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Notice Concerning the Update of *Vision2030*

In the “Notice Concerning Formulation of New Medium-Term Management Plan (MTMP) (FY2022-FY2024)” dated March 10, 2022, we at Nihon Dempa Kogyo (NDK) released our Long-Term Management Strategy - *Vision2030* - aiming at clarifying the direction in which we should proceed, together with the Medium-Term Management Plan with the year ending March 2023 as its first fiscal year. We would like to inform you that we have formulated the NDK Group’s vision of contributing to the growth of the digital society looking ahead into the year 2030 as “Creating the Future of Digital Society through Frequencies”. We will materialize it through well-balanced pursuit of the “3 values” of Societal Value, Economic Value and Human Resource Value.

Nihon Dempa Kogyo Co., Ltd. announces the update as follows:

1. The *Vision2030*: “Creating the Future of Digital Society through Frequencies”
We at the NDK Group, as a manufacturer of the crystal devices that control, select and detect the frequencies, have been creating the high-stability, high-precision “frequencies” in various environments in which it is used, utilizing the characteristics of the *crystal* that generates accurate and stable oscillations. We will continue creating the future of the digital society looking ahead into the year 2030, utilizing the most suitable devices that contributes to the maintenance of the stable communication environment.
 2. NDK will pursue “3 values”
 - ① Societal Value:
Support digital technology to realize a society with sustainable prosperity and peace
 - ② Economic Value
Explore new domains and become a 6G top runner
Net sales:¥100 billion, Operating income ratio:20%
 - ③ Human Resource Value
Nurture human resources to bring innovation to the world and to our future
- For further details, please find the attached sheets.

end

Vision2030

**Creating the Future of Digital Society
through Frequencies**

Vision2030

Creating the **Future of Digital Society** through Frequencies

Societal Value

Support digital technology to realize a society with sustainable prosperity and peace

Economic Value

Explore new domains and become a 6G top runner

Net sales: ¥100 billion
Operating income ratio: 20%

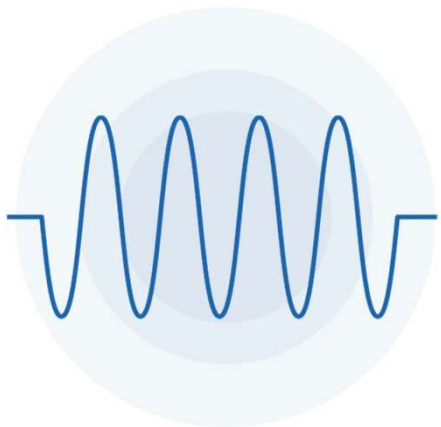
Human Resource Value

Nurture human resources to bring innovation to the world and to our future

NDK's Philosophy

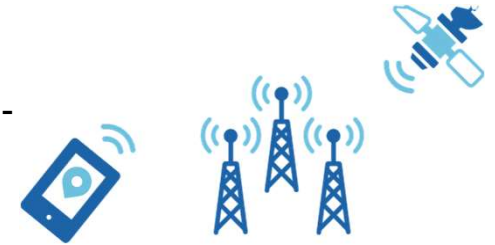
Contributing to the prosperity of society and world peace through our service to customers

What Are Frequencies?—The Roles of Frequencies in Our Society



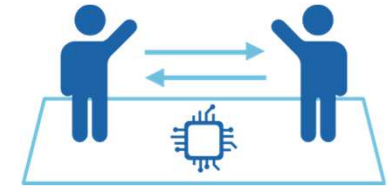
Connecting communication with precise radio waves

Enabling stable smartphone and wireless communication (such as Wi-Fi) and navigation (GNSS) by securing precise frequencies.



Taking Control to ensure the sound operations of electronic devices

Synchronized timing between sender and receiver to achieve accurate data communication within and between electronic devices such as smartphones and PCs.



