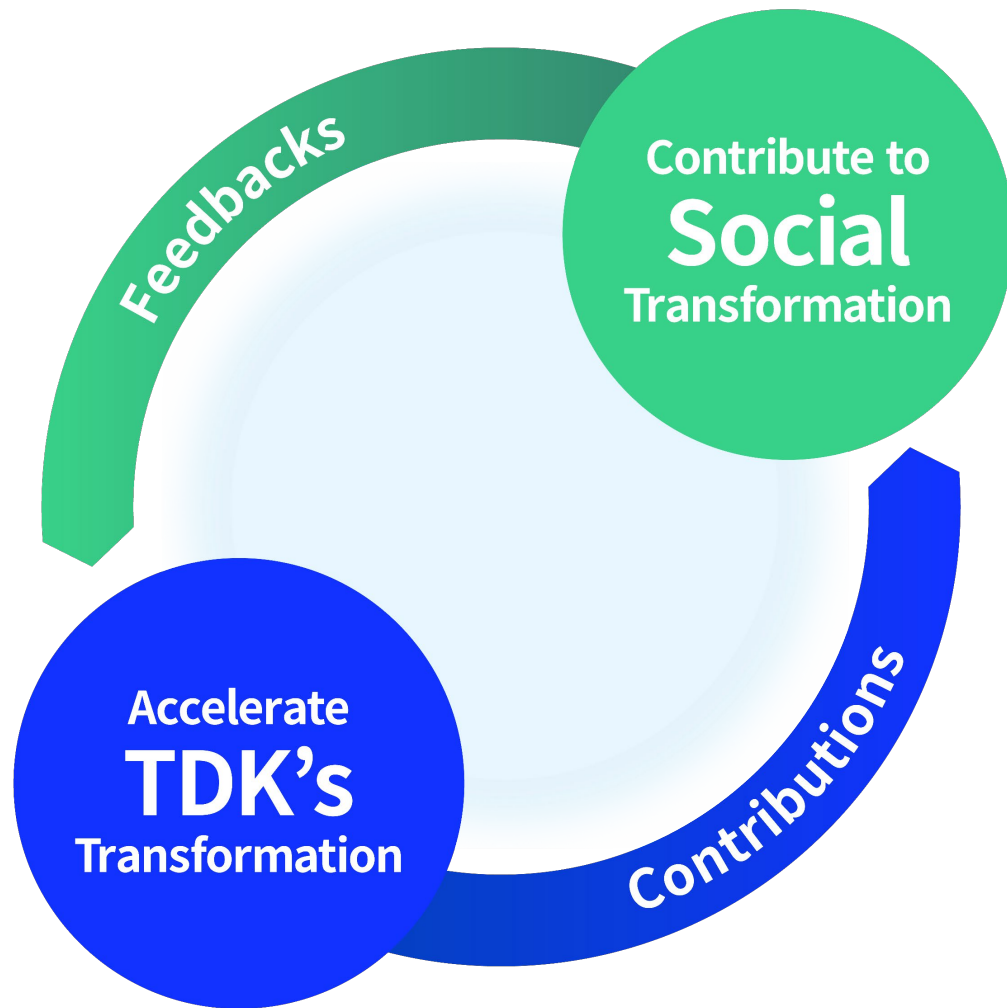
- We have formulated our vision of what we want to be 10 years from now (Long-term Vision). We have back-casted from our vision for 10 years to identify the path to enhancing our corporate value.
- Based on our materials × processes × software technologies, we will become the No.1 partner for our world-wide customers and accelerate social transformation for a sustainable future.
- We will enhance our business portfolio management, increase the spread between ROIC and WACC, increase cash flows, improve capital efficiency, and strengthen business management to increase financial capital.
- We will evolve the Ferrite Tree and reinforce business management to increase pre-financial capital, which is the source of future cash flows.
- We will focus more on investor dialogue and investor relations.

# Enhancing corporate value through Pre-financial capital

Detail graph in page 19 of TDK United Report 2025 (Integrated Report)



# Long-term Vision: TDK Transformation



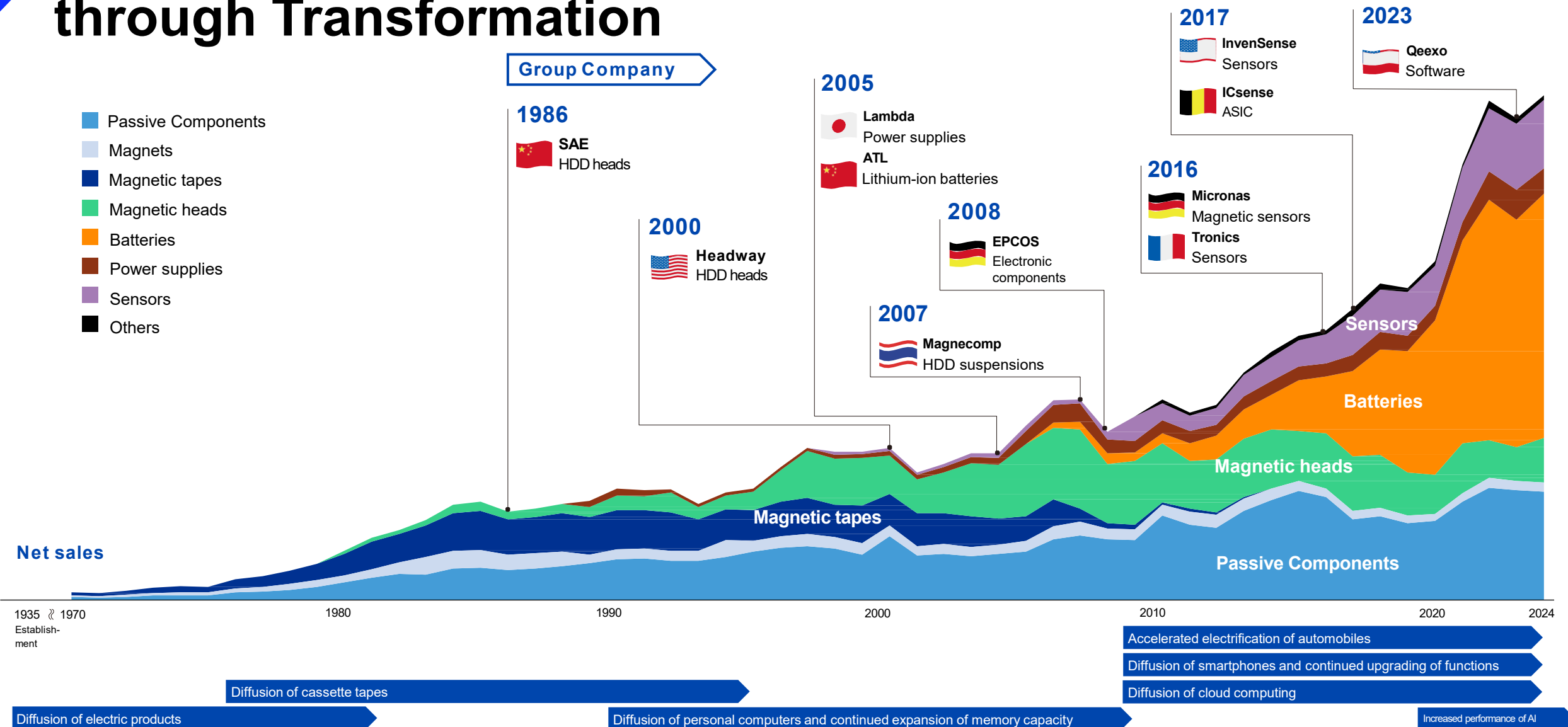
Long-term Vision

## TDK Transformation

Accelerating transformation  
for a sustainable future

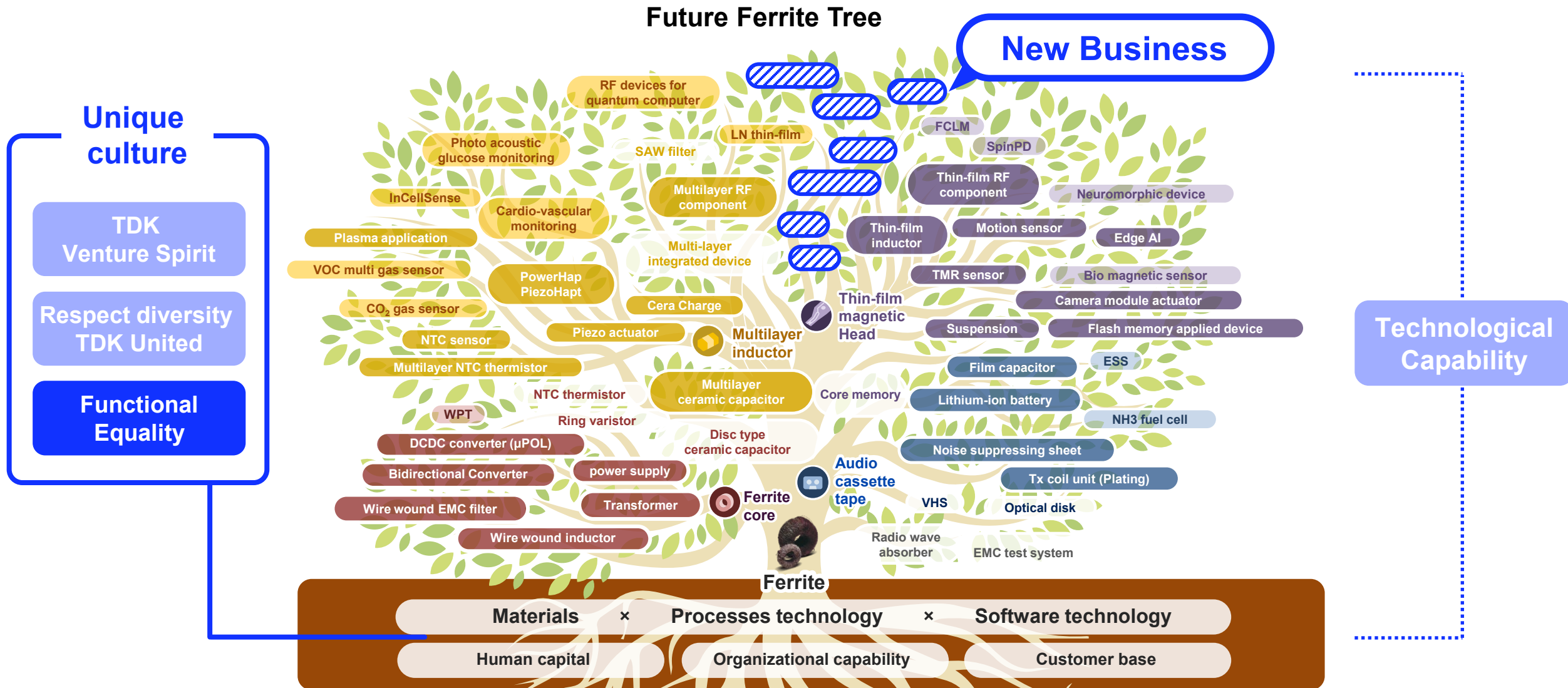
# TDK continues to grow through Transformation

