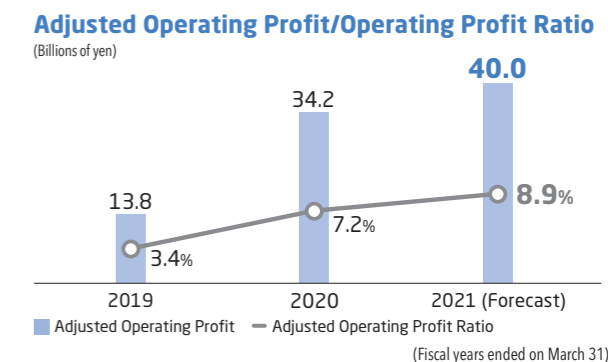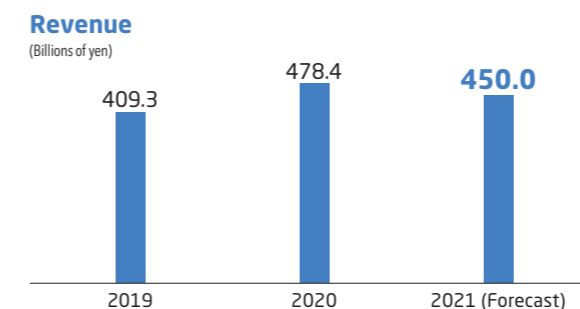# Review of Operations

Public Solutions Business

Expand Business Domain for Solving Social Issues

Chikara Nakamata
Executive Vice President

Revenue
(Billions of yen)

409.3 (2019) | 478.4 (2020) | **450.0** (2021 (Forecast))

Adjusted Operating Profit/Operating Profit Ratio
(Billions of yen)

13.8 / 3.4% (2019) | 34.2 / 7.2% (2020) | **40.0** / **8.9**% (2021 (Forecast))

■ Adjusted Operating Profit — Adjusted Operating Profit Ratio

(Fiscal years ended on March 31)

Solving Social Issues by Providing Value beyond the Conventional Scope of an ICT Vendor

Japan is facing social issues arising from declining birthrates and an aging population, increasing social security costs, a declining work force, and a slump in consumption. NEC's task is to grasp these issues and address them firmly, then contribute to realizing a sustainable society. Using our accumulated experience, AI and biometrics technologies, and co-creation, we will provide value beyond the conventional scope of an ICT vendor. In this way, we will contribute to realizing sustainable growth and achieving the companywide profit targets.

Business Environment and New Market Opportunities

Business model reforms driven by AI and IoT (DX) are developing on a scale that far exceeds the traditional scope of ICT vendors. Meanwhile, the traditional ICT market is contracting, and we need to expand our business into new domains inspired by social issues for our sustainable growth.

In Japan, the COVID-19 pandemic has exposed and drawn attention to issues with the systems of national and local governments, as well as medical institutions and small- to medium-sized enterprises (SMEs), as well as delays in their digitalization. We view this as an opportunity for us to contribute to the development of safe, secure, fair and efficient social infrastructure using advanced ICT such as AI, IoT, and biometrics.

Providing Social Infrastructure to Realize Advanced Local Communities

Countermeasures against COVID-19 have helped to increase awareness of the concepts of remote, touchless, and resilience in every area of society. We will also accelerate our response to DX in the public business domain.

■ **Contributing to the Realization of Digital Government**
In order to contribute to the realization of digital government in Japan, we will accelerate the creation of services that offer users true convenience, using national infrastructure such as the system supporting the Social Security and Tax Number System ("My Number") and advanced technologies such as AI and biometrics.

■ **Digital Healthcare Using ICT**
In the area of healthcare, we will use advanced ICT to contribute to solutions for critical issues, such as ensuring safety and security on the frontlines of medical care and overcoming labor shortages. These technologies include image diagnostic support using AI and remote/touchless solutions that help to prevent infections from occurring and spreading inside hospitals. In this way, we aim to realize a healthy, long-lived society where people can live vibrant lives.

■ **Helping to Create Resilient Cities**
To address diseases such as COVID-19 as well as natural disasters that occur each year, we will contribute to the creation of resilient cities by utilizing advanced technologies in our Social Infrastructure Business, which includes disaster prevention, fire service, transportation, and electricity.

