Neural Pocket

# Financial Results Briefing Material FY2021 Q2 (ended Jun 30th, 2021)

Neural Pocket Inc.
Aug 13th, 2021

- **Business Overview**
- FY2021 Q2 Business Progress
- Performance Highlights and Growth Strategy

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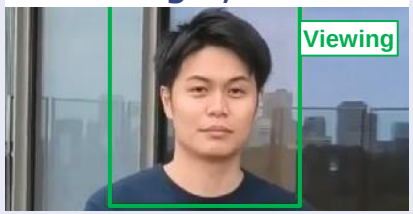
# We develop proprietary AI-enabled image recognition technology

## Marketing

### Age, gender



### Line of sight, view rate


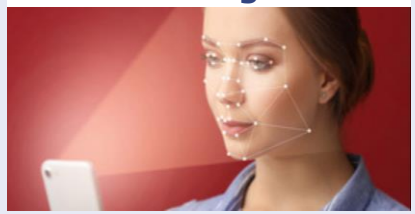

### Group analysis

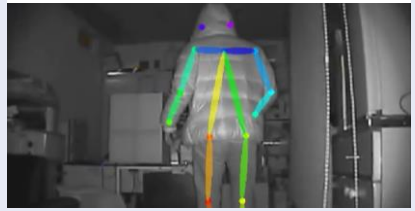


### Guest revisits



## Security

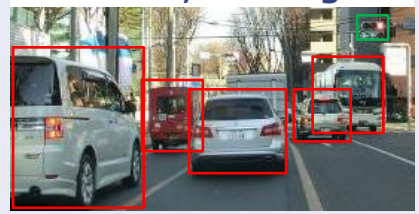
### Facial recognition


### Intruder detection


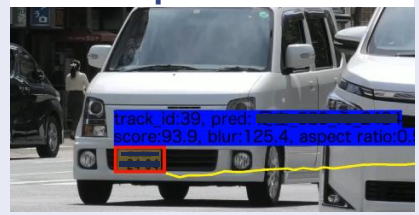
### Safety monitoring

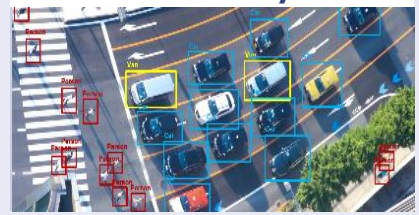

### Pedestrian flow, count


## Mobility

### Vehicles, road signs


### Parking lot occupancy

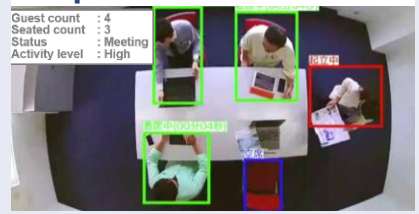

### License plate detection


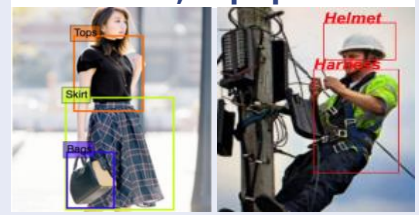

### Traffic analysis


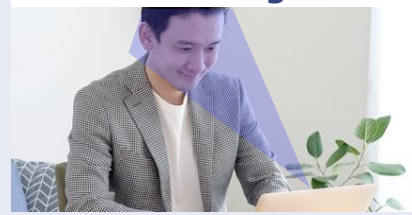
## Operations

### Object detection



### Space visualization



### Fashion, equipment



### Emotion recognition


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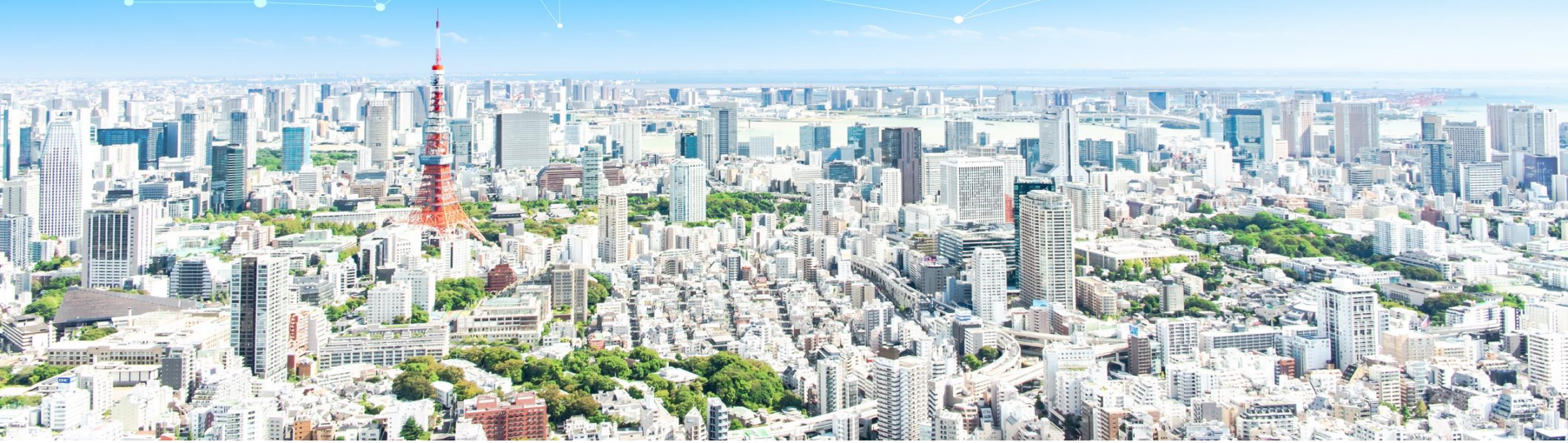