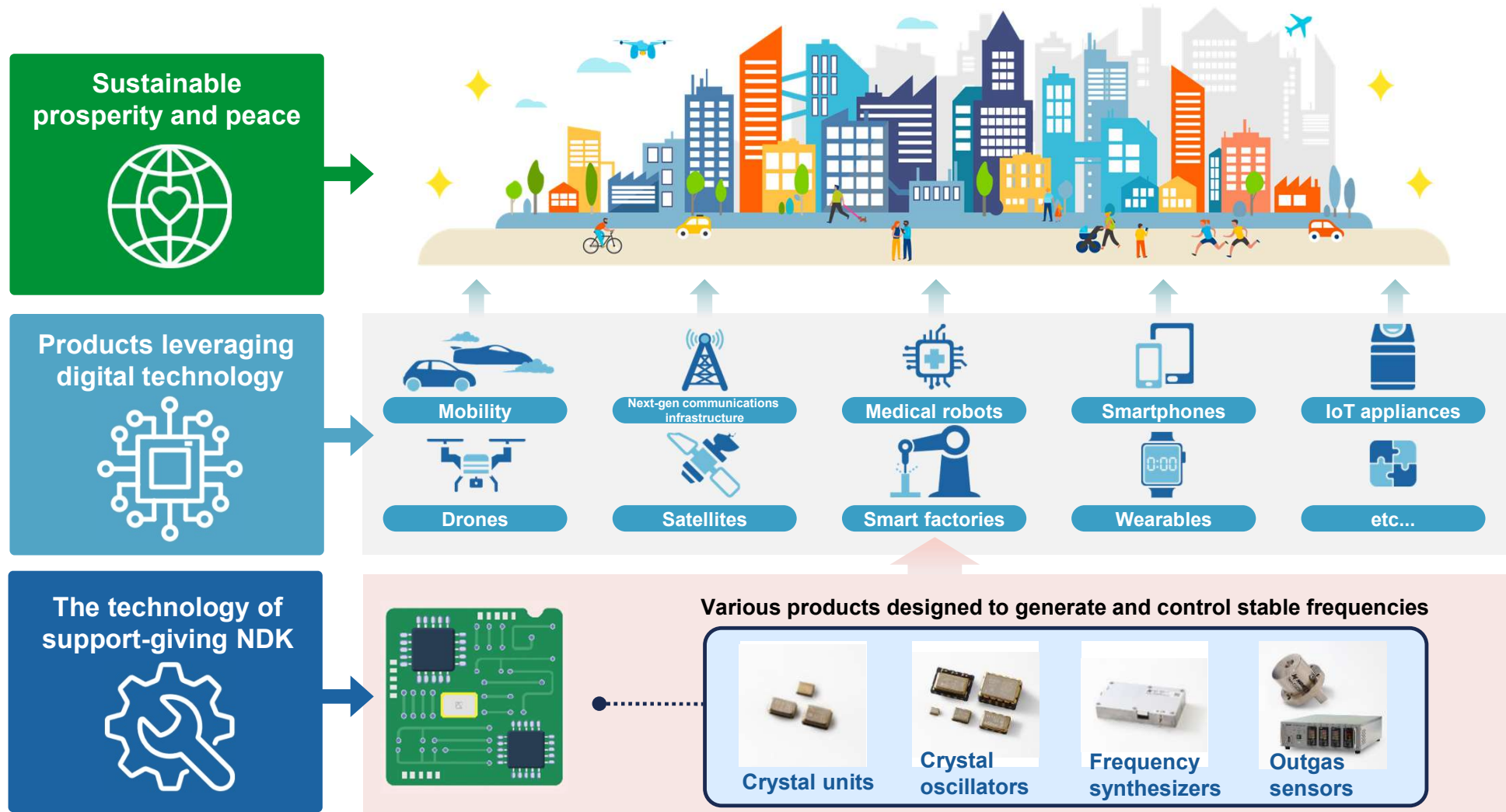
Measuring with high accuracy and stability

Detection of various things (mass at the nanogram level, distance and images with a margin of error in ppm level).



Support Digital Technology to Realize a Society with Sustainable Prosperity and Peace

NDK Supports Digital Technology to Realize a Society with Sustainable Prosperity and Peace



Overall Picture of ESG Strategies



Accelerating Efforts to Achieve Carbon Neutrality by 2050

Scope 1 and 2

- Improvement in power consumption efficiency through energy saving strategies
- Greening of energy through procurement of electricity from renewable energy sources

Reduce electricity usage

Greener power

Scope 3

- Visualizing GHG emissions throughout the supply chain
- Visualizing the risks and opportunities of climate change and the responses to them

Scope 1: Direct emissions of greenhouse gases by the business itself; Scope 2: Indirect emissions from the use of electricity, heat, and steam; Scope 3: Indirect emissions other than those in Scope 1 & 2



As a social institution, we will further strengthen our internal infrastructure and governance in order to achieve both social responsibility and sustainable growth.