Details in page 19 of TDK United Report 2025 (Integrated Report)





# Enhancing corporate value through Pre-financial capital



# TDK original culture “Functional Equality”

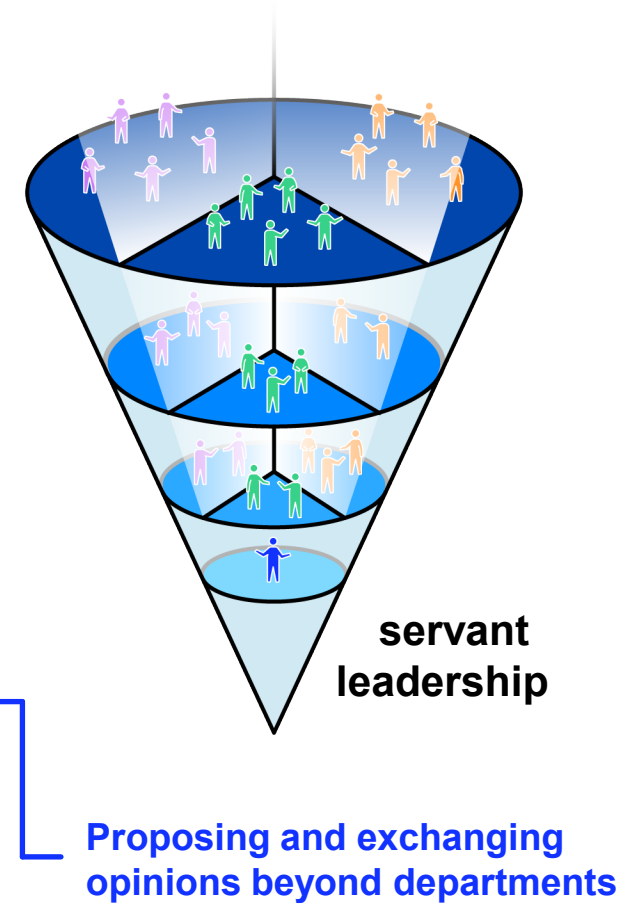


Department    Function



**TDK**  
“Functional Equality”

There are hierarchies in positions, but there are no hierarchies in roles and functions. Opinions are treated equally.



# TDK constantly contributes to the entire AI ecosystem





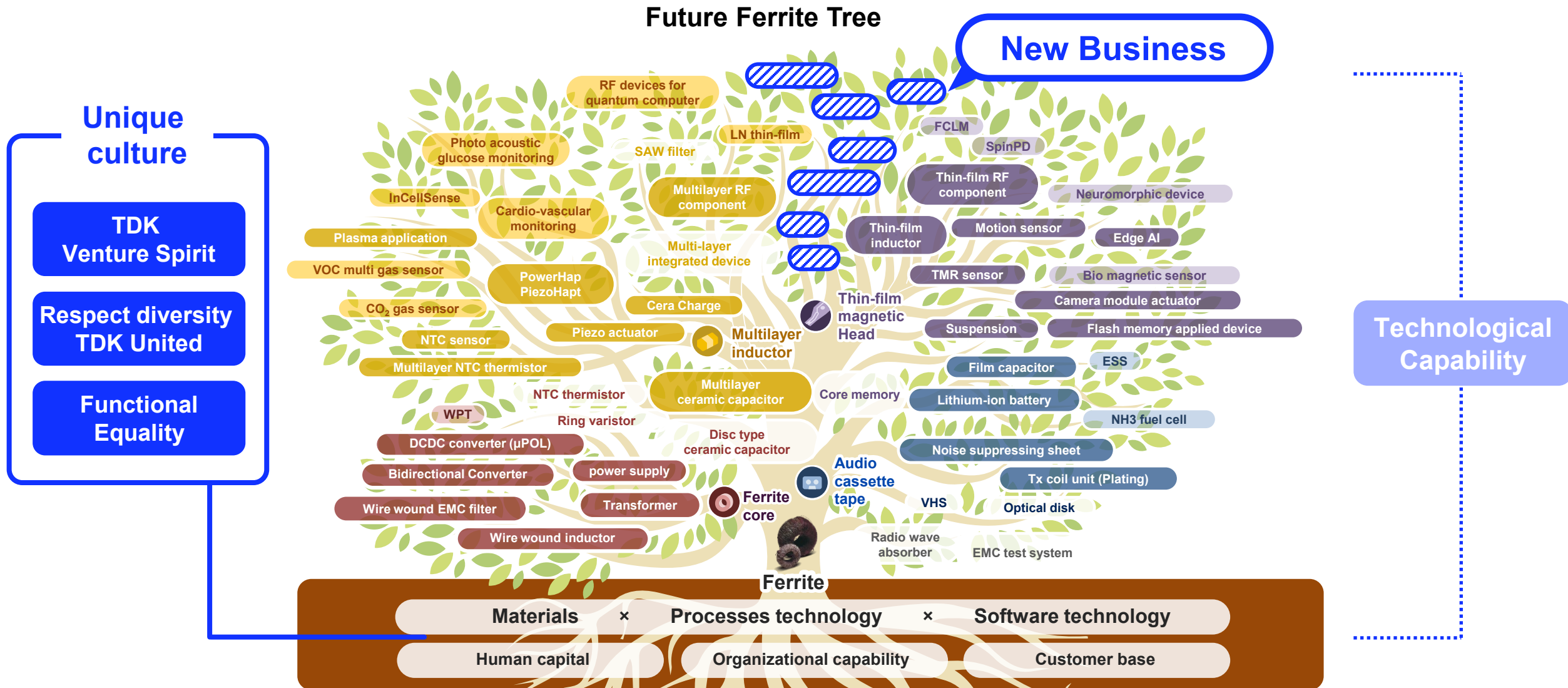
# **Human Capital Management**

## **Fueling Innovation & Inclusive Growth**

### **Andreas Keller**

Executive Vice President,  
CHRO and General Manager of  
the Human Resources HQ

# Enhancing corporate value through Pre-financial capital





# The evolution of TDK into a global company, required Human Resources to adapt in order to meet changing business needs

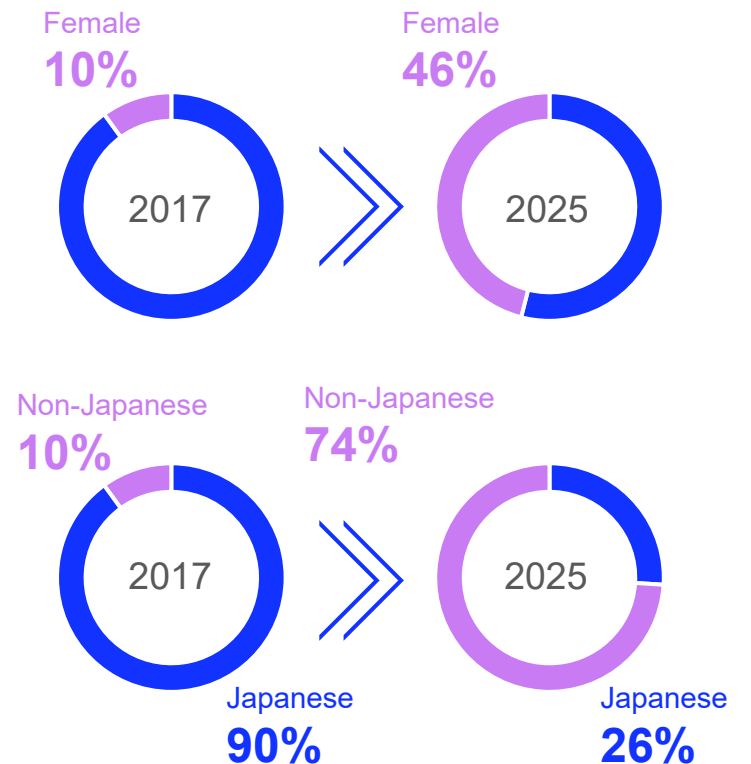
Global HR structure transformed from Japanese male oriented organization to diversified organization in past 8years.

