

NEC IR Day 2022

# Network Services Business (Including Global 5G)

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# \Orchestrating a brighter world

NEC creates the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential.

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## Business Overview

Expand the businesses, leveraging assets/know-how accumulated through the businesses for the domestic telecom operators (carriers)

- Develop the 5G business globally, capturing the industrial structure transformation led by Open RAN networks
- Provide value of “connectivity” which contribute to industrial DX through NEC Smart Connectivity Business

**Contribute to society by leading social DX with telecommunications**

### Growth Areas

#### Global 5G Business

- Mobile network solutions (base stations, core, SI, management and orchestration software/support services)

### Core Areas

#### Domestic Carrier Business

- OSS/BSS\*, support services
- Service platform/IT platform, SI services
- Fixed network solutions (e.g. Optical/IP transport systems, control systems)

### Customer Segments

**Telecom operators (carriers)**

#### NEC Smart Connectivity Business

- Single window for industrial/enterprise E2E Connectivity



Manu-  
facturing



Const-  
ruction



Retail



Trans-  
portation



Public

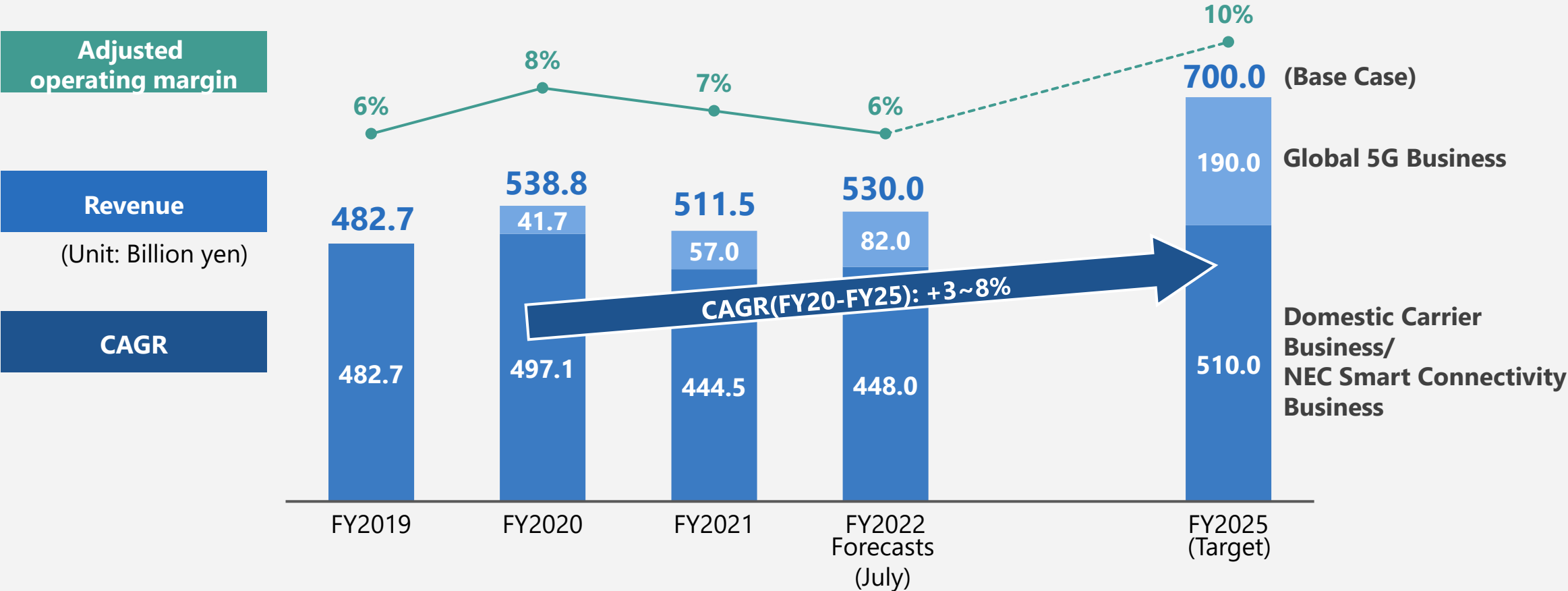
- Network architecture/operation services for enterprises