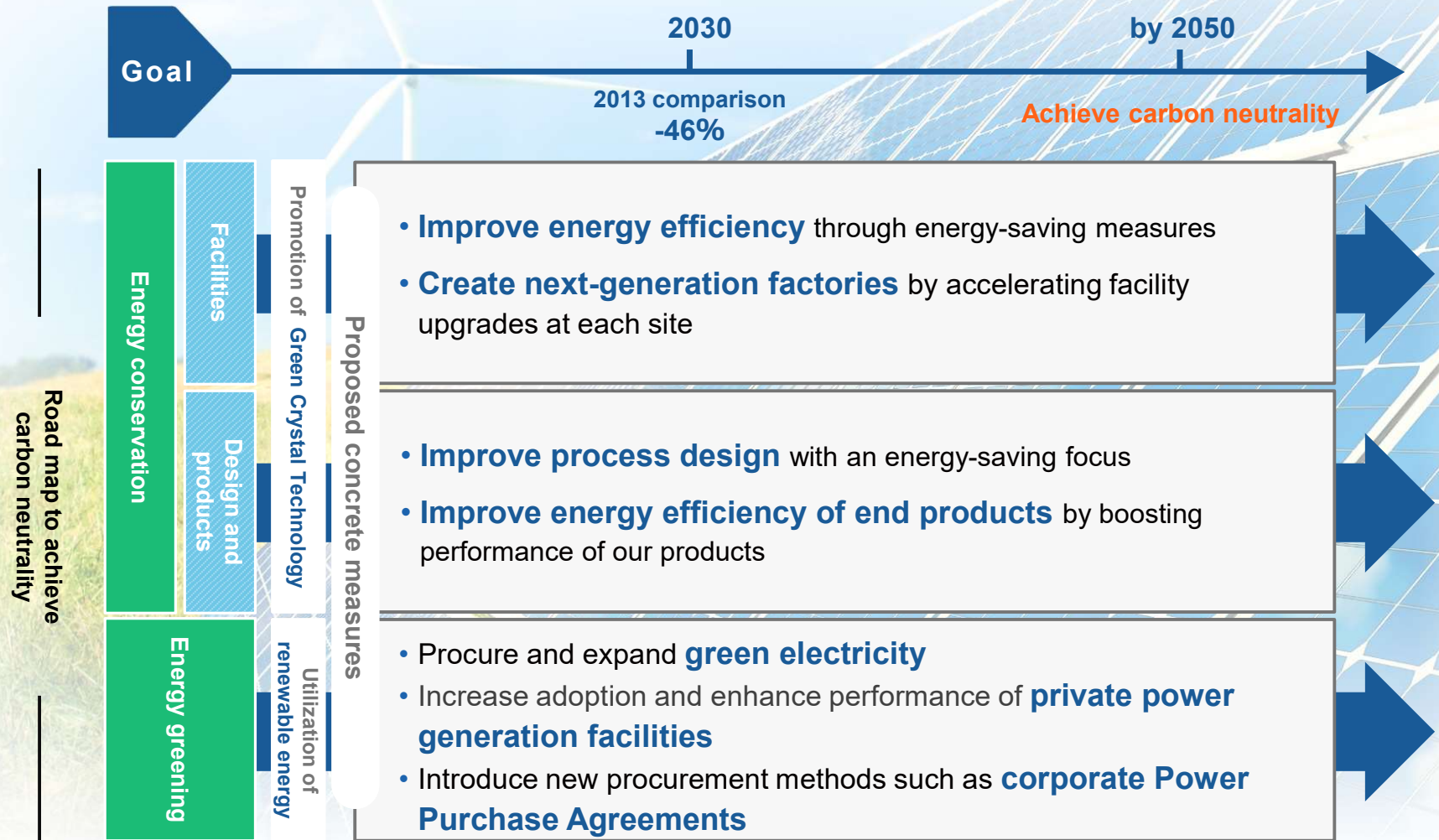
Society

- Strengthen and maintain occupational health and safety initiatives that enable employees to work with vitality
- Continuously strengthen supply chain CSR with consideration for social responsibilities such as environmental conservation and human rights
- Review human resource strategies in anticipation of social trends
- Increase the ratio of female managers and promote female executives

