Public Business

Chikara Nakamata, Executive Vice President
Noritaka Taguma, Executive Vice President
Speakers

Chikara Nakamata
Public Solutions Business Unit

Noritaka Taguma
Public Infrastructure Business Unit

Public Segment
Provide solutions for public infrastructure throughout Japan
**Forecast for Public Business Market in Japan**

Maintain a current base as demand for new ICT domain increases while existing ICT business domain diminishes.

### Market Size (NEC Estimate)

<table>
<thead>
<tr>
<th>Year</th>
<th>¥tn</th>
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</thead>
<tbody>
<tr>
<td>FY17</td>
<td>4.0</td>
</tr>
<tr>
<td>FY18</td>
<td>3.0</td>
</tr>
<tr>
<td>FY19</td>
<td>2.0</td>
</tr>
<tr>
<td>FY20</td>
<td>1.0</td>
</tr>
<tr>
<td>FY21</td>
<td>0.0</td>
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<tr>
<td>FY22</td>
<td>0.0</td>
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</tbody>
</table>

- **CAGR for FY17-22** estimated at 0.3%
- **Approx. ¥4.4tn**

<table>
<thead>
<tr>
<th>Opportunities</th>
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<tbody>
<tr>
<td>- Expansion of New ICT Business Domain</td>
</tr>
<tr>
<td>- Digital Government</td>
</tr>
<tr>
<td>Creation of government common platform</td>
</tr>
<tr>
<td>Wider use of My Number System</td>
</tr>
<tr>
<td>- Next Generation of Social Infrastructures</td>
</tr>
<tr>
<td>Electricity, broadcasting, roads, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threats</th>
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<tbody>
<tr>
<td>- Sharp Downsizing of Existing ICT Market</td>
</tr>
<tr>
<td>- New Entry of Game Changers</td>
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</table>
Strengths and Challenges

**Positioning**

- **Advanced Technology and Reliability**
  - #1 Face Recognition in the World*
  - #1 Iris Recognition in the World*
  - World’s Top-class AI Technology
  - World’s Top-class Cyber Security

- **Large Market Shares and Understanding of How Clients Operate**
  - Have Top-rank Shares in Public Domains
    - Fire Defense / Disaster Prevention
    - Police
    - Local Governments, etc.
  - Deep Understanding of How Clients Operate and Data to be Handled from Long-term Experience

**Strengths**

- Advanced technology and reliability
- Large market share and understanding of clients’ operations
- Delivery of solutions in a vertically integrated form

**Challenges**

- Difficulty of large-scale development with cutting-edge technologies
- Needs for continuous investments to maintain advanced technologies and reliability

* Contest by National Institute of Standards and Technology (NIST)
Secure **steady topline and enhance profitability** in a robust public-sector market

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019 (Estimate)</th>
<th>FY2020 (Target)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue (¥100mn)</strong></td>
<td>8,932</td>
<td>9,080</td>
<td>8,950</td>
<td>9,000~</td>
</tr>
<tr>
<td><strong>Adjusted Operating Margin</strong></td>
<td>6%</td>
<td>6%</td>
<td>8%</td>
<td>9%</td>
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</tbody>
</table>

CAGR: 0.3~0.6% Growth
FY2018 Results

Profit down due to the structural improvement and unprofitable projects, but impacts were minimized due to a revenue increase

Adjusted Operating Profit

550

(¥100mn)

FY17 8,932

FY18 9,080

Revenue

Structural Improvement Cost

Increase in unprofitable projects

Large Projects

Other Revenue Increase

▲23

▲40

▲17

▲22

+17

+22

+23

+40

Profit down due to the structural improvement and unprofitable projects, but impacts were minimized due to a revenue increase.
Summary of FY2018

Key Achievements

- Preparation for creating future new businesses
  - Digital Government/Public Safety
    - One ID at Narita Airport
    - Face Recognition for Large Scale Sports Events
  - Alteration of Phases in Social Infrastructure
    - BS4K/8K Broadcasting
    - Test Run of Virtual Power Plant