Toward Realizing a Safe and Secure Olympic and Paralympic Games Tokyo 2020

For the Olympic and Paralympic Games Tokyo 2020 (Tokyo 2020 Games), we aim to make sure that the event runs safely, securely, and smoothly by providing advanced public safety products that utilize biometrics and behavior detection and analysis, along with private network radio systems.

The Tokyo 2020 Games have been postponed for one year due to the impact of COVID-19, and providing a safe and secure environment is the highest priority for running the event. Given the situation, NEC will continue to utilize advanced technologies to ensure that the Tokyo 2020 Games are safe, secure, and successful.

* NEC is a Tokyo 2020 Games Gold Partner (Specialist Public Safety Equipment & Software, Network Equipment, Private Network Radio Systems)

STRENGTHS

■ Strong track record, high credibility, advanced technologies, and high market share in Japan for systems and cyber security in governmental organizations, local governments, and power companies.

■ Ability to propose customers' future concepts based on "domain knowledge," specifically operational expertise and deep knowledge of data through longtime deals.

■ Provision of vertically integrated solutions for full-layer IT with the "NEC the WISE" lineup of AI technologies, "Bio-IDiom" biometrics, IT, networks, and sensing technologies including security.

WEAKNESSES

■ There is a high proportion of large-scale projects in Japan, with fewer projects that provide regular income streams, such as in services, meaning that demand volatility can have a significant impact.
❯ Countermeasures: Transform the business model to focus on capturing service projects, thereby raising the ratio of regular income projects.

■ Additional costs result from the complexity of project management for large-scale projects and the issues inherent in system development using cutting-edge technology. These costs can have an impact on business results .
❯ Countermeasures: Further accelerate measures such as enhancement of risk management and visualization and standardization of development. Minimize additional costs.

OPPORTUNITIES

■ Acceleration of digitalization in government services and the medical field due to lifestyle and business style changes caused by the COVID-19 pandemic.

■ Even greater expectation for safe and secure running of the Tokyo 2020 Games, despite their postponement due to the COVID-19 pandemic.

■ System generation change and innovation in the Social Infrastructure Business (electric power, roads, etc.).

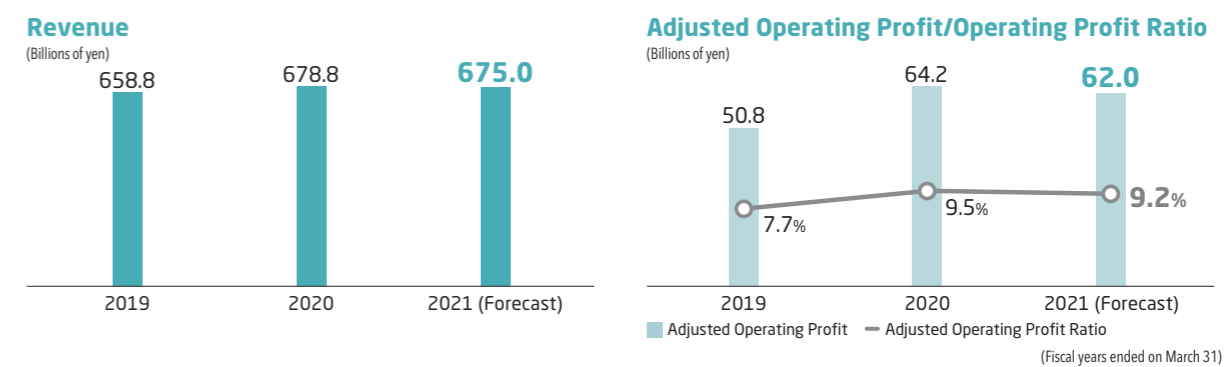■ Expansion in demand for strengthening of systems and monitoring services for cyber security.

THREATS

■ Intensifying competition for orders, increasing number of projects with difficult requirements in cost and delivery.
❯ Countermeasures: Rigorously differentiate products in terms of functionality and performance while constantly improving cost competitiveness and quality.

■ Possibility that digitalization may prompt an increase in market entries from other companies and other industries.
❯ Countermeasures: Execute business strategies that anticipate changes in existing business fields.

■ Deterioration of the economic environment due to the COVID-19 pandemic and curbs on ICT investment due to downturn in customers' performance.
❯ Countermeasures: Focus on developing and providing solutions needed for the new normal.