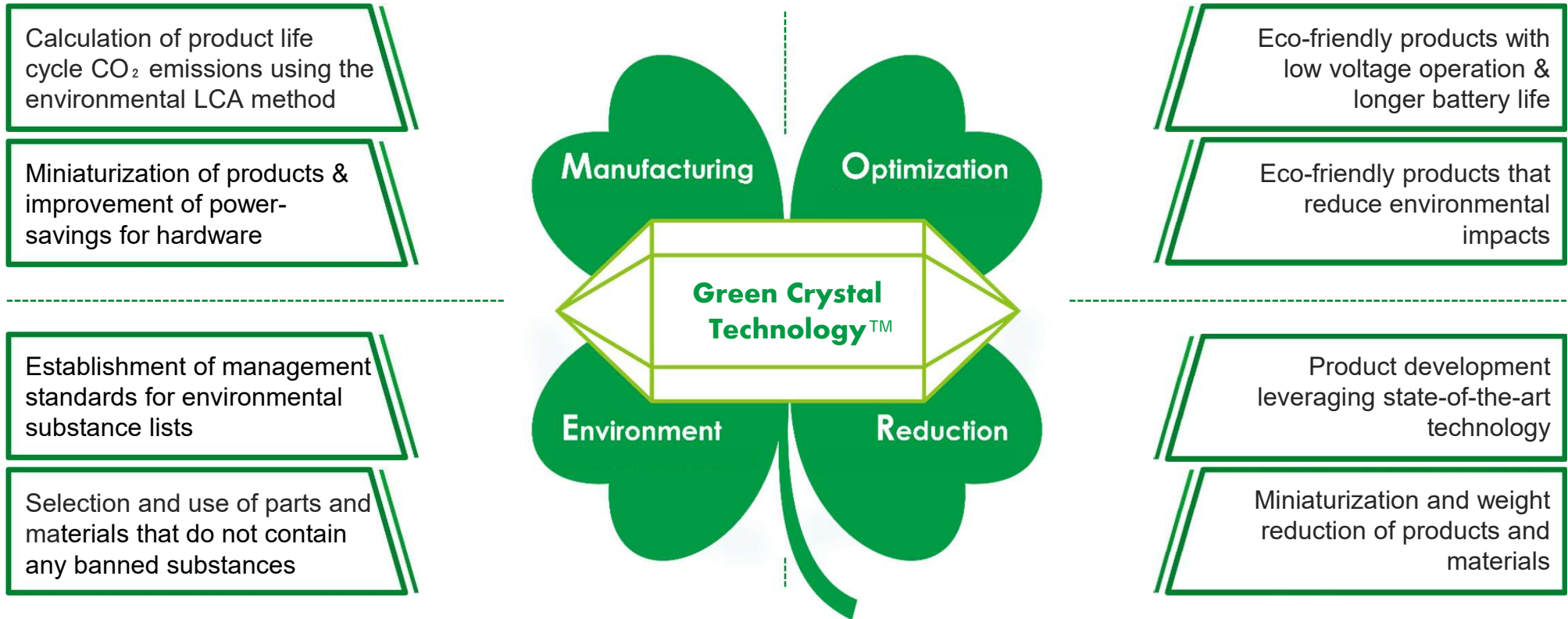
Governance

- Examine the nature of the Board of Directors and individual directors who contribute to the enhancement of corporate value
- Strengthen our risk management system
- Strengthen our responses to sustainability issues