## Number of Team Members at TDK Group



Status: July 2025

## Global HR Leadership



# TDK original culture “Functional Equality”

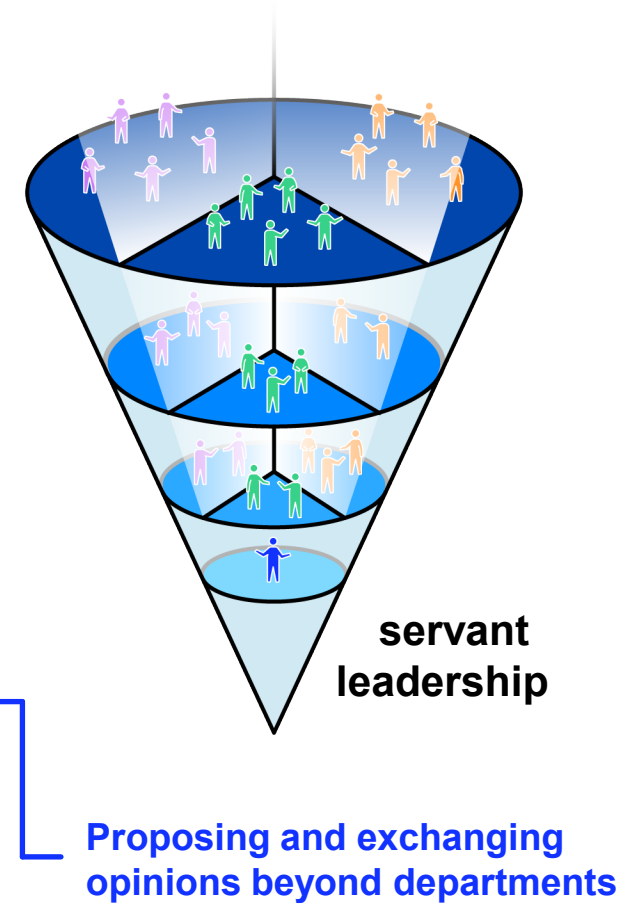


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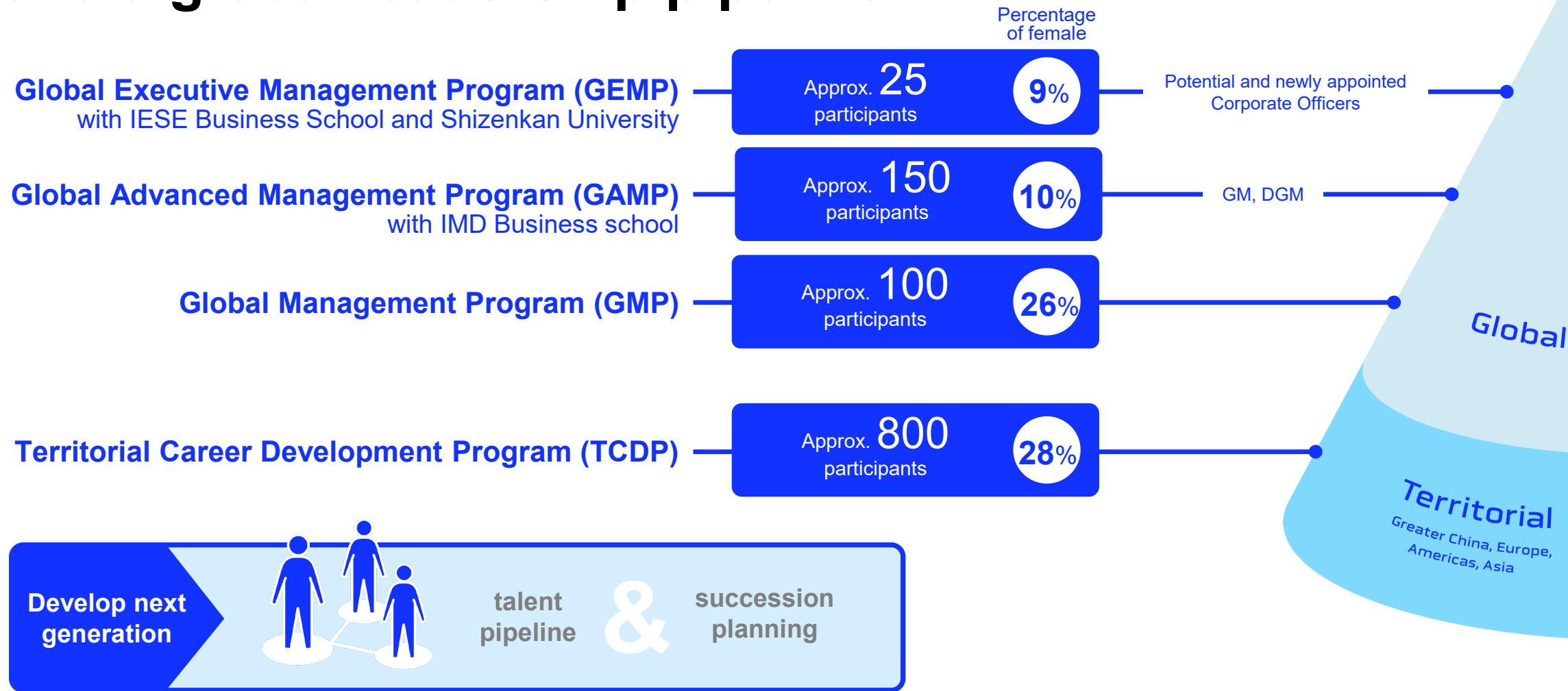


# We monitor communication-score to enrich the corporate culture of Functional Equality

	2023	2024	Medium-term target (FY3/27)
Communication score	67pts.	68pts.	75pts. or more
Response rate	80%	90%	80% or more

- Establish readily-accessible communication channels
- Support global collaboration
- Design clear processes
- Support effective communication by leaders
- Ensure the balance between Diversity and Unity through Engagement survey

# Our management development programs build a global leadership pipeline



# Horizontal Functional Equality: SensEI's development beyond organization borders

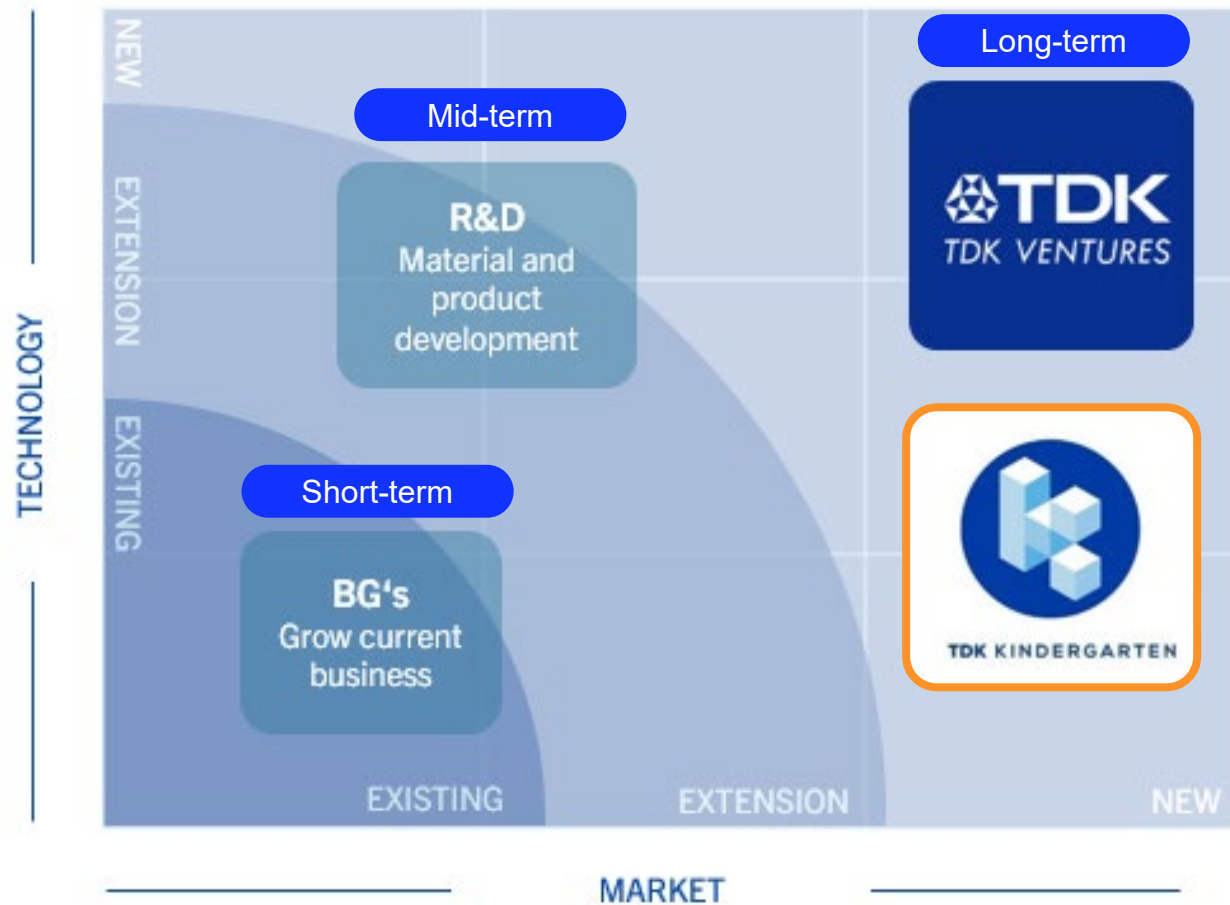


- SensEI was established by outside the Sensor business group from GEMP.
- edgeRX, which was developed by TDK SensEI, is a platform that monitors the health of industrial machinery using edge sensor devices equipped with AI.





# Vertical Functional Equality: Internal incubator program TDK Kindergarten



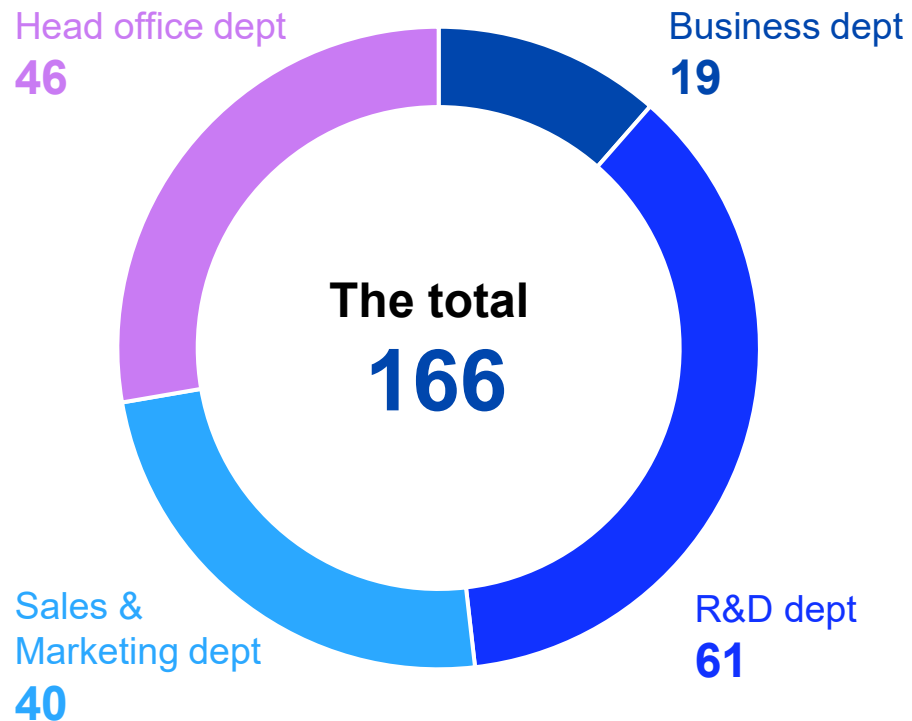
- Anyone can propose beyond hierarchy, titles, business roles.
- This program is not only original thinkers and developers but also team members with an entrepreneurial spirit, who can bring innovations to market.