Public Infrastructure Business

Supporting Key Public Infrastructure and Continuing to Advance toward the Future

Noritaka Taguma
Executive Vice President

Revenue
(Billions of yen)

2019	2020	2021 (Forecast)
658.8	678.8	**675.0**

Adjusted Operating Profit/Operating Profit Ratio
(Billions of yen)

2019	2020	2021 (Forecast)
50.8	64.2	**62.0**
7.7%	9.5%	**9.2%**

■ Adjusted Operating Profit — Adjusted Operating Profit Ratio
(Fiscal years ended on March 31)

Contributing to Achievement of the Mid-term Management Plan 2020 by Stable Earnings

In the Public Infrastructure Business Unit, we support the stable running of mission critical operations for governments, governmental agencies including national security, and broadcasters using ICT. By supporting these key national infrastructure entities, we will maintain stable earnings. However, as our businesses have an inherent tendency to take up the challenge of world-leading or industry-leading technologies, unprofitable projects can result. To minimize this possibility, we will further strengthen the risk evaluation process in fiscal 2021 to ensure stable profits, and contribute to achieving our companywide targets under the Mid-term Management Plan 2020.

Continuous Investment to Contribute to Realizing a Sustainable Society

Continuous technology development is essential to the ongoing provision of new value that supports key national infrastructure. The technologies that we have cultivated include biometric authentication – developed in the law enforcement and justice fields and offering world-leading accuracy; cutting-edge cyber-security technologies – developed through our efforts in the field of national security; and space-related technologies – developed for use in carrying out missions in uncharted places in the harsh environment of space (used in Hayabusa 2). These Public Infrastructure Business Unit technologies are currently applied in projects in various fields, representing NEC. We will cooperate

with the Research and Development Unit to promote technology development that secures a competitive advantage in technology for the future, and contributes to the realization of a sustainable society by supporting key social infrastructure.

Towards Mid- to Long-term Business Growth

The Japanese Government's Digital Government Action Plan is a sign of accelerating transformation in government agencies, which are our customers, as well as the broadcasting and media sectors. In addition to digitalization, we will also venture into the development of systems related to society overall, helping to increase productivity of Japan by proposing future concepts for customers' operations. Our strengths in this area are the customer expertise, various technologies, and assets that we have accumulated over many years. With these strengths, we have been providing digital education materials through the NEC Education Cloud, digitalizing year-end tax adjustment procedures, and so on. Looking ahead, we will continue to try out new ideas and challenges as we work to transform the structure of social systems and create new social value with our customers.

Finally, in April 2020 we announced that we had received an order for an Earth observation satellite system for Vietnam. This is also a practical example of our materiality, NEC Corporation's nine priority management themes, one of which is "Environmental action with a particular focus on climate change." We will continue to provide social value through practical implementation of our materiality based on the SDGs.

STRENGTHS

■ Strong track record, high credibility and advanced technologies for systems and cyber security in governmental organizations and broadcasters.

■ Ability to propose solutions to customers' issues and future concepts based on expertise and knowledge of data through longtime deals.

■ Provision of vertically integrated solutions with the "NEC the WISE" lineup of AI technologies, "Bio-IDiom" biometrics, IT and networks and sensing technologies including security.

WEAKNESSES

■ Susceptibility to volatility of demand due to fewer projects that provide regular income.
❯ Countermeasures: Attempt to promote recurring and subscription-based businesses.

■ Need for continuous investment to develop advanced technology and maintain quality.
❯ Countermeasures: Increase ability to recover long-term investments.

OPPORTUNITIES

■ Expansion in ICT demand due to the Digital Government Action Plan, such as the Government Cloud and Giga School concepts.

■ System generation change in the Social Infrastructure Business (broadcasting, law enforcement, etc.).

■ Expansion in demand for strengthening of systems and monitoring services for cyber security countermeasures.
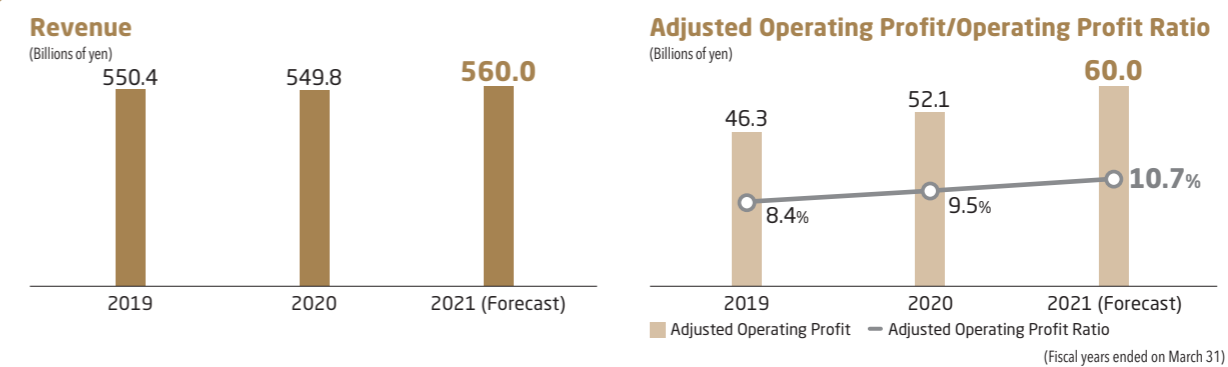
THREATS