Road Map to Achieve Carbon Neutrality



Concept of Green Crystal Technology



Accelerate current efforts and advance toward Vision 2030

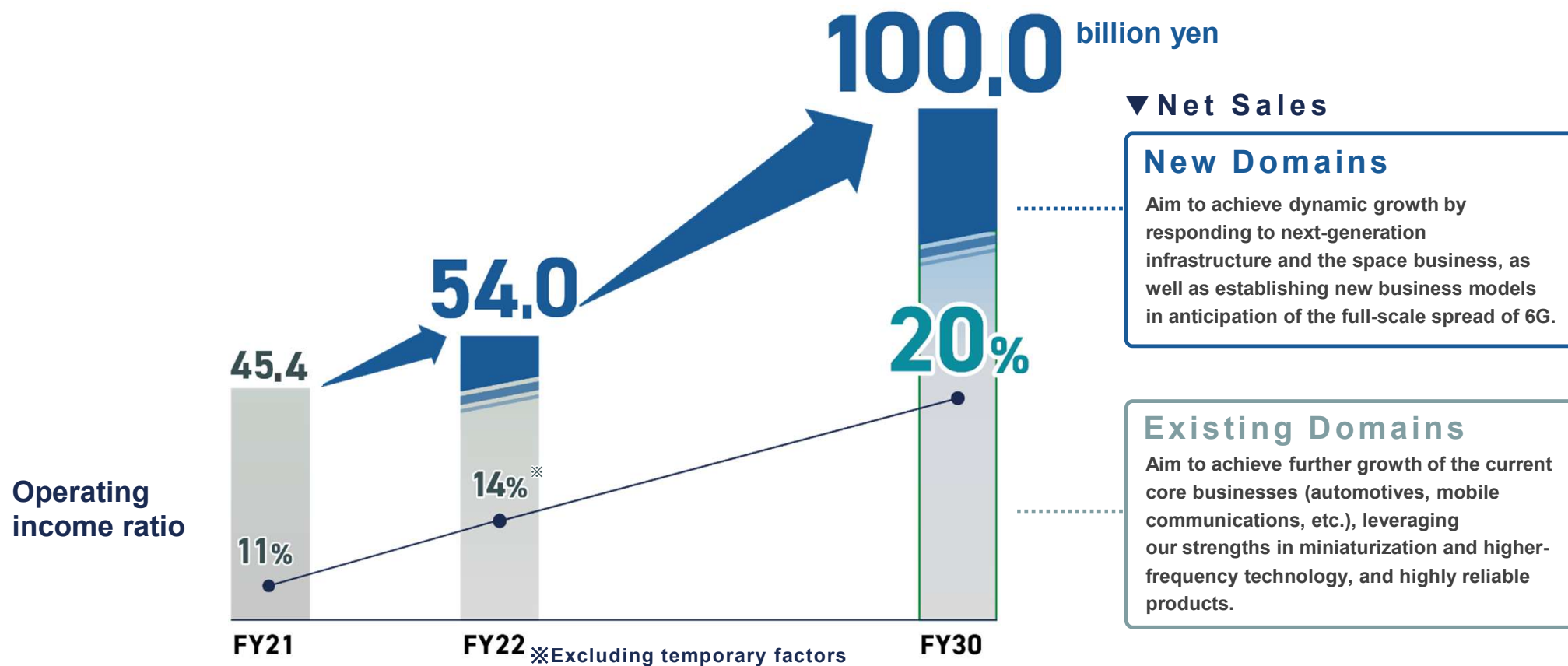
Explore New Domains and Become a 6G Top Runner