**Enterprises/public**

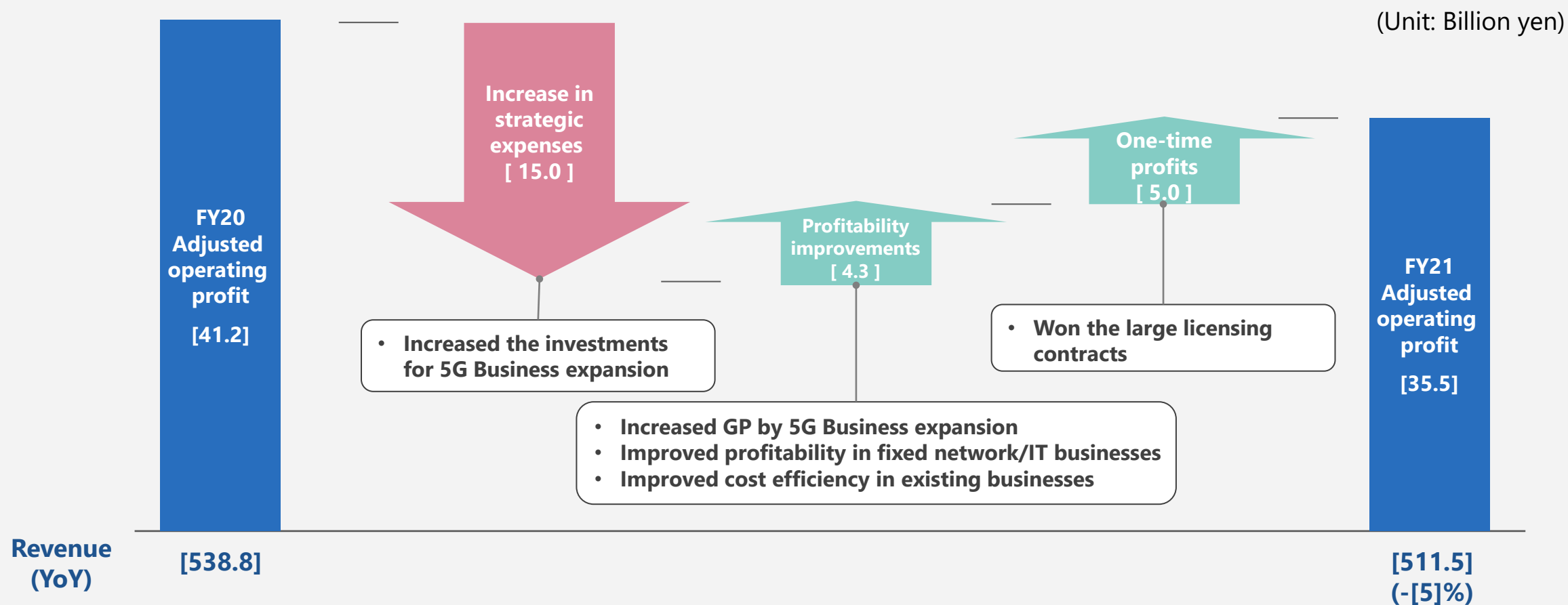
\*Operation Support System/Business Support System

Performance and Mid-Term Management Plan Targets

Expand the Global 5G Business and improve profitability in the fixed networks/IT business to pursue ¥700.0bn in revenue and 10% of operating margin in FY2025



## Adjusted operating profit declined due to an increase in strategic expenses for Global 5G Business expansion

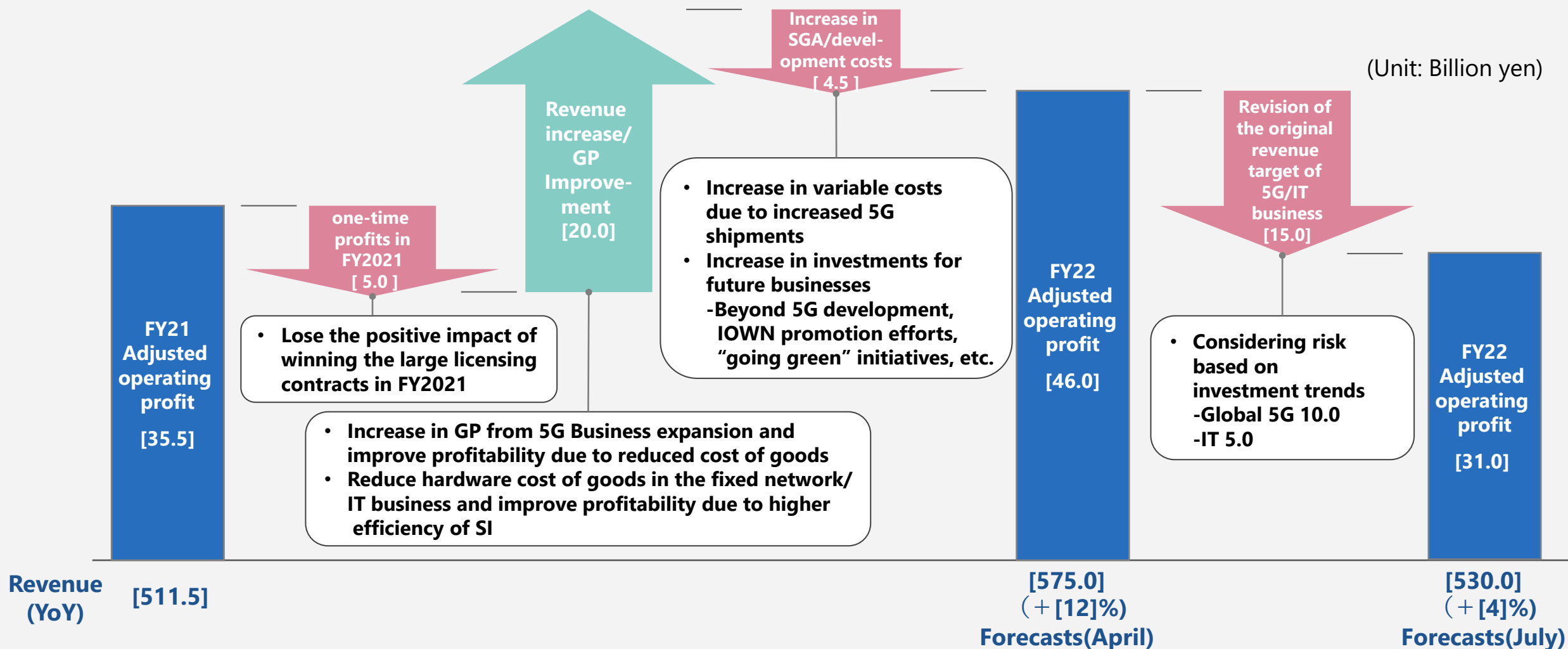


**Won key contracts in Global 5G Business and NEC Smart Connectivity Business, while the Domestic Carrier Business contributed to large-scale networks and IT migration which support clients' core business**