- Securing technological advantage
  - Hayabusa 2
    - ©JAXA
  - Realize Quasizenith Satellite System Service

Challenges

- Failed to minimize impacts of unprofitable projects
Business Development around FY2020 as a Key Year

Example: Narita Airport (Electronic Declaration Gate at the Customs)

- Air traffic control, Passenger flow management, Fast Travel, Redevelopment of Haneda Airport
- Integrated video monitoring, Security at important facilities, Support for decision-making
- Development And Upgrade of Traffic Infrastructure
- 5G infrastructure, Satellite 4K & 8K broadcasting
- Urban operation, Networks for municipalities
- Communication Broadcasting
- Individual Services for Finance and Retail
- Safety and Security in Cities/Events
- Town Planning, Community Development, Environment
- Customer management Systems, Payment by face recognition

Developing wide range of businesses around “2020 as a key year”
FY2019 Outlook

Aim to achieve profit growth through effects of the structural improvement and measures to improve profitability

Adjusted Operating Profit

(¥100mn)

FY18 9,080

FY19E 8,950

Revenue

GP Improvement

Decrease in unprofitable projects

1) New Orders +70

2) Development +37

3) Maintenance/Operation +12

GP Improvement ▲48

Investment in Tech Development

Increase in net income

690

526

Increase in profit from structural improvement

+53

9,080
Measures to Minimize Unprofitable Projects and Improve Profitability

Continue to enforce improvement measures across supply chain for steady progress of profitability improvement

Minimize unprofitability

Better contractual conditions & selling prices

Inception planning

Set up organization dedicated to quality

Clarify policy in deciding order acceptance

Visualize and standardize

Cost and risk management

Strengthen monitoring and measures to cope with problems

Expand maintenance business

Better Profitability

FY2017-FY2018: 6%

FY2019: 8%

FY2020: 9%

[Adjusted Operating Margin]
To Achieve Mid-term Management Plan

Numerical Targets (FY2020)

- Revenue: ¥900bn-910bn
- Adjusted Operating Margin: 9%
- Additional Target: Continuous investment for technological development

Strategy to Achieve Targets

- Steady top line growth: Tackling opportunities like Digital Government and next generation of social infrastructures.
  [Revenue growth +¥10bn-¥20bn]

- Contribute to entire company as stable profit source:
  [Improvement of profitability +1%]

- Provide "seeds" of technologies to entire company:
  Continuous investment for technological development
2020 Offers Opportunities for Replacing Social Systems and Infrastructures

### 1960s
- Tokyo Olympics (1964)
- Universal insurance system (1961-)
- Metropolitan Expressway (1962-)
- Tokaido Shinkansen (1964-)
- Satellite relay

### 60 years

### 2020s
- Tokyo Olympics (2020)
- Fall in labor population, Rise in social security costs
- Aging road infrastructure
- Chuo Shinkansen SC maglev train (2027-)
- 4K/8K broadcasting
2020 Offers Opportunities for Replacing Social Systems and Infrastructures

### Laws & Systems
- Consumption tax rate at 10%
- Digital Procedure Act promulgated
- Amended Family Registration Act promulgated
- Amended National Health Insurance Act promulgated

### Infrastructures
- Fukuoka Airport to be privatized
- New National Stadium to be completed
- Seven airports in Hokkaido to be privatized
- Entire route of New Tomei Expressway to open
- Electricity generation and distribution to be separated
- 5G to be commercialized
- Hiroshima Airport to be privatized
- Electricity supply-demand adjustment market (VPP) to open
- Positioning satellites “Quasi-Zenith Satellites” to increase to seven
- Chuo Shinkansen SC maglev train to open
- Redevelopment of Shibuya station area to be finished

### Events
- Rugby World Cup 2019™
- Tokyo 2020 Olympics and Paralympics
- World Masters Games 2021 Kansai
- World Expo 2025 in Japan
- Tokyo 2020 Olympics and Paralympics
- Rugby World Cup 2019™
- World Masters Games 2021 Kansai
- World Expo 2025 in Japan