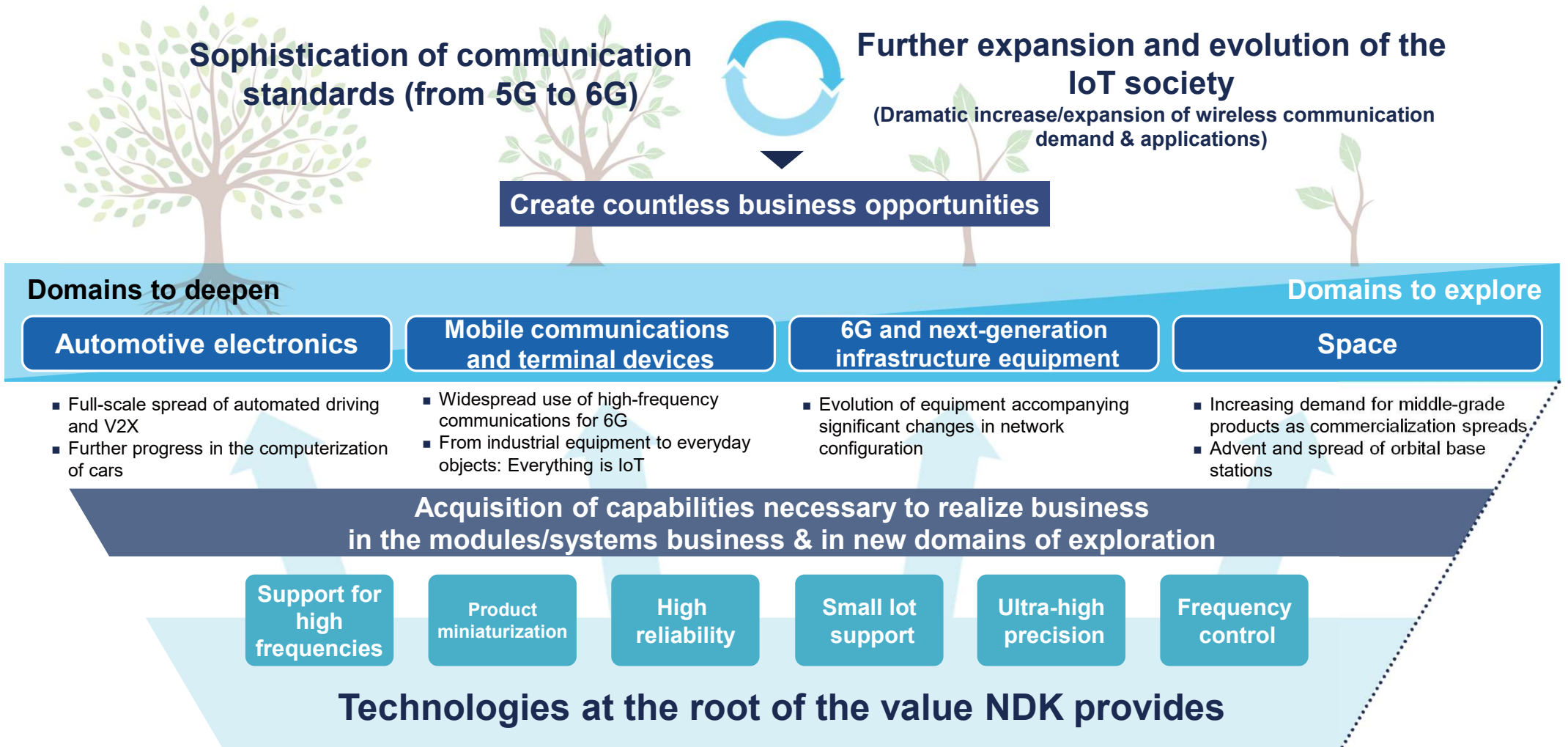
Vision2030 Management Targets



Aim to achieve ¥100 billion in net sales by developing new domains as well as growing existing ones aligned with the advancement of digital society.

Aim for 20% operating income ratio by maintaining our highly profitable structure, and value-added business development.





NDK's Core Competencies and Business Development



Business development

Established a position in the industry by accumulating technologies from integrated production

- NX1008AA**
1x0.8 mm
Crystal units
- NH9050SA**
7x5 mm OCXO
- NX3225GB**
Crystal units
for automobiles
- NT2520SE**
TCXO for automobiles

Leading the industry with compact and advanced products

Overwhelmingly trusted in the automotive electronics market

Endeavors toward a new business model are in progress and technology is steadily accumulating

- Frequency synthesizer
- QCM outgas sensor

Modules/systems business development

The value NDK provides

- Support for high frequencies
- Product miniaturization
- High quality
High reliability
- Diverse, wide-ranging products
- GHz band + low noise
- Frequency control

NDK's core competencies

- Photolithography technology
- Simulation technology
- Equipment design technology
- High-quality quartz-growing technology
- Inspection technology
- Quality management
- Microwave/millimeter wave high-frequency circuit technology
- Digital signal processing technology
- Component handling technology
- Stable production technology
- Combining and integrating technology
- Wireless system design

The Establishment of the New Business Development Office



The Mission of the New Business Development Office

Formalize strategies (select target domains, establish themes, formulate business concepts, etc.) and handle business development in the search for new business and the formulation of new business models, which are essential in reaching our 2030 business targets

Role and function to achieve our mission

- Identify and compile needs and seeds concerning new business originating from both inside and outside the company
- Promote collaboration with client companies beyond existing business
- Promote external collaborations such as open innovation (research institutes, venture companies, etc.)
- Explore and consider possibilities of capital alliances such as M&A as necessary

Positioning and direction of the New Business Development Office



Initiatives for the Post-5G Era



Post-5G: Enhancing 5G's ultra-low latency, multiple simultaneous connections, and other features to address "Beyond-5G" expected to start in 2030