	Results	Challenges
<b>Global 5G Business</b>	<ul style="list-style-type: none"> <li>■ Strengthened/expanded engagements with Open RAN advocates</li> <li>■ Delivered higher value of products and built a good market reputation</li> <li>■ Reinforced business model through M&amp;A</li> </ul>	Further revenue growth along with market expansion by reinforcing the business model and delivering broader value
<b>Domestic Carriers Business</b>	<ul style="list-style-type: none"> <li>■ Continuous support to clients' backbone network</li> <li>■ Established/migrated large operational/service platform</li> <li>■ Enhanced network management/operational support</li> </ul>	Provision of IT systems with capability of achieving clients' DX and continued contribution to upgrades and higher efficiency of net work
<b>NEC Smart Connectivity Business</b>	<ul style="list-style-type: none"> <li>■ Expanded trials/PoC for commercial launch of Local/private 5G services</li> <li>■ Expanded Local/private 5G vertical menu/product portfolio</li> <li>■ Won new SASE/SD-WAN contracts to meet demands for secure network services</li> </ul>	Business expansion in the Local/private 5G market and further appeal of the value of Connectivity that supports industrial DX



Despite a decrease in profitability due to losing the one-time positive impact of large-scale deals in FY2021, realize profit contributions from revenue growth in Global 5G Business and improve profitability in existing businesses



## Background for Revision of FY2022 Plan and Counter Measures

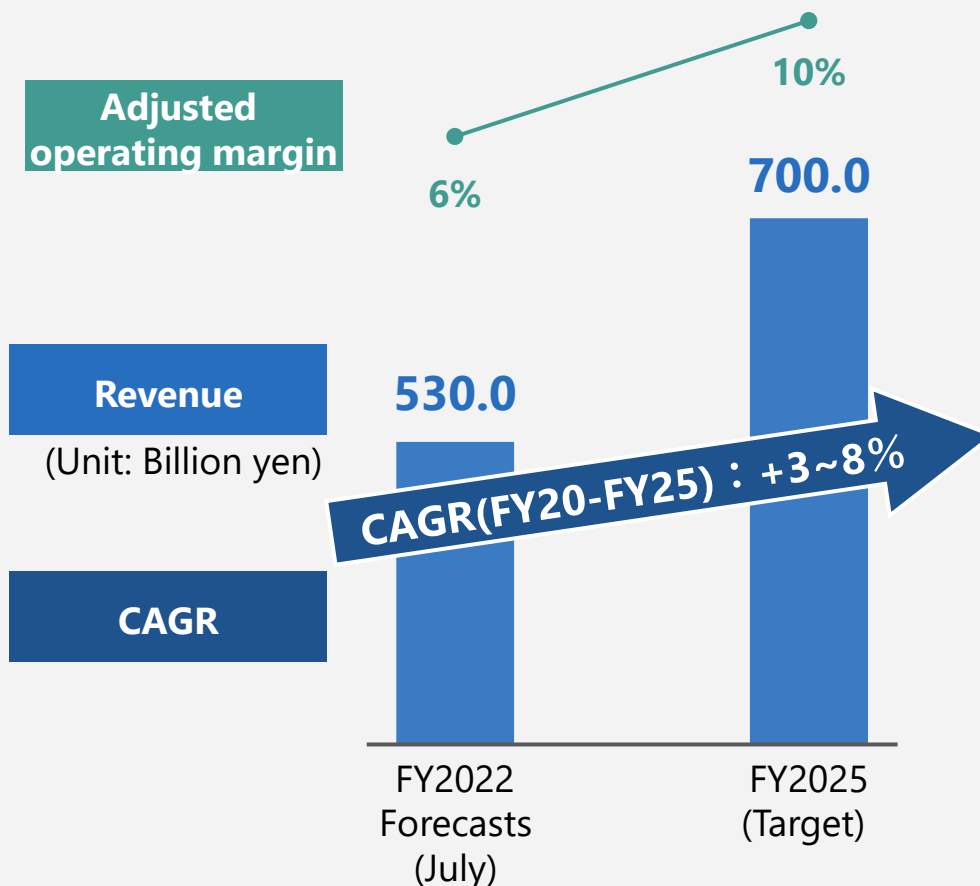
**Domestic:** Orders secured, expecting a recovery from 2Q by ensuring volume of components  
**Overseas:** Focusing on building a track record with support of high interests in Open RAN as a favorable tailwind, despite some delays in clients validation process

	Domestic	Overseas
Market Environment	<ul style="list-style-type: none"><li>● NTT DOCOMO, Rakuten Mobile are driving the market</li><li>● Maintained 5G investments and increased demands (YoY) due to government support</li></ul>	<ul style="list-style-type: none"><li>● Started to expand trials and deployments</li><li>● Continued strong interests in Open RAN</li></ul>
Background for Revision	<ul style="list-style-type: none"><li>● Shifts in investments by some clients due to shortfall of components, etc.</li></ul>	<ul style="list-style-type: none"><li>● Change the investment target among brownfield clients due to the delay in Open RAN validation process (6-12 months) etc.</li></ul>
Counter Measures	<ul style="list-style-type: none"><li>● Ensure volume of components strategically</li><li>● Orders secured and expected to recovery from 2Q onward</li></ul>	<ul style="list-style-type: none"><li>● Build track records of trials and deployments by European clients</li><li>● Resolve market stagnation and boost demand through support for trials and validation, and accelerate deal win from prospective clients</li></ul>