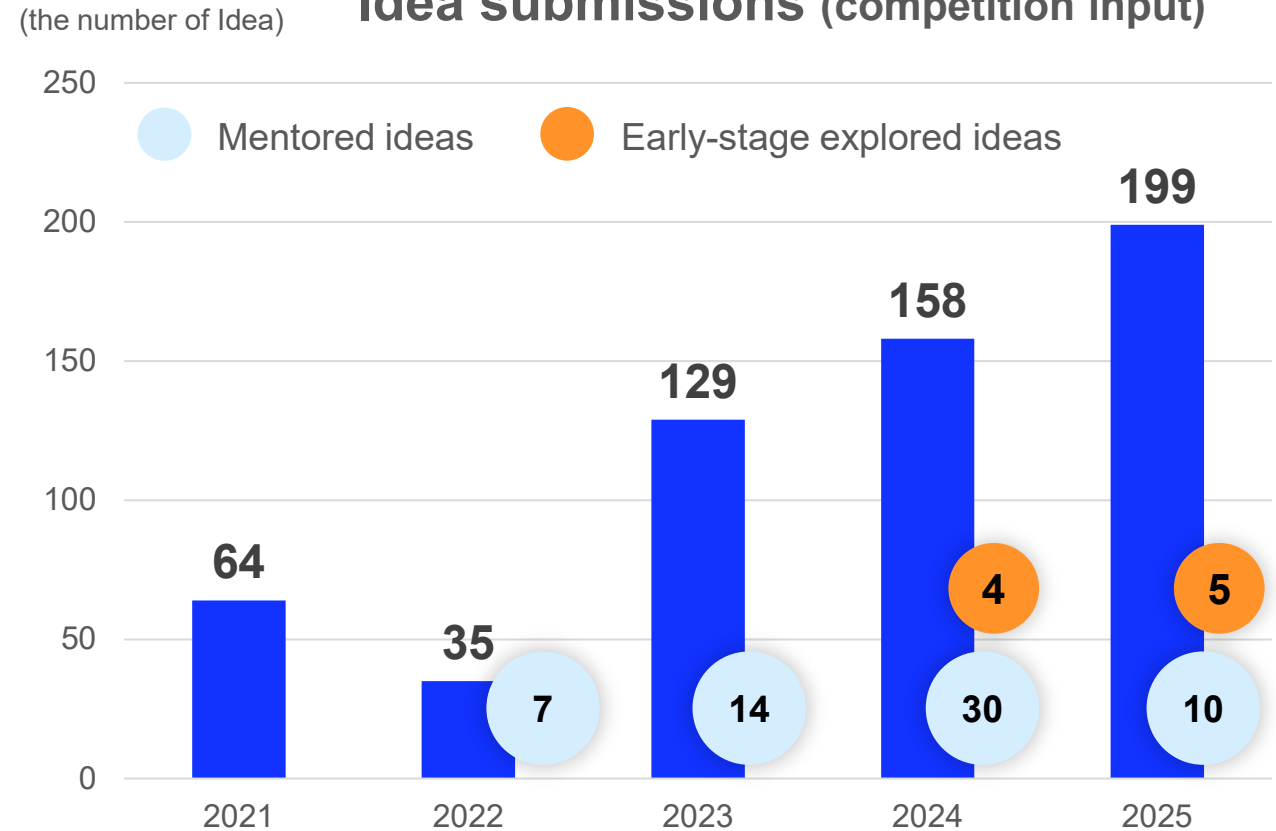
Working on a project created by TDK Kindergarten

# Diverse members beyond the job title and organization generate new business ideas at Kindergarten

## The participants



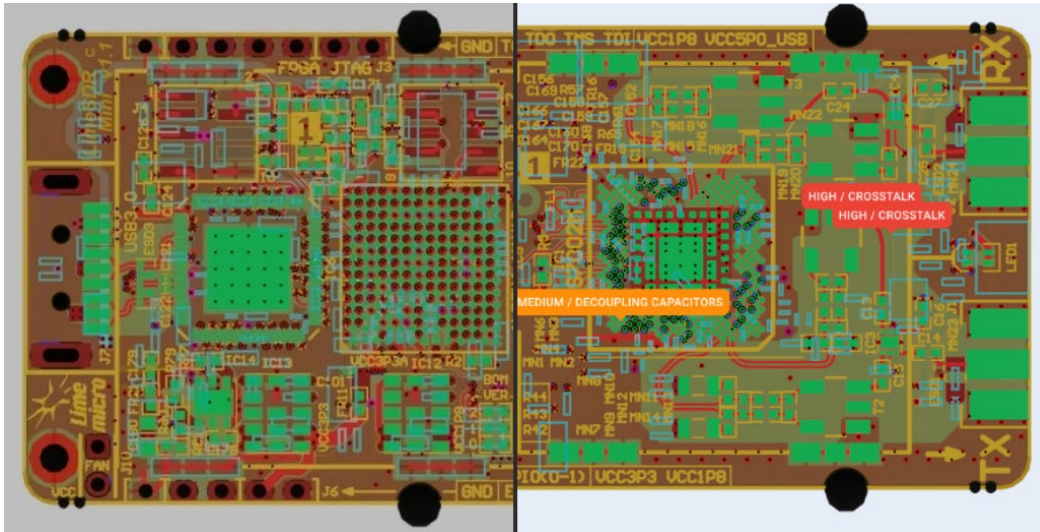
## Idea submissions (competition input)



## 2 Companies established out of Kindergarten



Industry's first interactive  
EMC visualization platform!



before

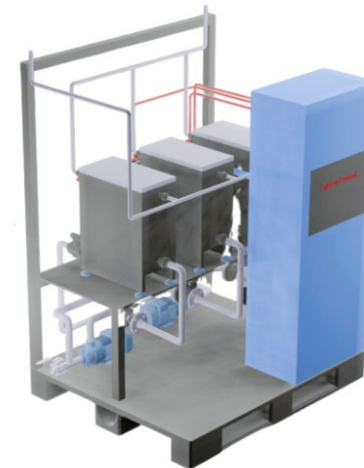
after

Discover more at [www.denpaflux.com](http://www.denpaflux.com)



PFASUIKI

Develops sustainable technologies that **permanently destroy PFAS** — the toxic ‘forever chemicals’ — tackling one of today’s **toughest environmental challenges**.



Discover more at [www.pfasuiki.com](http://www.pfasuiki.com)

# CHRO session summary

- TDK Human Capital Management is, acceleration of TDK transformation through transforming its Human Resources.
- The spirit of 'Functional Equality' itself is a growth driver that promotes diversity and innovation.
- Diverse talents coming together have sparked innovation through connection, creativity and collaboration.

## Impact on our finance

### Pre-financial and HR activities

#### Materiality 1

**Promote diversity, equity and inclusion driven by inclusive leadership practices**

#### Materiality 2

**Develop organizational capability to enhance innovation and efficiency**

#### Materiality 3

**Improve team member (employee) health and engagement**

# Today's speaker



**Andreas Keller**



**Angela Yuan**



**Tomoyo Hiraoka**

**Title**

**CHRO**

**Deputy  
General Manager**

**Deputy Head  
Global Division**

**Workplace**

Japan

China

Germany

**Nationality**

Germany

China

Japan

**Background**

Executive Director of Human  
Resources and Supply Chain  
Management at  
TDK Electronics Europe GmbH.

Head of Human Resources in  
ATL Group

CHRO, Multinational  
Chemical Company



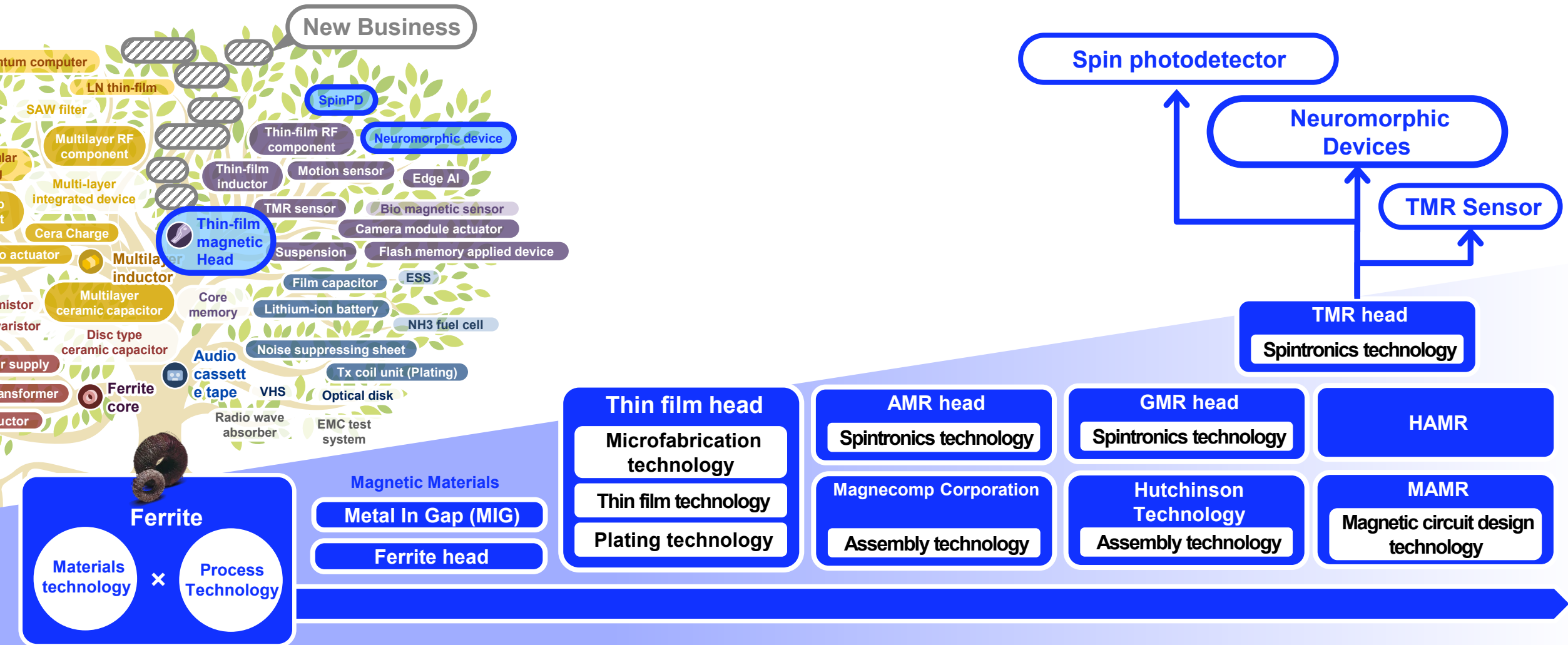


# Cutting-edge Technology Development

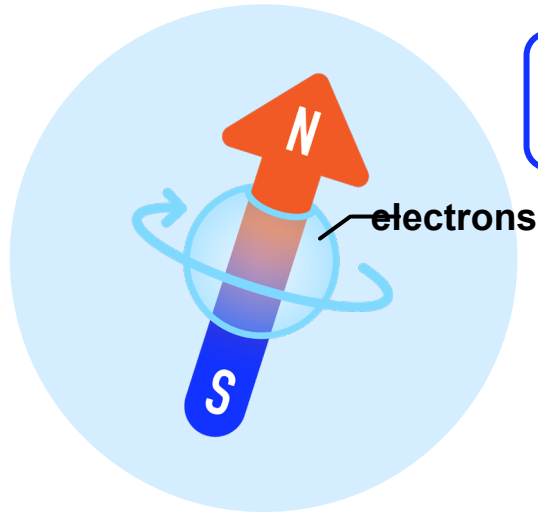
## Shuichi Hashiyama

Corporate Officer,  
CTO and General Manager of  
the Technology & Intellectual  
Property HQ