# We are applying proprietary AI libraries to enable Smart Cities

Neural Pocket provides digital services for physical spaces
to enhance real world experiences through introducing intelligent AI cameras

## “AI Smart City Revolution”



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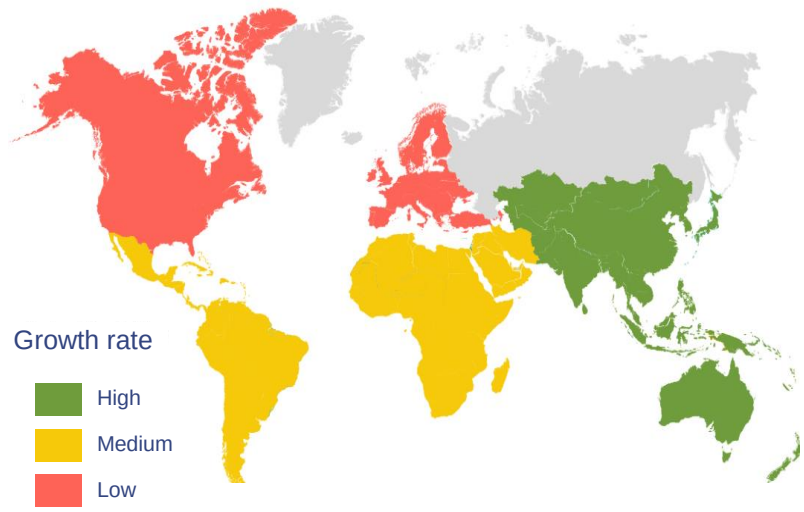
# A vast, entirely new Smart City market is being created

## Global Smart City market size is approx. $1-2 trillion USD

| Research Company / Report Name | Global Market Size |
|---|---|
| **Allied Market Research**<br>Smart Cities Market by Functional Area : Global Opportunity Analysis and Industry Forecast, 2018 – 2025 | In 2025<br>**2.4T USD** |
| **Mordor Intelligence**<br>Smart Cities Market - Growth, Trends, and Forecast (2020 - 2025) | In 2025<br>**1.7T USD** |
| **IMARC**<br>Smart Cities Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2020-2025 | In 2025<br>**1.0T USD** |
| **Markets And Markets**<br>Smart Cities Market by Smart Transportation, Smart Buildings, Smart Utilities, Smart Citizen Services - Global Forecast to 2023 | In 2023<br>**0.7T USD** |

## Asia is the source of growth for smart cities

**Smart City Market Growth Rate by Region (2019-2024)**




Source: Mordor Intelligence

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# Edge AI is a technology that overcomes many of the problems traditional Cloud AI faces