■ New business trend represented by IP broadcasting and transformation of the viewer rating and advertising models.
❯ Countermeasures: Regularly revise business plans looking 5 and 10 years ahead.

■ Contraction of the existing ICT market.
❯ Countermeasures: Acquire strengths through investment in new themes and expand new business domains by proposing digital transformation to customers.

Enterprise Business

Accelerating Digital Transformation through NEC Value Chain Innovation

Kazuhiro Sakai
Executive Vice President

Revenue
(Billions of yen)

2019	2020	2021 (Forecast)
550.4	549.8	**560.0**

Adjusted Operating Profit/Operating Profit Ratio
(Billions of yen)

2019	2020	2021 (Forecast)
46.3	52.1	**60.0**
8.4%	9.5%	10.7%

■ Adjusted Operating Profit — Adjusted Operating Profit Ratio

(Fiscal years ended on March 31)

Solving Social Issues with VCI

Society and corporations face various kinds of social issues, such as food waste, labor shortages, changes in the consumption environment, and diversifying threats in both real and cyber-space, not to mention adapting to the new normal that has been brought on by the COVID-19 pandemic. To solve these social issues, we will utilize cutting-edge digital technologies and promote co-creation with customers in order to connect people, goods, and processes, reaching across the boundaries between enterprises and industries to provide NEC Value Chain Innovation (VCI) that will create new value.

Expanding Offerings to Convert to a Service-Type Business Model

The digital shift in the Japanese IT market is accelerating, and we expect the imminent arrival of an era where digital technology is used by the majority of businesses. Looking ahead to this change, we will respond quickly by establishing offerings for customers of all business fields. Then, we will strengthen the value provided by VCI through co-creation.

We also recognize that service-type businesses such as subscription businesses are going to become mainstream, and customer demand is increasing. We will allocate resources to SE, including service staff, and promote the development of service provision-type human resources, converting our business model to handle service provision-type business and transforming our organization into one that can support new business structures.

Capturing Demand in the New Normal and Accelerating VCI Business Development

Since the formulation of the Mid-term Management Plan 2020, we have steadily implemented initiatives to maintain our existing business domains, while concentrating investment in transformation for growth, conducting cost structure reforms, and setting up for the VCI business. These initiatives have produced steady growth in revenue and operating profit, and our business structure has also been transformed in line with the digital shift of the market.

In fiscal 2021, we will continue to invest in expanding offerings needed for accelerating proposal- and co-creation-type businesses for relevant markets, as we move to capture new demand for the new normal, such as remote, online, touchless, automation, and transparency/trust. In addition, by strengthening our coordination with the companywide DX strategy, we will increase the speed of our market response and bolster our competitiveness.

Moreover, in our existing business domains, we will strive to strengthen management and secure profits, while shifting human resources into digital domains, while keeping an eye on market changes.

We will respond to new demand from society and customers in the new normal, with a primary focus on VCI, and move forward together with customers and business partners, combining our capabilities with theirs as a company that solves social issues.

STRENGTHS

■ Reliability and achievements cultivated over many years of providing IT services to domestic clients in the manufacturing, retail and service, and financial industries.

■ Integration of advanced technologies and business to create customer value through modernization and VCI.

WEAKNESSES

■ Need to supplement know-how assets to swiftly realize solutions for social issues.
❯ **Countermeasures:** Strengthen co-creation with external partners across company and industry boundaries.

■ Need to secure digitally capable human resources to respond to new domains.
❯ **Countermeasures:** Strengthen human resource shift and recruitment in response to market changes.

OPPORTUNITIES

■ ICT expected to play a wider role in solving various social issues, such as food waste and labor shortages.