# Through the integration of material technology and process technology, we have developed spintronics technology



# TDK's Spintronics Technology



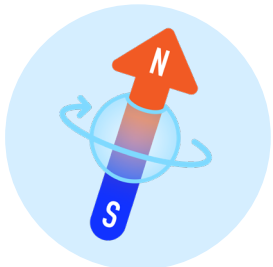
Spin + Electronics

||

**Spintronics**

Technology that simultaneously utilizes the magnetic and electrical properties of electrons

**"Spin" is the smallest unit of magnet, and all electrons possess spin.**



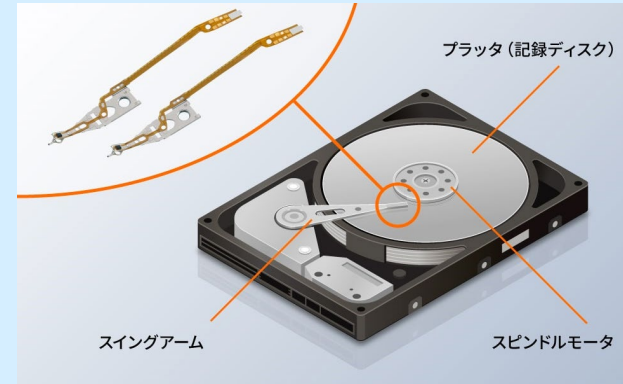
Upward spin



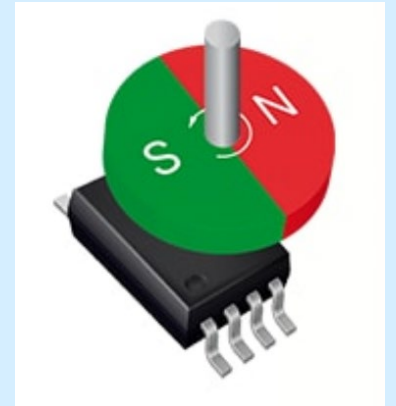
Downward spin

The difference  
**between  
the two**  
is the strength  
of the magnet

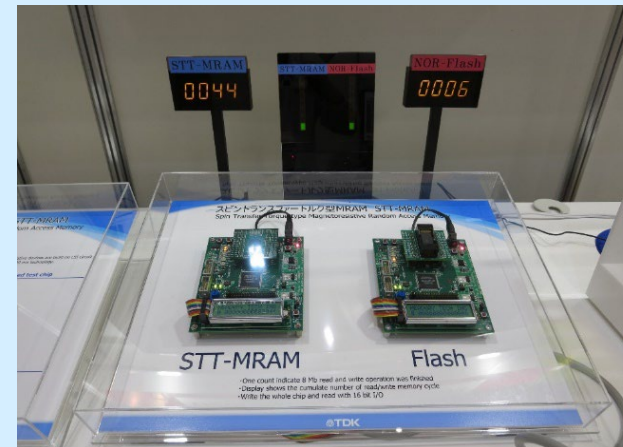
**TDK has accumulated spintronics technology through numerous products to date**



◀ magnetic heads for HDD



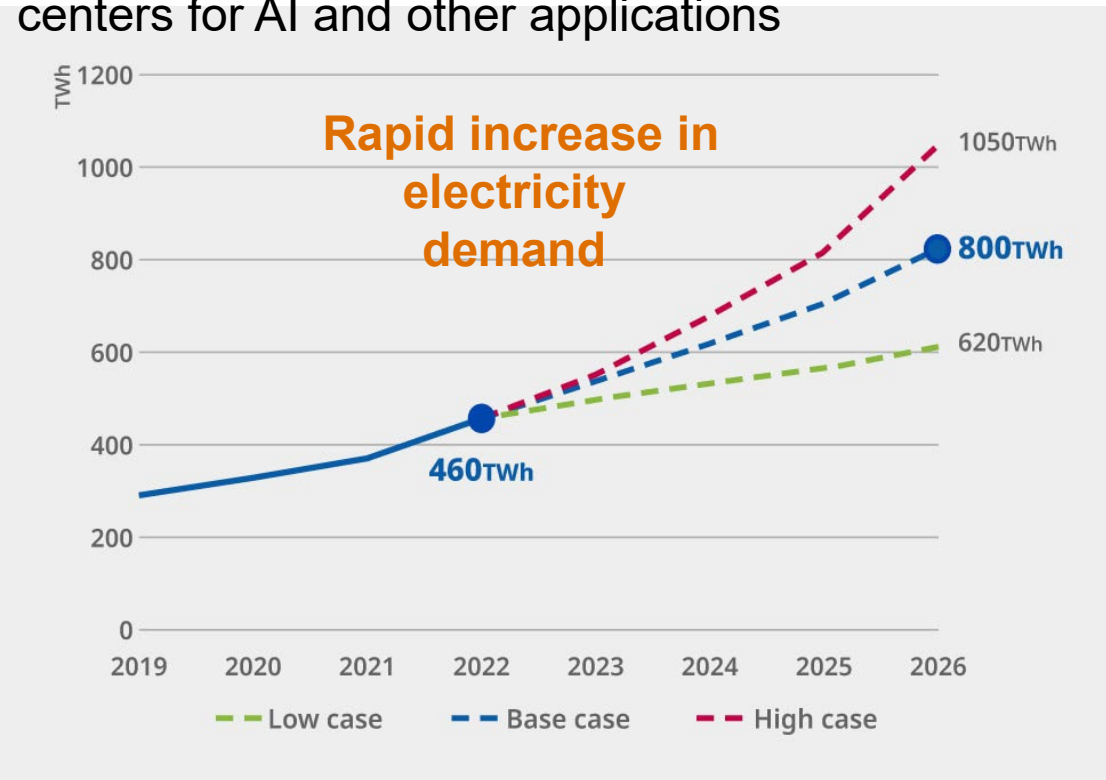
▲ TMR sensors



◀ STT-MRAM

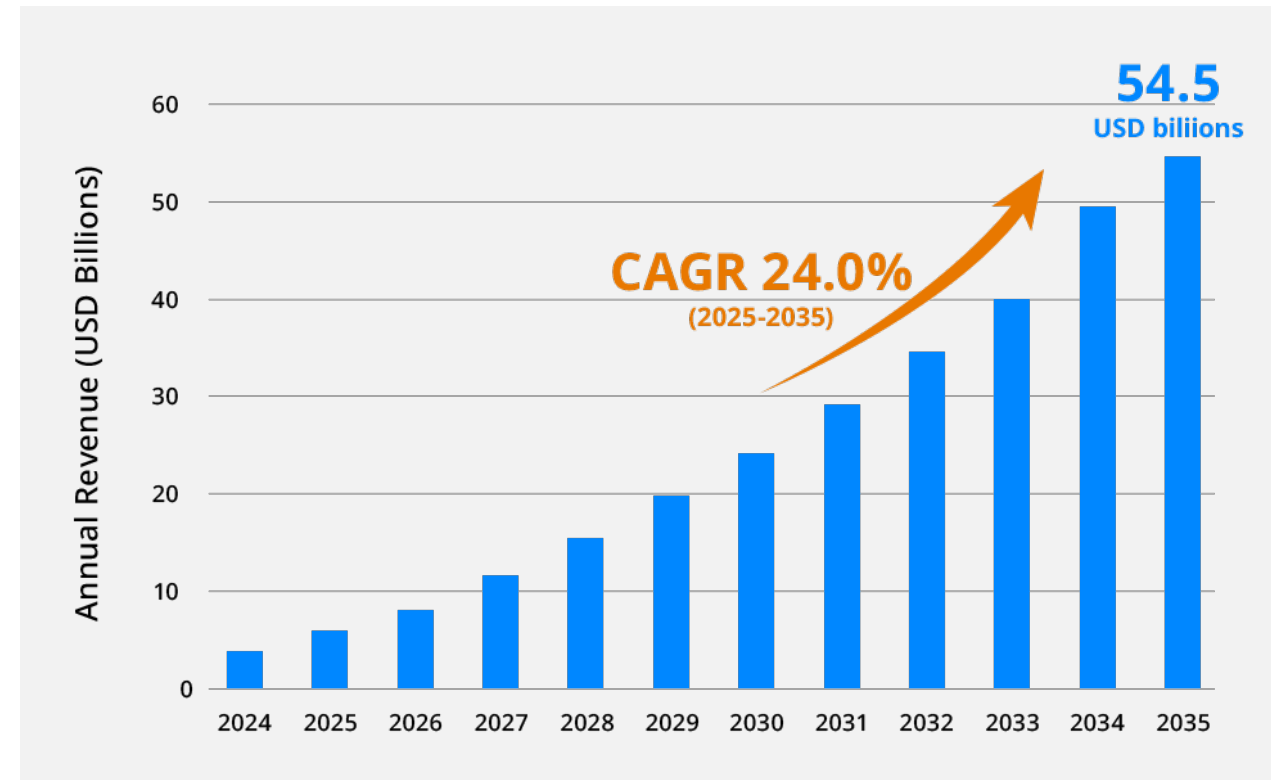
# We view the challenges posed by growing energy demand as opportunities and contribute to the transformation of society

Global electricity demand outlook for data centers for AI and other applications



IEA "Electricity 2024" (published January 24, 2024)