## Strategy to Achieve the Mid-Term Management Plan

Pursue 10% margin by achieving DX at domestic clients, expanding value of telecommunications, achieving 3-8% revenue CAGR through overseas market expansion, growing high value-added businesses, and improving profitability of the Global 5G Business

### FY2025 financial targets



### Basic principles to achieve numerical targets

Global 5G Business	<ul style="list-style-type: none"><li>● Global expansion of 5G business <b>focused on “Open”</b> technology, which is <b>different competitive edge from mega-vendors</b></li><li>● Bring about transformation in the industrial structure as a <b>leading vendor in the open market</b></li></ul>
Domestic Carrier Business	<ul style="list-style-type: none"><li>● <b>Enhance client engagement</b> with expertise from existing business and develop a sustainable business</li><li>● Contribute to clients’ <b>modernization and streamlined management through dependable execution and innovation</b></li></ul>
NEC Smart Connectivity Business	<ul style="list-style-type: none"><li>● <b>Provide E2E Connectivity including OT</b> by capturing social trends, leveraging telecom + IT track record</li><li>● <b>Expand businesses by leveraging NEC’s comprehensive strengths</b>, with a focus on network and data distribution</li></ul>

## 01 Network Services Business

## 02 Global 5G Business

- 1) Strategy Overview
- 2) Market Overview
- 3) Mid-term Management Plan Targets and Results
- 4) Strategy and Key Initiatives in FY2022

## 03 Domestic Carrier Business & NEC Smart Connectivity Business

## Strategy Overview

**Entering the global market with O-RU based on the track records in Japan, where the Open RAN is ahead of other regions, and aiming at growth with high profitability by developing the software and service businesses**

**FY2021**

**I**

**FY2022**

**Proactive  
investment phase**

**Market environment:**

**Introducing Open RAN and deploying the network**

- **Market entry and customer base expansion with the hardware business focusing on O-RU**
- **Introduce software products to the market**