Expected to be used in a variety of applications, including automated driving, smart manufacturing, and industrial IoT

NDK participates in a project¹ commissioned by the Ministry of Economy, Trade and Industry and NEDO²

Research and development are currently underway (in collaboration with the National Institute of Information and Communications Technology, the University of Tokyo, Tohoku University, and Hiroshima University) on **"time synchronization technology," which will become increasingly important in the post-5G era.**



- In FY2022, we will develop a **digitally-controlled crystal oscillator**, and develop a device for **time-synchronized wireless communication** jointly with the National Institute of Information and Communications Technology (NICT).
- Plans call for more progress with **experiments and verification of wireless connectivity using the device**, with the aim of **commercializing it in 2026.**

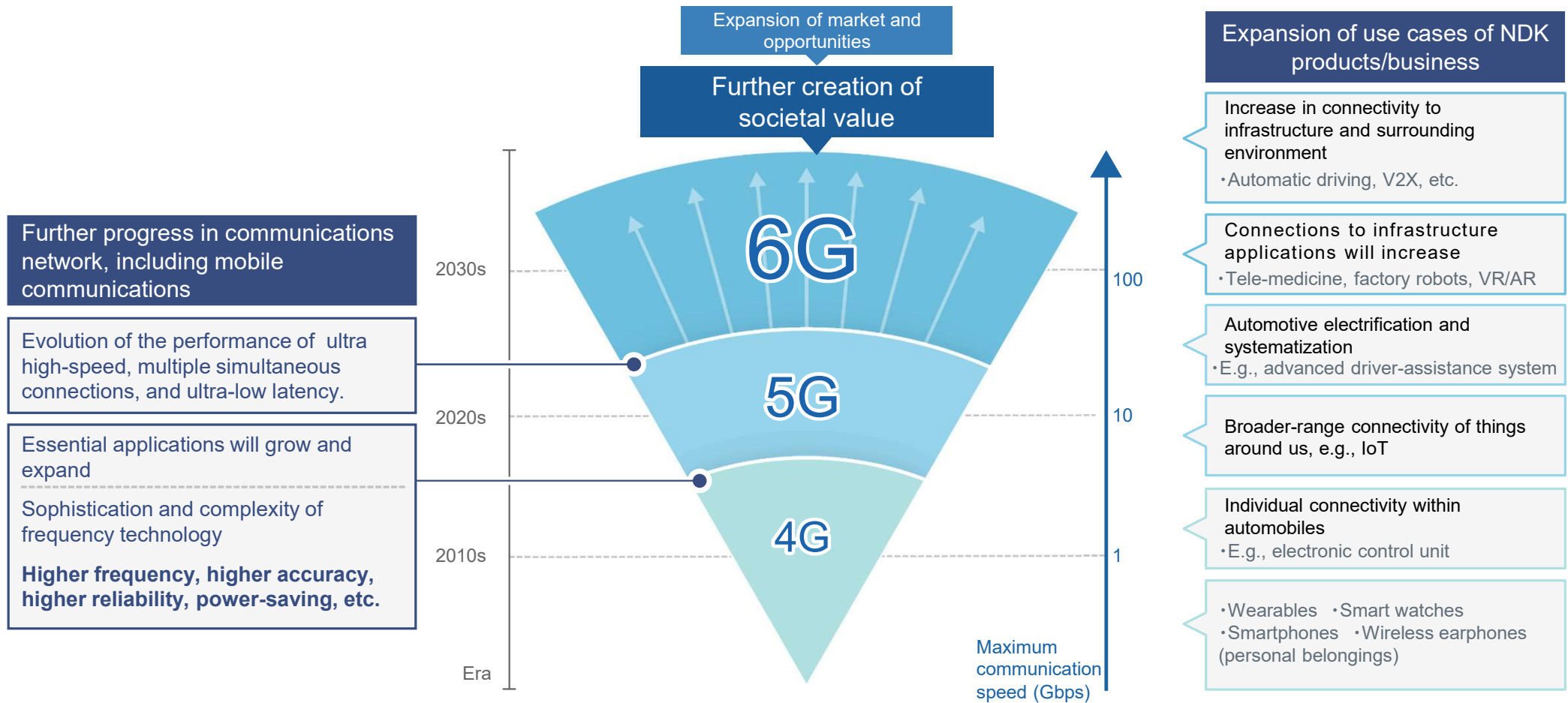
1: Ministry of Economy, Trade and Industry (METI) and NEDO's "Research and Development Project for Enhancement of the Bases for Post-5G Information and Communication Systems" (commissioned project)