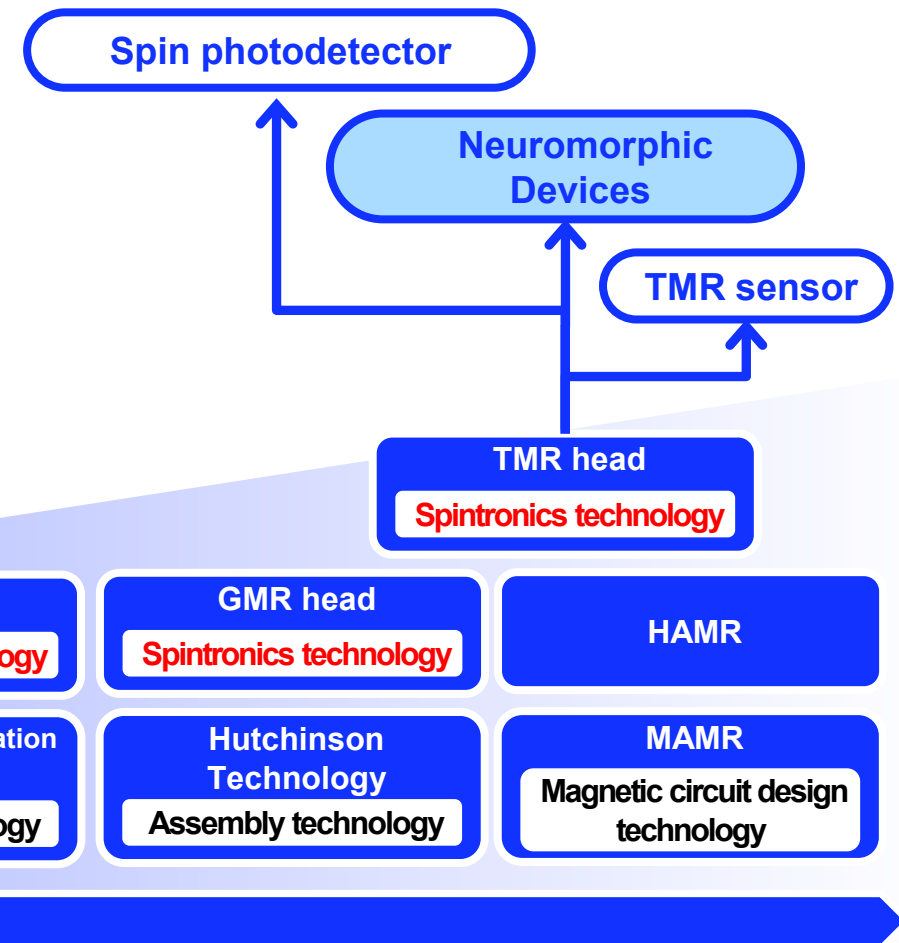
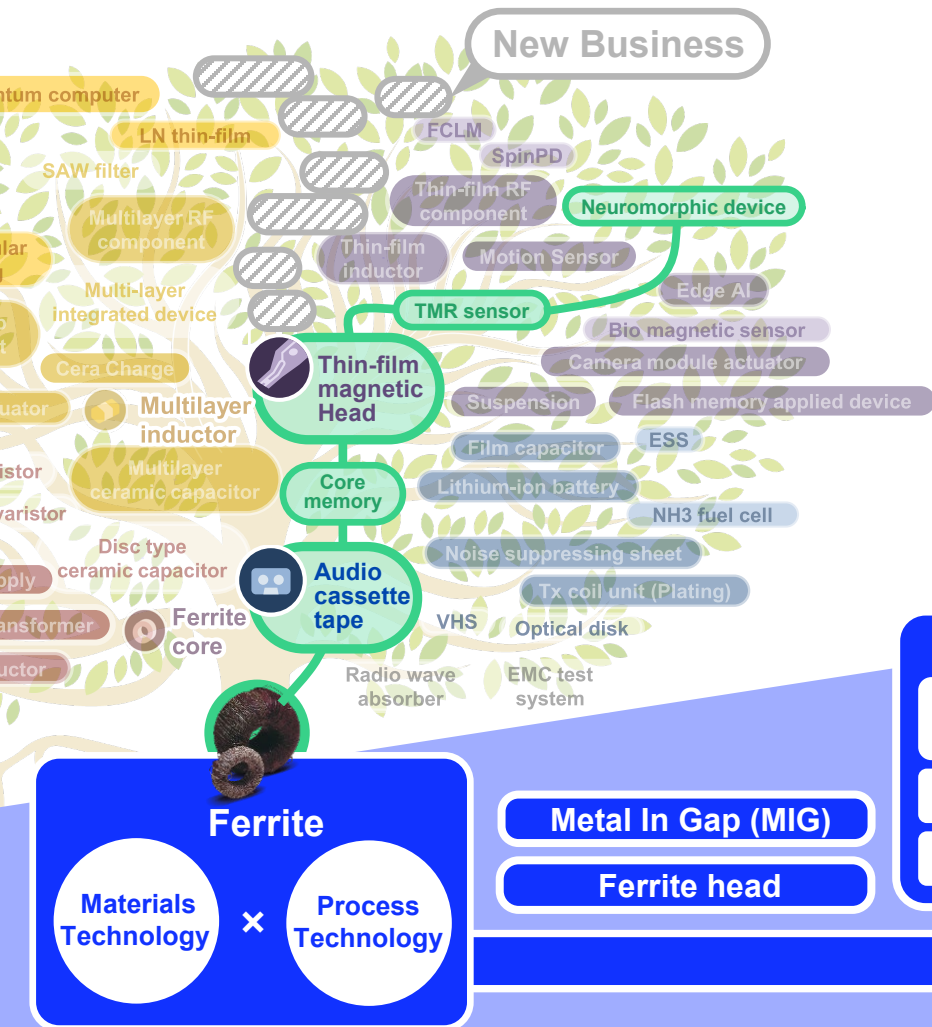
Market Forecast for Photonic Integrated Circuits



Source: IDTechEx, "Silicon Photonics and Photonic Integrated Circuits 2025-2035: Technologies, Market, Forecasts", 2025, p. 33

# Derived from spintronics technology

## Neuro-morphic devices



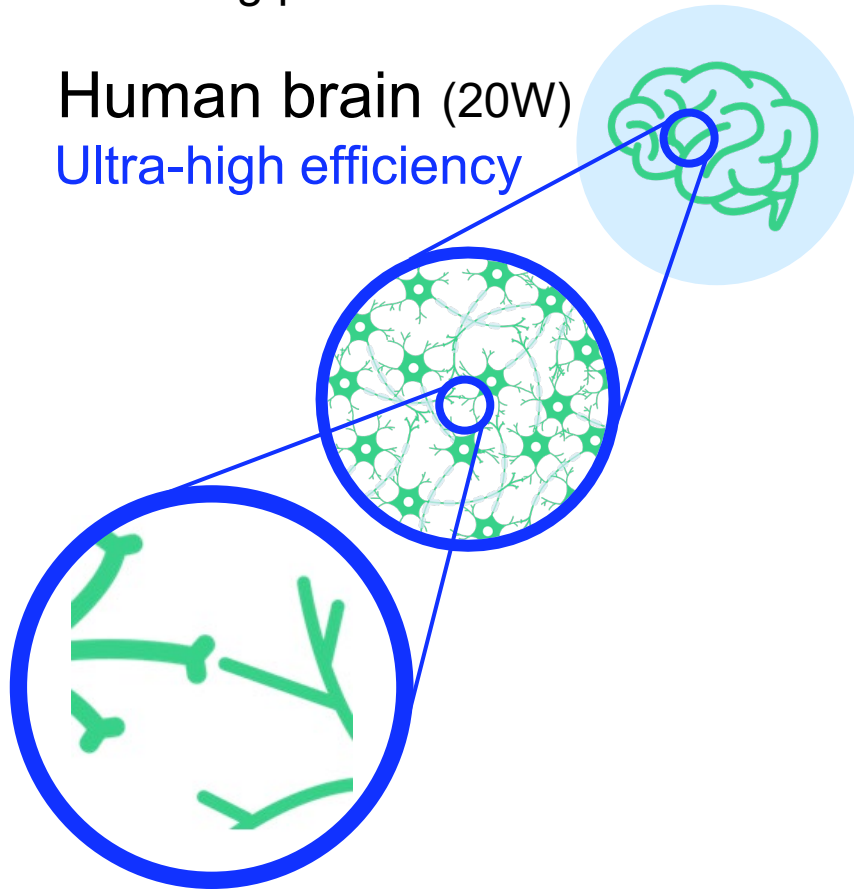


# What is a neuromorphic device?

Spin memristors are analog memory elements that electrically mimic the synapses of the human brain. It is expected to significantly improve AI power consumption and address the societal challenges of increasing power demand associated with AI development.

Human brain (20W)

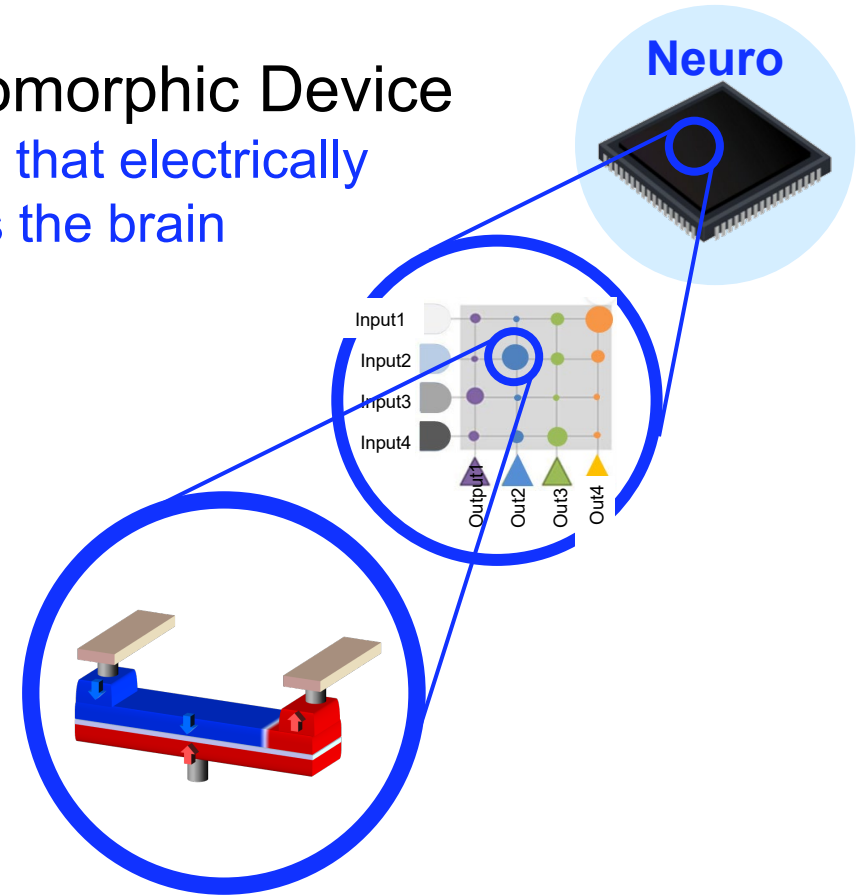
Ultra-high efficiency



**Synapse** + Neuron

Neuromorphic Device

Device that electrically mimics the brain



**Memristor** + Semiconductor Circuit

# Technological Advantages of Neuromorphic Devices

## Conventional Semiconductors

## AI semiconductors such as GPUs

- Memory and processor are separate  
⇒ Large power consumption
- Data is processed digitally