■ Expansion in new business opportunities arising from changes in workstyles and lifestyles.
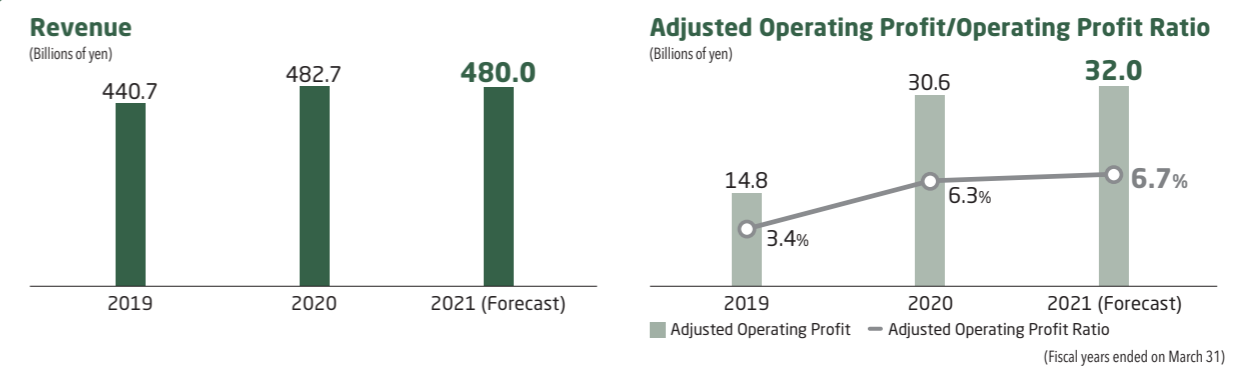
THREATS

■ Change in customers' fields of investment due to acceleration of digitalization.
❯ **Countermeasures:** Create new business models and strengthen DX support capabilities.

■ Intensifying competition due to market entry of companies from other industries and internationally, etc.
❯ **Countermeasures:** Increase market response speed and value provision by strengthening internal collaboration and co-creation with external partners.

Network Services Business

Accelerating Digital Transformation by Providing "Connection Value"

Atsuo Kawamura
Executive Vice President

Revenue
(Billions of yen)

440.7　482.7　**480.0**

2019　2020　2021 (Forecast)

Adjusted Operating Profit/Operating Profit Ratio
(Billions of yen)

14.8　30.6　**32.0**

3.4%　6.3%　**6.7**%

2019　2020　2021 (Forecast)

■ Adjusted Operating Profit　— Adjusted Operating Profit Ratio

(Fiscal years ended on March 31)

Initiatives of the Network Services Business in the Digitalization Era

The digital shift in workstyles and lifestyles is advancing rapidly, driven by the arrival of the 5G/IoT era. The industrial world is also stepping up the pace of digital transformation (DX) aimed at using AI, IoT and cloud computing to streamline management and capture new business. In this environment, connecting people, things and contexts with data securely and flexibly is more important than ever, and demand for this is growing.

NEC will lead DX by maximizing the "connection value" it has cultivated through its telecommunications-related businesses since its foundation. By providing the ability to connect widely throughout society, we will contribute to the realization of new business creation, a safe and secure society, and better lifestyles.

Further Development of the Network Services Business

For 5G and beyond, networks will need to be flexible enough to handle a diverse range of services and multiple frequencies. The key to achieving this is shifting to open and virtualized systems. We are actively promoting the provision of equipment capable of supporting this shift, and in July 2019 we started shipping 5G base stations for NTT DOCOMO INC. which are compliant with O-RAN front-haul interface specifications. We are also accumulating a track record in the domestic market; for example, by supporting the construction of Rakuten Mobile's fully virtualized cloud native mobile network by providing 5G radio units, the 5G core network and BSS/OSS.

Meanwhile, in international markets we face the challenge of having a smaller footprint than that of mega vendors. In addition, we have the challenge of not only supplying network equipment, but strengthening the creation of value through the use of networks.

Providing Innovative Forms of Connection to Support DX

All of society is currently undergoing a huge digital shift. We are promoting global development, aiming to build a globally competitive eco system centered on the shift to open systems. In the 5G domain, we will provide integrated telecommunications infrastructure such as mobile systems, optical systems, and network management systems. In addition, as security becomes more important, NEC will promote secure networks that use its original security technologies to enable management of everything from supply chains to network equipment.