2: New Energy and Industrial Technology Development Organization

Transition in Communication Standards and Opportunities for NDK Business Expansion

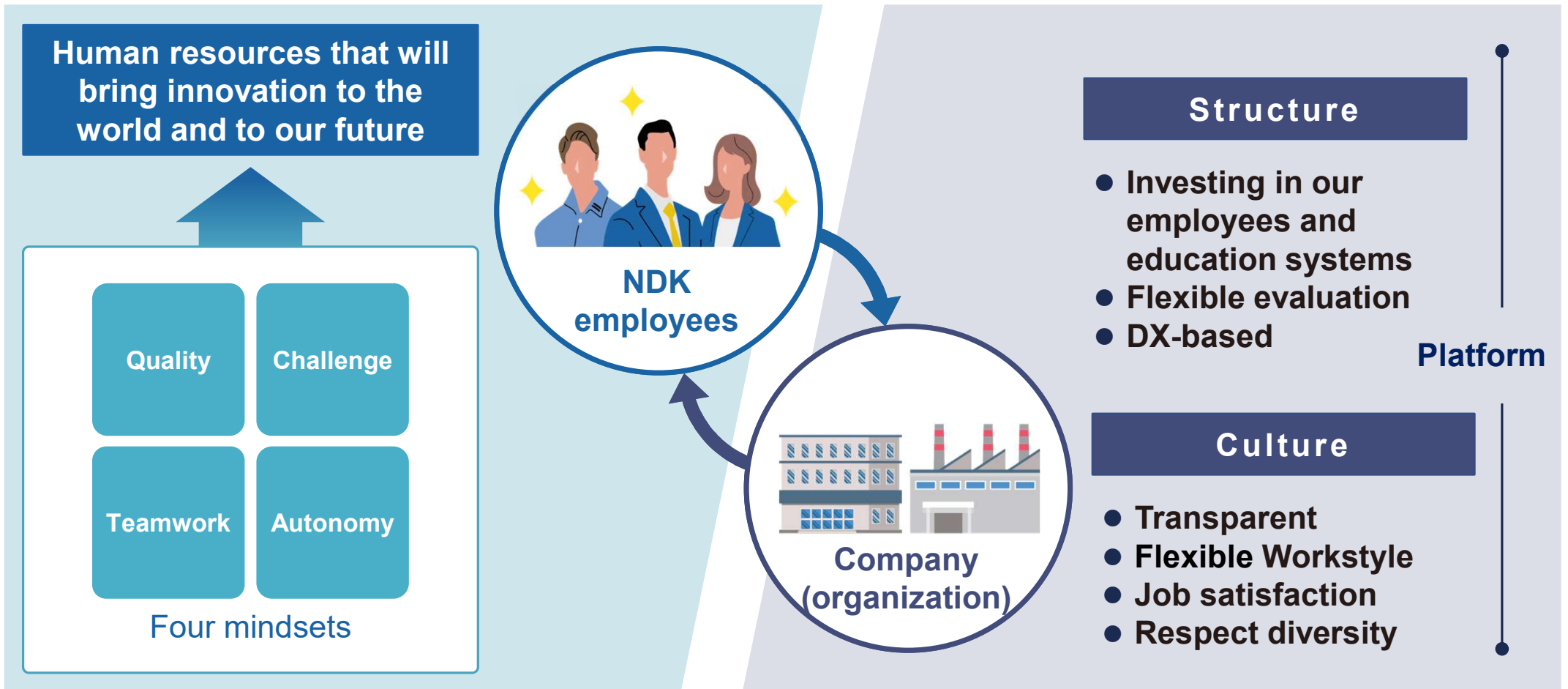


- Begin deliberations on the development of business during the period of Medium-Term Management Plan to become a 6G top runner



Nurture Human Resources to Bring Innovation to the World and to Our Future

NDK Nurtures Human Resources to Bring Innovation to the World and to Our Future





Crystal Bridge to the Future