**FY2023**

**I**

**FY2025**

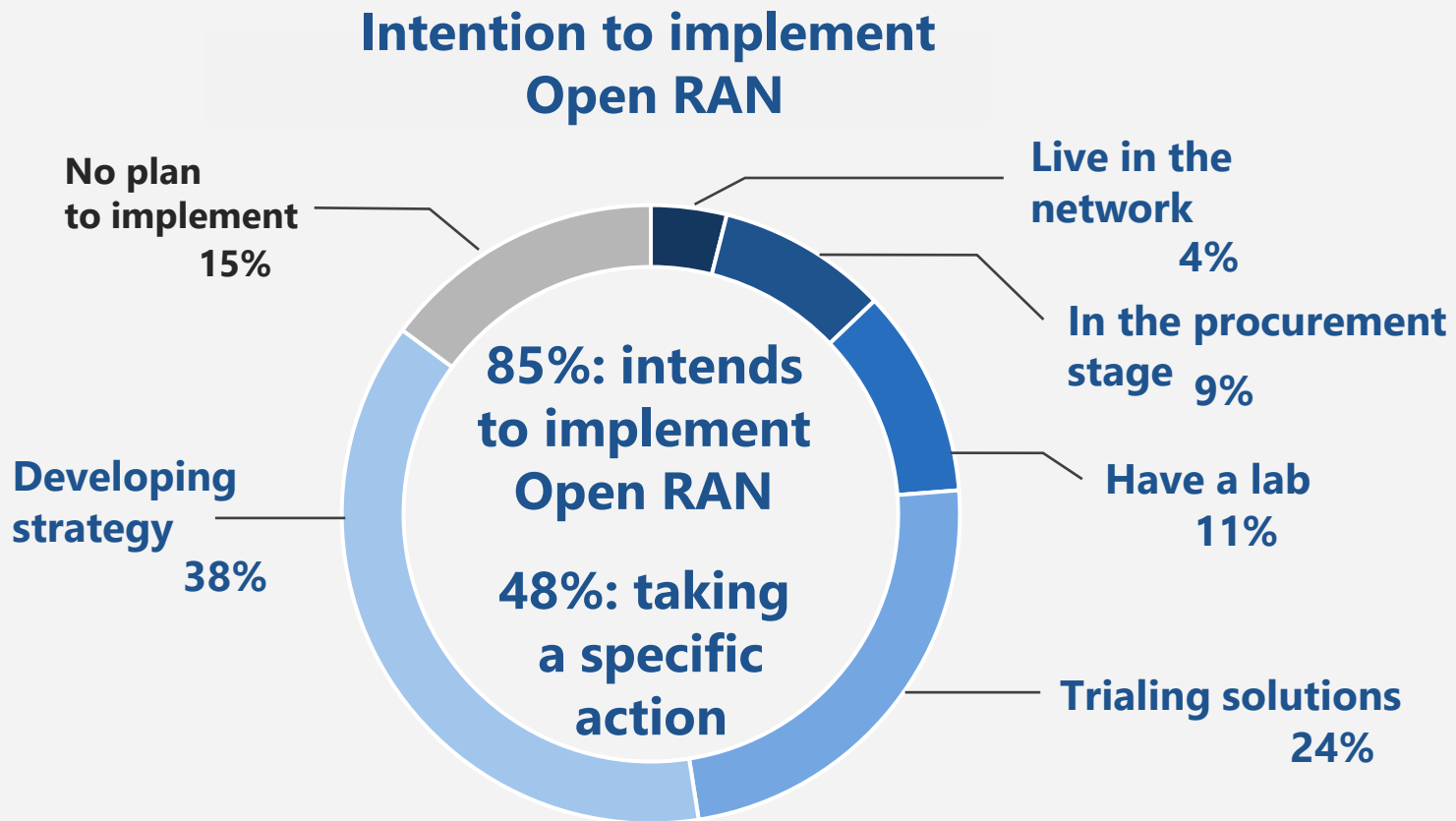
**Investment  
recovery phase**

**Market environment:**

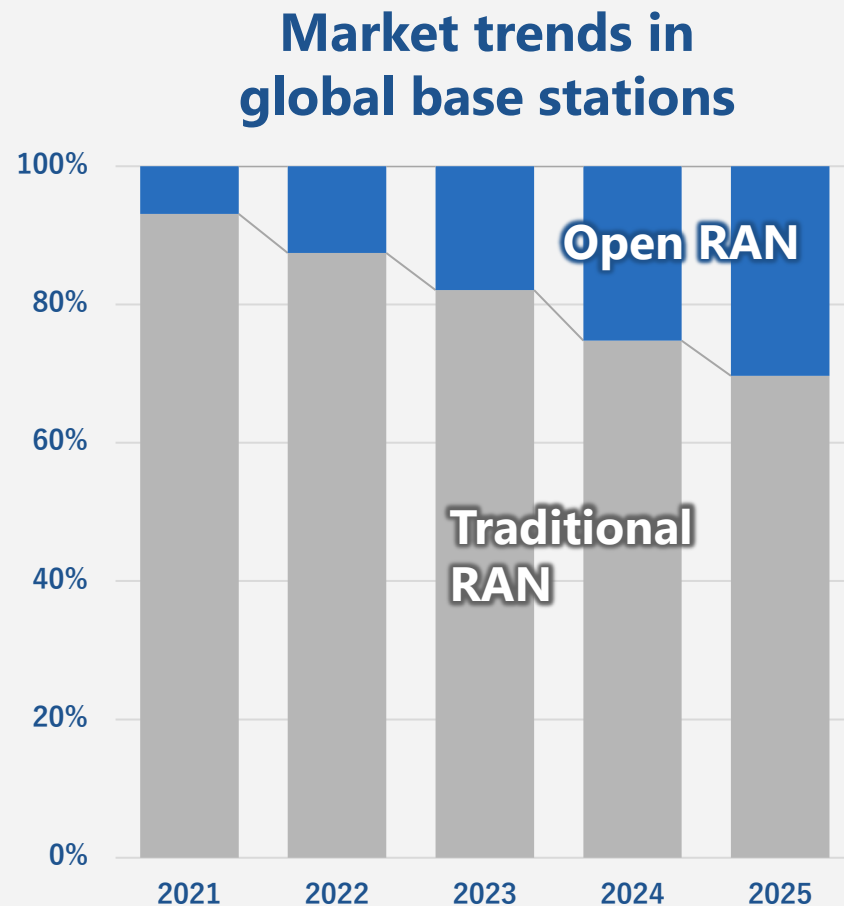
**Increasing importance of enhanced operational efficiency and automation as Open RAN deployment expands**

- **Add software (CU/DU, 5GC, SMO) and services (systems integration) to hardware business (O-RU)**
- **Increase profit through high value-added solutions such as automation, efficient operation, and network resource optimization**
- **Expand software licensing and recurring businesses**

**Intention to implement Open RAN by telecom operators is rising, while Open RAN market is expected to grow at a CAGR of over 30% (2022-2025)**



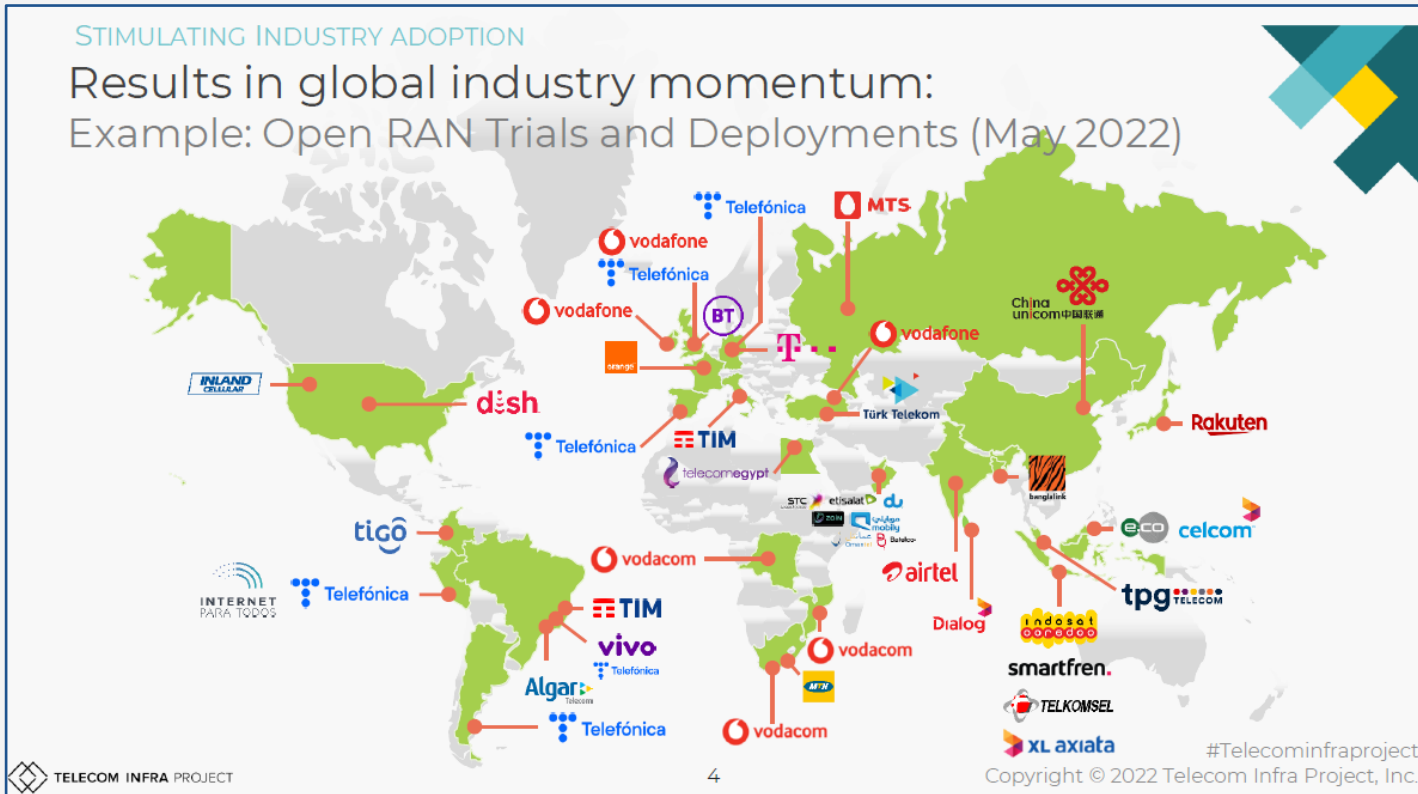
Source: Mobile World Live Industry survey on Open RAN adoption