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<th>FY2021</th>
<th>FY2022-27</th>
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<td>&quot;Online license identification at medical institutions to start&quot;</td>
<td>&quot;Integrated Resort Act to be effective&quot;</td>
<td>&quot;Lowers age of adulthood 20 to 18&quot;</td>
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<td>&quot;My Number system and health insurance cards to be integrated&quot;</td>
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Reform of laws related to Digital Government
Digital Government - DX (Digital Transformation) of Administration

Market Overview

- **FY2018**
  - ★ FY2018 Digital First Act enacted

- **FY2019**
  - ★ FY2019- Preparation of legal system

- **FY2020-2023**
  - ★ FY2020- Systems start to spread from national and regional govs to private sector
  - Reform of national and regional govt services to be full-fledged
  - Public cloud to spread at National / regional govs

- **FY2024-**
  - Market to expand with private demand

Market Outlook

- National / Regional Govt Market
  - **FY2018**
    - Size ¥930 bn (NEC Estimate)
  - **FY2023**
    - Public-private Data Linkage (NEC Estimate)
      - FY2023-: ~¥2tn
    - Digitalization of Administrative Services (NEC Estimate)
      - FY2023: ¥400bn
    - Cloud by Default
      - FY2023: ¥160bn
# Digital Government (Strategy and Challenges)

## Digitalization of Administrative Services

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<th>Customer Needs</th>
<th>“Cloud by Default”</th>
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<td>・Enhance usability of application procedures&lt;br&gt;・Improve productivity in public and private sectors</td>
<td>・Reduce workload of administration&lt;br&gt;・Enhance service levels</td>
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## Basic Strategy

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<th>Expertise × Biometric Recognition</th>
<th>In-house Technology × Partnership</th>
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<tr>
<td>● Information linkage to My Number system base (expertise in establishing government systems)&lt;br&gt;● Biometric Recognition technology</td>
<td>● Hybrid cloud through business collaboration depending on application and purpose&lt;br&gt;● Cyber security technology</td>
</tr>
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## Rule Making

Inception planning toward planning of administrative services and regulatory reform from users’ standpoint and by service design thinking
Next Generation of Social Infrastructures

Creation of new value by collaborating “operational expertise” and “advantageous technologies”

Operational Expertise

- Disaster Prevention
  - 40% (Ranked 1st)
  - Disaster prevention radio (prefectures)

- Railway
  - 60% (Ranked 1st)
  - Railway radio

- Road
  - 60% (Ranked 1st)
  - On-road transmission

- Electric Power
  - 50% (Ranked 1st)
  - Network equipment for electricity companies

Technologies

- Airport
  - 50% (Ranked 1st)
  - Air traffic control and immigration control systems

- Broadcast
  - 50% (Ranked 1st)
  - Ground digital TV transmitter

- Image Analysis
- AI (Prediction)
- Biometric Recognition
- Cyber Security

- Network Technology (Cabled and Wireless)
- Sensor

New Values

- Support for judging whether to issue disaster warning
- Digitalization at airports
- Advanced broadcasting
- Advanced management of infrastructures
- Electricity supply-demand adjustment

(Market shares in Japan, NEC Estimates)
Summary

【Positioning】Support sustainably NEC’s business and management

【Market Environment】Steady moves expected

【Profit Projection】Improve by minimizing unprofitable projects

【Advanced Investment】Continue investment in advanced technologies

【Long-term Outlook】Prepare for new businesses focused on social issues
Orchestrating a brighter world

NEC brings together and integrates technology and expertise to create the ICT-enabled society of tomorrow.
We collaborate closely with partners and customers around the world, orchestrating each project to ensure all its parts are fine-tuned to local needs.
Every day, our innovative solutions for society contribute to greater safety, security, efficiency and equality, and enable people to live brighter lives.