As one of these initiatives, in June 2020 NEC and NTT Corporation announced an alliance for joint research and development of advanced technologies and products, primarily optical and wireless products. Going forward, the two companies will contribute to enhancing the industrial competitiveness of Japan and further ensuring safe and reliable communication infrastructure, playing leading roles in working with numerous communication equipment vendors. Furthermore, the two companies will jointly develop cutting-edge technologies and globally competitive products that originate in Japan by utilizing both companies' strengths. The collaboration will also encompass the formation of an optimal sales framework that will facilitate the roll out of such technologies and products to the global market.

Meanwhile, for industrial customers we will provide a wide range of solutions, from management of a vast amount of data and IDs to solutions that change data into value by linking the real world with the cyber world. Moreover, through co-creation activities with diverse customers we will create new businesses and services that utilize local 5G, reforming industrial processes through automation and autonomization, and a shift to remote operations, thereby helping customers to optimize their business processes.

Through these initiatives, we will provide connections that support DX and contribute to social transformation.

STRENGTHS

■ One of the best track records in Japan and accumulated expertise in delivering networks and IT systems for telecom carriers and companies.

■ Large-scale mission critical system construction capabilities cultivated in projects for telecom carriers and core technologies in the network domain, such as 5G.

■ Promotion of the shift to open systems such as O-RAN and promotion of cloud native networks using the network virtualization footprint.

■ Securing safety through end-to-end security, including secure development and supply chains.

WEAKNESSES

■ Insufficient product variation in building 5G product portfolio.

■ Low price competitiveness in the commodity domain.

■ Insufficient assets in business development for industry, such as industrial devices for construction machinery, devices, and business operation apps.

❯ **Countermeasures:** Expand assets through partnerships with customers and vendors (for all three of the above weaknesses)

■ Insufficient global track record/footprint

❯ **Countermeasures:** Shift to open systems, and creation of products that can compete globally based on eco systems.
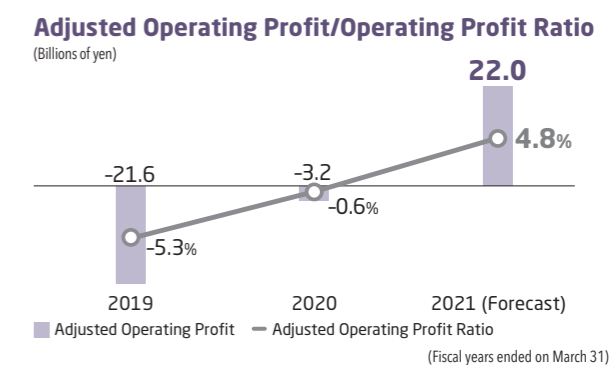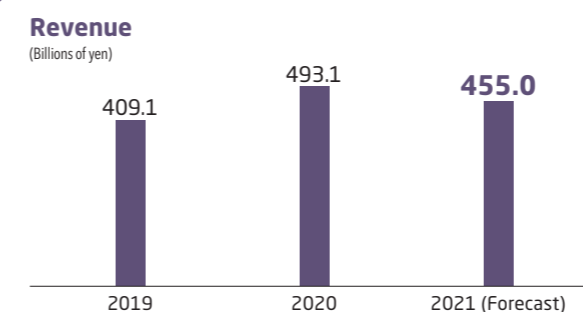
OPPORTUNITIES

■ Diversification and sophistication of needs for networks due to 5G, increase in telecom carriers seeking to shift to open systems.

■ Increased expectations of domestic vendors for 5G as a core infrastructure, earlier 5G investment by telecom carriers supported by government policy.

■ Expansion of business opportunities due to connection of people, things and contexts with digital transformation at companies, including operational reforms.

■ Growth in demand for network infrastructure associated with the increase in services delivered via networks in the new normal.

THREATS

■ Resistance to shift to open systems among global mega vendors.

❯ **Countermeasures:** Expand market for shift to open systems and develop track record in this market in partnership with a leading carrier.

■ Delay in start of local 5G market, market entry by competing mega vendors and new vendors.

❯ **Countermeasures:** Drive the market by creating best-use cases among existing customer base and developing them laterally to move to the local 5G utilization phase.