Source: NEC estimates based on market reports

# Governments and telecom operators in various global regions and countries are promoting Open RAN initiatives

**36 telecom operators in over 20 countries conducted 37 trials and commercial deployments**



Source: Telecom Infra Project

## Europe

- Key European operators such as Vodafone, Telefonica declared that 20-30% of their European networks will shift to Open RAN by 2030
- British and German governments encourage shifts to Open RAN

## US

- Greenfield operator implements Open RAN in their commercial network
- Promote Open RAN by taking the opportunity of Rip & Replace" led by the U.S. government

## Australia

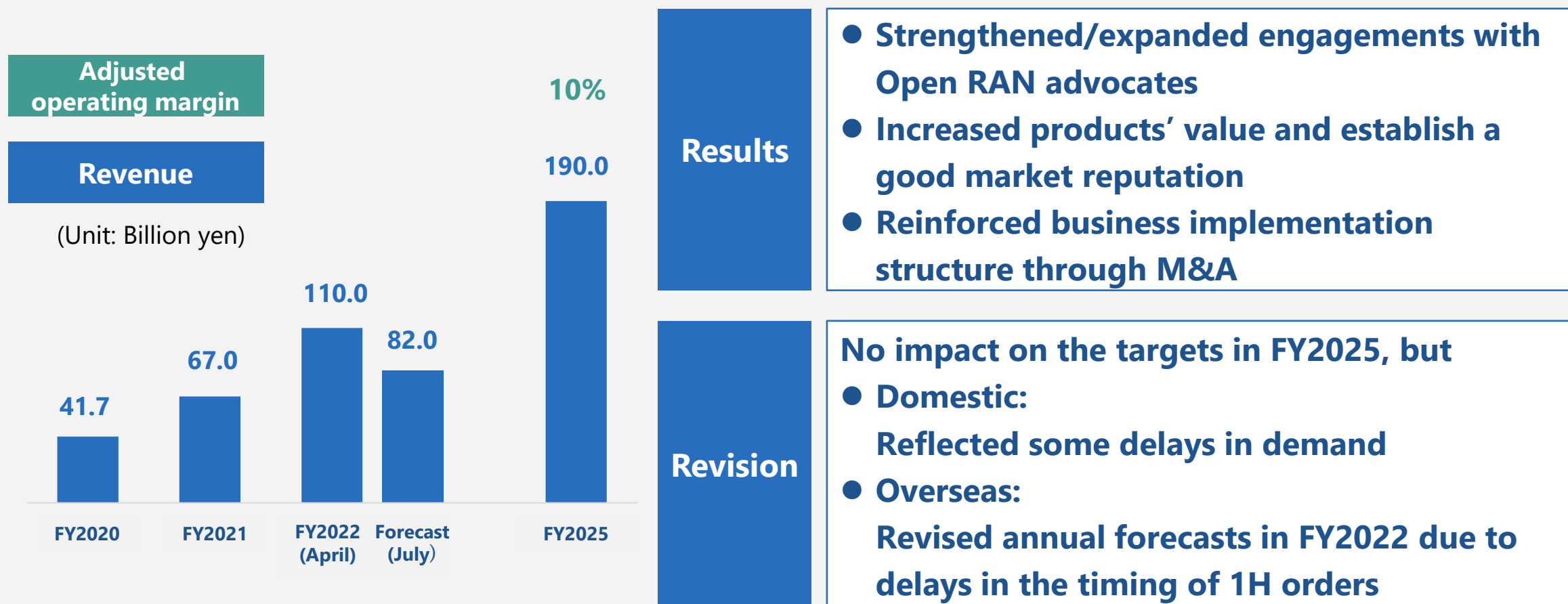
- Telecom operators and vendors leads Open RAN technical validation
- Established The Critical Technologies Policy Coordination Office in 2021; considering Open RAN from security and regulatory perspectives

## India

- Intend to utilize Open RAN to achieve "Digital India" and "Make in India" policies

## Mid-Term Management Plan 2025 and Results

Expanded products' value and reinforced the business model along with the progress in customer acquisitions and product improvements led by O-RU business, aiming at achieving the target of ¥190.0bn revenue with 10% adjusted operating margin in FY2025