## TDK

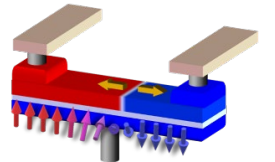
## Neuromorphic Devices

- Memory and processor are integrated  
⇒ **Low power consumption**
- Data is processed as analog signals  
⇒ **Low power consumption**

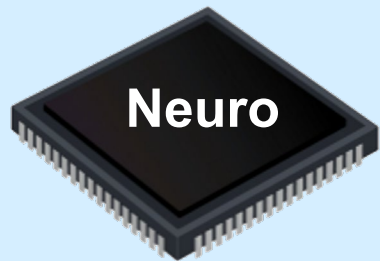
This feature reduces the power consumption of AI devices by **1/100**

- **The technological advantage of spin memristors, the basic elements of neuromorphic devices, lies in their high data retention performance**

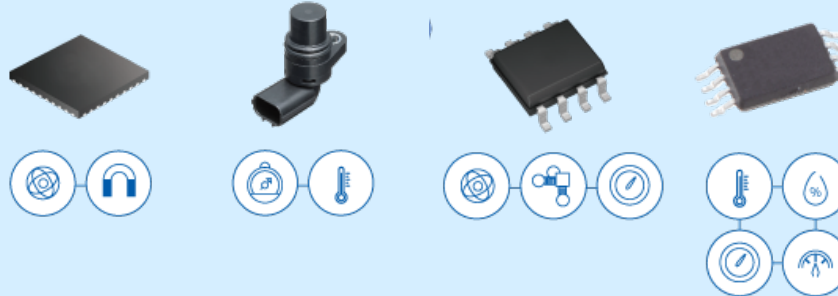
In conventional (other principle) memristor elements, data changes over time, while our structure which utilizes spintronics enables "data to be retained for an extended period."



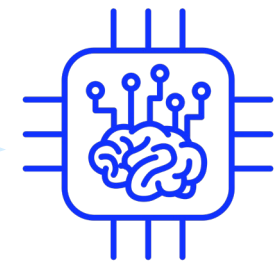
# Edge AI solutions combining neuromorphic devices with sensors, contribute to an ultra-low power consumption society.



Neuromorphic  
devices



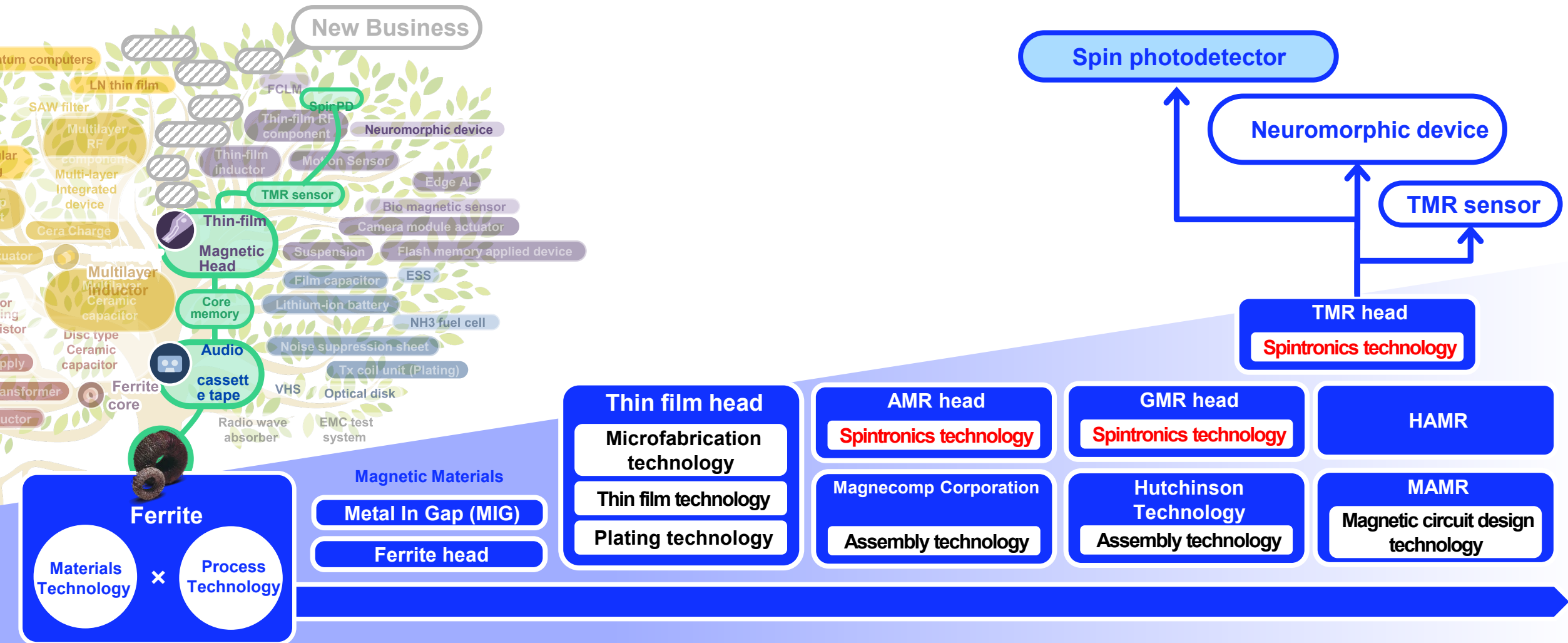
Sensors



Edge AI

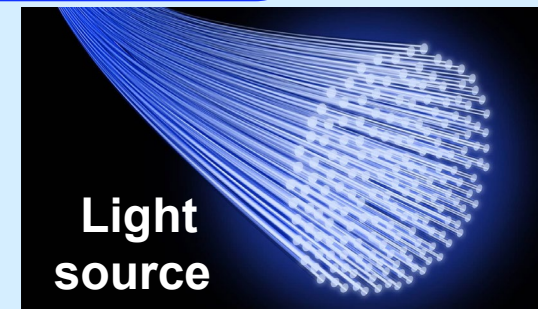
# Derived from spintronics technology

## Spin photodetector



# What is photodetector required for high-speed communication in AI servers?

## principle

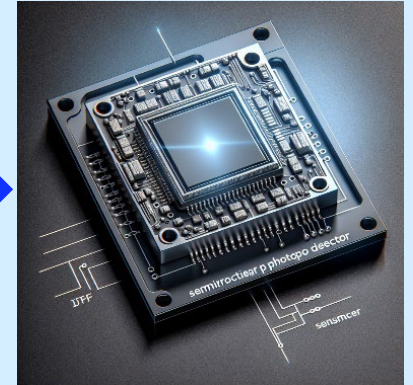


Ultra-high speed, large capacity, low latency optical signals

Optical signal

Photo detector  
Converting light signals into electrical signals

Electrical signal



Data processing  
(e.g., generative AI chips)

AI servers require ultra-high-speed communication

⇒ Ultra-compact transceiver modules called CPO (Co-packaged optics) are required around AI chips and other components.



In conventional optical transceiver, **semiconductor photodetector** is used, but it has limitations in terms of size and speed.

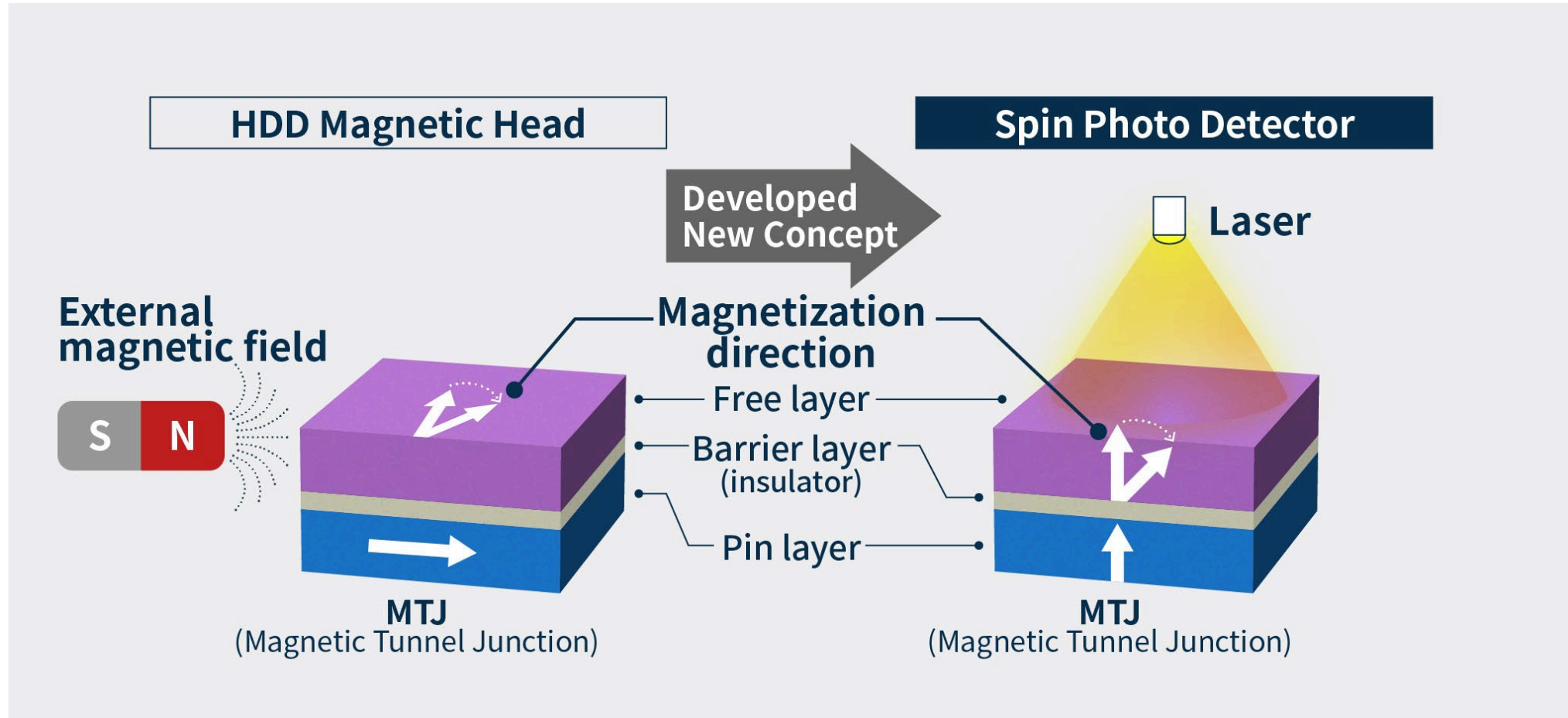


A **new structure** photodetector is required to enable compact and ultra high-speed transmission