Global Business

Transformation into a True Global Company—Business Model Transformation to Realize Profitable Growth

Akihiko Kumagai
Senior Executive Vice President

Revenue
(Billions of yen)

2019	2020	2021 (Forecast)
409.1	493.1	455.0

Adjusted Operating Profit/Operating Profit Ratio
(Billions of yen)

2019	2020	2021 (Forecast)
-21.6	-3.2	22.0
-5.3%	-0.6%	4.8%

■ Adjusted Operating Profit — Adjusted Operating Profit Ratio
(Fiscal years ended on March 31)

Our Vision for the Medium to Long Term

Realizing NEC Safer Cities based on the safety business is one of the growth drivers for the Global Business. While technological advances have made life more convenient, there is growing urgency to respond to global issues such as labor shortages, rapid urbanization, the risk of increased terrorism due to geopolitical factors, and the risk of pandemics such as COVID-19. In addition to the area of public safety, where NEC's biometric authentication technologies have been used to provide safety and security, we will also expand our business in the field of digital government, where we aim to achieve fairness and efficiency by using asset management and payment platforms provided by our subsidiaries Northgate Public Services Limited in the U.K. and KMD Holding ApS in Denmark.

Another growth driver is the business for service providers such as telecom carriers. Investment in 5G is going to accelerate worldwide going forward. NEC will leverage its track record as a leader in adopting this new technology in Japan. At the same time, NEC will expand its businesses by becoming a market disruptor that provides customers with new value, using its accumulated virtualization technology and strengths in open eco systems from collaboration with partners as a point of differentiation. Furthermore, with the shift to 5G technology in networks, investment will expand in the software and services fields, such as customer, fee, and operation management systems to increase their operational efficiency, flexibility and rapid response to new services based on digital transformation (DX). In addition to the strong competitive advantages of customer, fee, and operational management solutions offered by Netcracker Technology Corporation, we will offer new solutions that incorporate advanced virtualization technologies to meet the needs of the new era. Furthermore, we will contribute to bolstering networks by providing solutions such as submarine cables to handle the expanding volume of data traffic.

Toward Achieving the Mid-term Management Plan 2020

To realize growth in the Global Business, our No. 1 priority in fiscal 2020 is achieving profitability in our operations.

By integrating the display business with Sharp Corporation, we aim to achieve growth and improve our earnings structure over the medium to long term. We also set about structural reforms in the energy business. Looking ahead, we aim to improve earnings in the safety business through business model reforms and to realize organic growth in the Service Provider and Submarine Cable Business to achieve our plan for fiscal 2021.

We will combine NEC's assets and leverage its strengths while taking steps to maintain our business scale and strengthen profitability through partnering and business model transformation, particularly in markets that are maturing or expecting to see intensifying increased competition.

In Closing

NEC will contribute to the realization of a safe, secure, fair, and efficient society by applying advanced AI and biometric authentication technologies and strengthening its capabilities through M&As and partnership activities, while always placing top priority on respecting human rights and observing the laws and regulations of each country. Furthermore, we will respond to the paradigm shift in government, economy, society and technology caused by the COVID-19 pandemic by contributing to the new normal of society through our safety and service provider businesses.

STRENGTHS

■ Safety Business: World-leading biometric authentication technology and analysis technologies (status recognition, crowd behavior analysis, indication detection, etc.), and software platforms for the digital government field.

■ Service Provider Business: Product competitiveness capabilities and advanced position in solutions provided for customer, fee, and operational management systems, along with SI capabilities for constructing open eco systems with partners, and international sales networks and customer base.

■ Strong presence and track record in the markets for network equipment (wireless solutions), and submarine cable.

WEAKNESSES

■ Limited countries and regions in which we can provide solutions tailored to each customer, such as in the Safety Business.
❯ Countermeasures: Create synergies between organizations and regions, and build efficient business structure.

■ Delay in shift of business model from equipment sales to a software and services business.
❯ Countermeasures: Accelerate shift to software and services business utilizing the Group's internal expertise and best practices.

OPPORTUNITIES

■ Expansion in demand for safety solutions in countries where there is growing interest in safety and security.

■ Increase in demand in the field of software services related to DX for service providers and the field of 5G.

■ Increase in investment in the network domain due to increase in data traffic volume.

THREATS

■ Aggressive approach by emerging-market vendors and others in the field of biometric authentication and Service Provider Business.
❯ Countermeasures: Strengthen continuous solutions to meet customer needs and differentiate through business model reform.

■ Intensifying price competition due to maturation of the market in the product business.
❯ Countermeasures: Strengthen earning capability through partnering and business model reform.