**Won contracts through strengthened/expanded engagements with domestic/overseas  
Open RAN advocates and expect further business expansion**

### Deepen initiatives for each clients

Telefonica	Vodafone	Orange
DT	NTT DOCOMO	Rakuten Mobile

### Expansion of pipelines

Commercial customers	5 (+2)	(3 to 5, from Sep. 2021 To Sep. 2022)
Trials	23 (+11)	(12 to 23, from Sep. 2021 To Sep. 2022)
Prospects	30 (+10)	(20 to 30, from Sep. 2021 To Sep. 2022)

\*Numbers in brackets indicate pipelines increased from September 2021

**Gained a good market evaluation in the comprehensive strength and products since the broad portfolio and high performance were highly admired**

## Acquisition of a good reputation in both comprehensive strength and products



Source:  
<https://www.abiresearch.com/market-research/product/7779416-open-ran-platforms/>

Open RAN platforms  
**Leader**  
(Comprehensive strength)



**Best New Open RAN Product**  
5G massive MIMO RU  
**Best New 5G Core Product**  
Converged Core



**Best Vendor 5G Innovation**  
Non-Real-Time  
RAN Intelligent Controller



**5G Technology Initiative**  
Non-Real-Time  
RAN Intelligent Controller

**Aim at revenue expansion by continuous reinforcement of client approaches, 5G portfolio and business implementation structure along with lead of Open RAN market growth**

### **Key Initiatives**

- 1. Drive further the market growth by deploying Open RAN commercial systems and increase products' value thorough expansion of product portfolio**
- 2. Reinforce each business area by enhancing engagements with clients**
- 3. Further strengthen business implementation structure through global expansion of 5G technical resources**

## Key Initiatives in FY2022 (1)

**Drive further the market growth by building our global Open RAN commercial systems and expand products' value thorough broadening the business portfolio**

**Strengthen the SI capability to establish commercial Open RAN networks for brownfield clients**

**Proactively develop O-RU by expanding the portfolio along with market needs**

**Develop secured Open RAN based on QUAD coordination**

**Maintain and expand market shares in Japan by providing high quality of products and with stable supply**

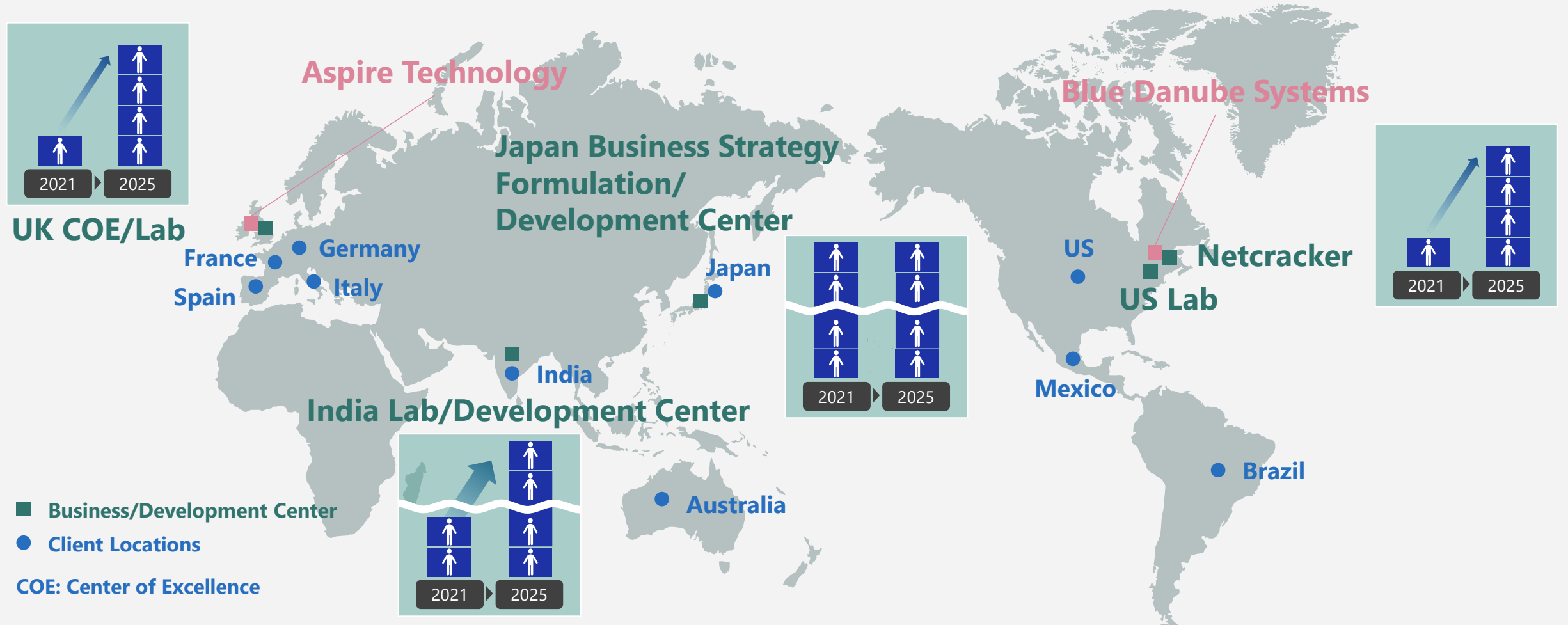
## Key Initiatives in FY2022 (2)

Reinforce each business area through strengthening/enhancing engagements with clients