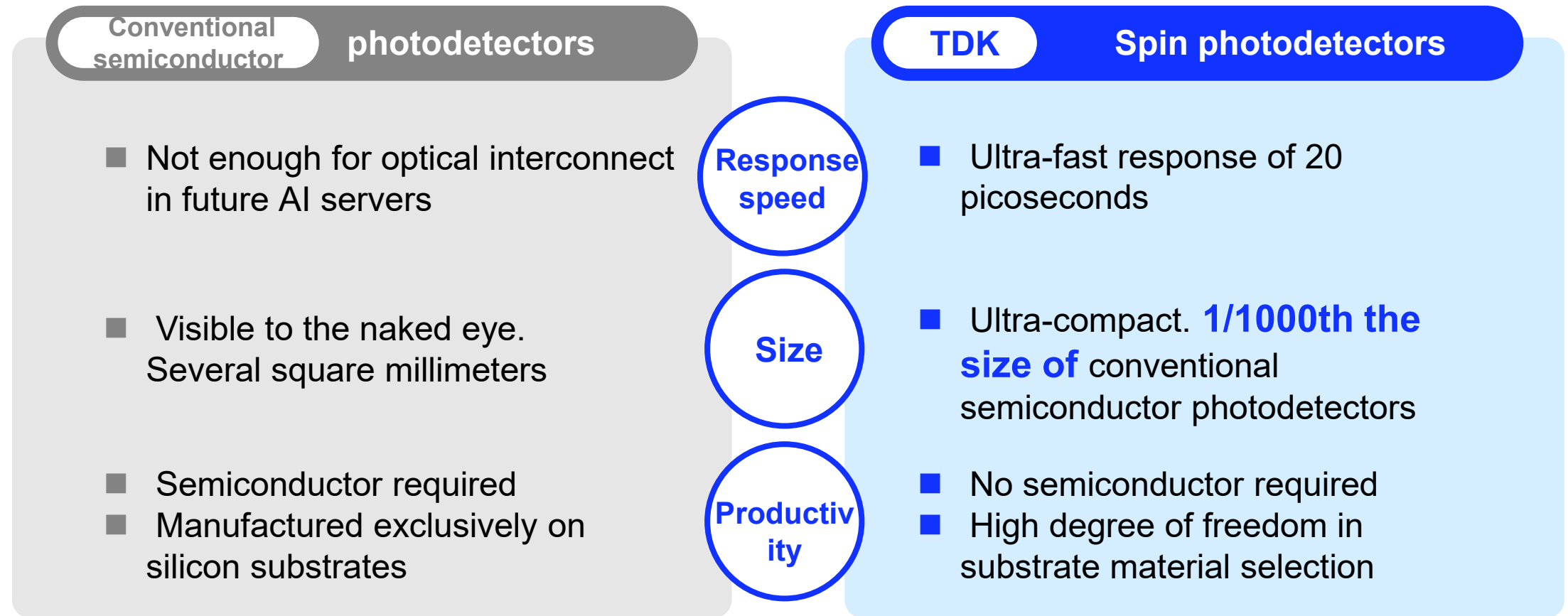
# TDK's proprietary spin photodetector

Our photodetector is the world's first optical sensing element which uses spintronics technology inspired from HDD magnetic heads without using semiconductors. It achieves ultra-high-speed optical sensing across a wide wavelength range from infrared to visible light.



# Technological Advantages of Spin Photodetectors

With its superior technology compared to conventional photodetectors, our technology is expected to play a significant role in a wide range of applications, including generative AI, 5G/6G, smart glasses, ultra-high-speed image sensors, and spectroscopic analysis devices for samples.



# TDK constantly contributes to the entire AI ecosystem



# CTO session summary

- ▶ We have created new technologies and evolved our Ferrite Tree by promoting a venture spirit based on a corporate culture of functional equality.
- ▶ Our diverse members will envision the future, capture cutting-edge technologies such as AI and the environment changes, and proactively develop technologies to continue providing new value to society.

# Today's speaker



**Shuichi Hashiyama**



**Toru Katsumoto**



**Mai Takeuchi**



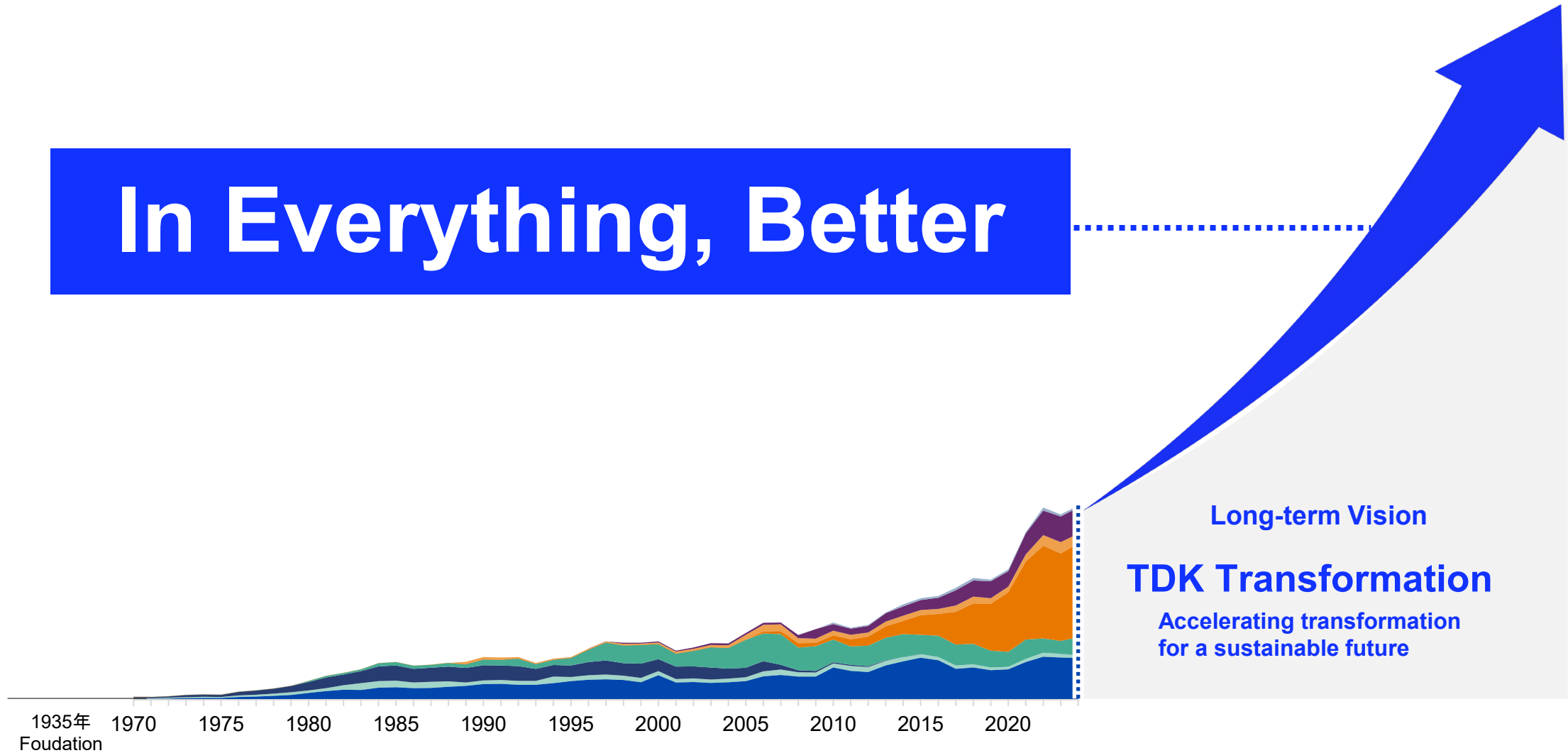
**Takekazu Yamane**

Title	<b>CTO</b>	<b>Outside Director</b>		
Workplace	Japan Chiba	Japan	Japan Chiba	Japan Chiba
Nationality	Japan	Japan	Japan	Japan
Background	Former GM of the Corporate Strategy HQ	Former CTO of Sony	Engineer of Neuromorphic device	Engineer of Spin Photodetector



# Leverage Pre-financial capital for sustainable growth

**In Everything, Better**



# Cautionary statements with respect to forward-looking statements

This material contains forward-looking statements, including projections, plans, policies, management strategies, targets, schedules, understandings, and evaluations about TDK, or its group companies (TDK Group). These forward-looking statements are based on the current forecasts, estimates, assumptions, plans, beliefs, and evaluations of the TDK Group in light of the information currently available to it, and contain known and unknown risks, uncertainties, and other factors. The TDK Group therefore wishes to caution readers that, being subject to risks, uncertainties, and other factors, the TDK Group's actual results, performance, achievements, or financial position could be materially different from any future results, performance, achievements, or financial position expressed or implied by these forward-looking statements, and the TDK Group undertakes no obligation to publicly update or revise any forward-looking statements after the issue of this material except as provided for in laws and ordinances.

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