NEC 5G portfolio	status	Key measures in FY2022	Profit contribution
<b>SMO</b> (Service Management and Orchestration)	Deploying in the market	Cooperate with telecom operators to enable automation and develop functions for enhancing efficiency	FY23~
<b>5GC</b> (5th Generation Core network)	Commercial operations	Provide overseas clients with enhanced version through public cloud coordination	FY20~
<b>RAN SI</b> (Radio Access Network System Integration)	Commercial operations	Execute European project and build RU's IOT track records	FY22~
<b>CU/DU</b> (Central Unit. Distributed Unit)	Commercial operations	Expand full-scale sales of virtual RAN to Open RAN advocates	FY20~
<b>O-RU</b> (Open Radio Unit)	Commercial operations	Expand O-RU portfolios by adjusting to the frequencies of each country	FY20~

## Key Initiatives in FY2022 (3)

# Further strengthen business implementation structure through global expansion of 5G technical resources



01 Network Services Business

02 Global 5G Business

**03 Domestic Carrier Business & NEC Smart Connectivity Business**

### Mid-term Strategy

- **Enhance client engagement** with expertise from existing business and develop a sustainable business
- Contribute to clients' **modernization and streamlined management through dependable execution and innovation**

Value Expansion

- **Realize future networks for clients towards the Beyond 5G/IOWN era**
  - Evolution to world-class telecommunications technology that creates new value (wireless, optical technology, etc.)
  - Achievement of carbon neutrality for the entire telecom industry (utility efficiency, shift to renewable energy, etc.)

Towards the future

- **Provide flexible and efficient mainframe systems/platforms to achieve clients' DX (also adapt to the trends of cloud and packaging)**
  - Integration of backbone systems that leverage know-how accumulated client-based business
  - Agile establishment of service platforms with flexibility

Focus area

- **Continued support for building and operating clients' core infrastructures which serve as business foundations**
  - Modernization of clients' core infrastructure (backbone network/systems)
  - Contribution to network management/operational support to cover clients' shortage of human resources and enhance operational efficiency

Steady execution



## Mid-term Strategy

- **Provide E2E Connectivity including OT** by capturing social trends, leveraging telecom + IT track record
- **Expand businesses by leveraging NEC's comprehensive strengths**, with a focus on network and data distribution

## Value Expansion

- **Realize the value of connectivity with comfort, efficiency, and security**
  - Provide single window network services adapted to various usage environments

**Towards the future**

- **Full-scale expansion of the Local/private 5G Business**
  - Build use cases of Local/private 5G in co-creation with partners
  - Expand vertical solutions/portfolio and achieve high market evaluation
  - Expand business by appealing ease of installation and broadening the target market



**Focus area**

- **Establish enterprise network and build operational track records**
  - Establish a reliable enterprise network by leveraging know-how for telecom operators
  - Provide operational managed services by leveraging the E2E portfolio and know-how

**Steady execution**

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# Cautionary Statement with Respect to Forward-Looking Statements

This material contains forward-looking statements regarding estimations, forecasts, targets and plans in relation to the results of operations, financial conditions and other overall management of the NEC Group (the "forward-looking statements"). The forward-looking statements are made based on information currently available to the Company and certain assumptions considered reasonable as of the date of this material. These determinations and assumptions are inherently subjective and uncertain. These forward-looking statements are not guarantees of future performance, and actual operating results may differ substantially due to a number of factors.

The factors that may influence the operating results include, but are not limited to, the following:

- adverse economic conditions in Japan or internationally;
- foreign currency exchange and interest rate risks;
- changes in the markets in which the NEC Group operates;
- the recent outbreak of the novel coronavirus;
- potential inability to achieve the goals in the NEC Group's medium-term management plan;
- fluctuations in the NEC Group's revenue and profitability from period to period;
- difficulty achieving the benefits expected from acquisitions, business combinations and reorganizations and business withdrawals;
- potential deterioration in the NEC Group's relationships with strategic partners or problems relating to their products or services;
- difficulty achieving the NEC Group's growth strategies outside Japan;
- potential inability to keep pace with rapid technological advancements in the NEC Group's industry and to commercialize new technologies;
- intense competition in the markets in which the NEC Group operates;
- risks relating to the NEC Group's concentrated customer base;
- difficulties with respect to new businesses;
- potential failures in the products and services the NEC Group provides;
- potential failure to procure components, equipment or other supplies;
- difficulties protecting the NEC Group's intellectual property rights;
- potential inability to obtain certain intellectual property licenses;
- the NEC Group's customers may encounter financial difficulties;
- difficulty attracting, hiring and retaining skilled personnel;
- difficulty obtaining additional financing to meet the NEC Group's funding needs;
- potential failure of internal controls;
- potentially costly and time-consuming legal proceedings;
- risks related to regulatory change and uncertainty;
- risks related to environmental laws and regulations;
- information security and data protection concerns and restrictions;
- potential changes in effective tax rates or deferred tax assets, or adverse tax examinations;
- risks related to corporate governance and social responsibility requirements;
- risks related to natural disasters, public health issues, armed hostilities and terrorism;
- risks related to the NEC Group's pension assets and defined benefit obligations; and
- risks related to impairment losses with regard to goodwill.

The forward-looking statements contained in this material are based on information that NEC possesses as of the date hereof. New risks and uncertainties come up from time to time, and it is impossible for NEC to predict these events or how they may affect the NEC Group. NEC does not intend to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Note: In this presentation, the accounting periods of the fiscal years for March 31, 2022 and 2023 were referred as FY2021 and FY2022 respectively. Any other fiscal years would be referred similarly.