## Cloud AI
Conventional approach

AI analysis in a large cloud server

Large scale cloud server

Send and receive large amounts of video and data over the network

## Edge AI
Our approach

Original data (video, etc.) before AI analysis

Metadata after AI analysis (text data)

Real-time marketing and security data

Small scale cloud server

Only small amounts of processed data are sent as needed


- **High costs** (Communication and maintenance)
- **High latency** (High network load)
- **High electricity consumption**

- **Low costs**
- **Low latency**
- **Green/ low electricity consumption**

**Also greatly contributes to privacy protection**

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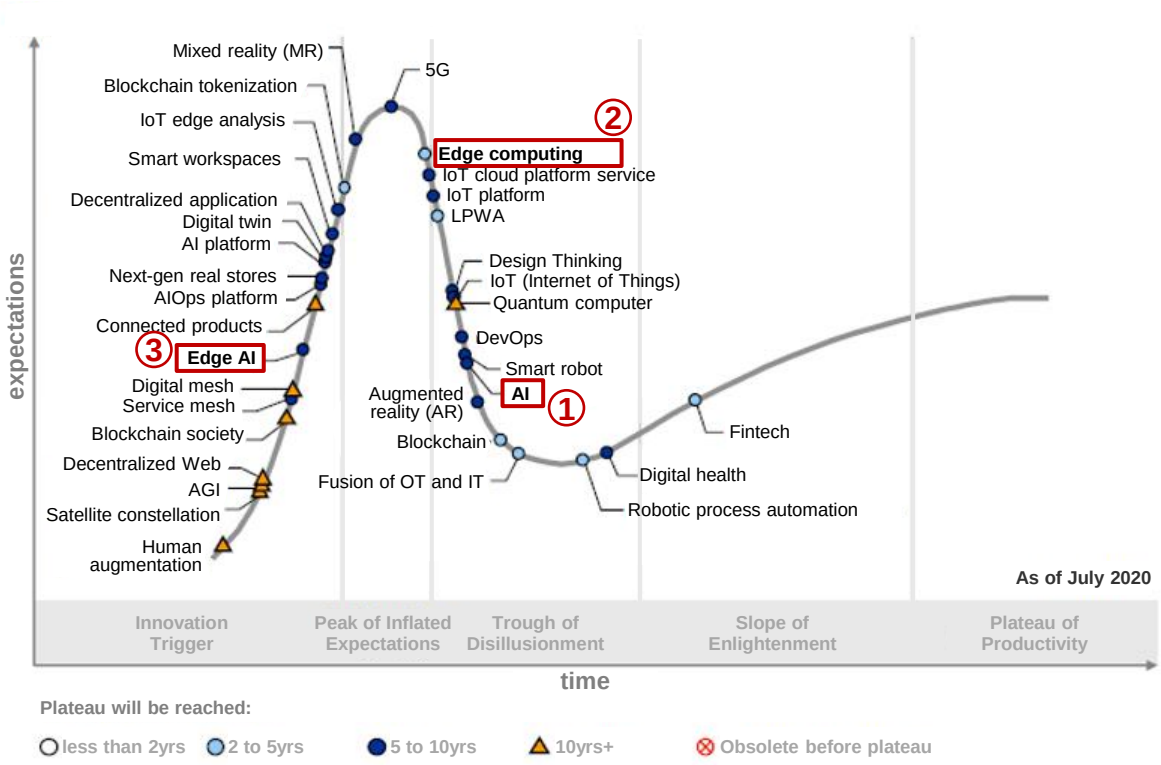
# Technological evolution of AI and the positioning of “Edge AI”

## Technology trend by Gartner*1




## AI technology evolution and the implications for Neural Pocket

① Since the development of deep learning in 2012, AI has continued to evolve and the **evolution of the technology has eased**

② The **generalization of edge computing** has progressed through technological innovation by NVIDIA and other edge device manufacturers

③ On the other hand, there are only a few companies globally that have the ability to develop **compact, high-quality AI** that can be installed on edge devices, making **“Edge AI” an area ripe for innovation where first-mover advantage can still be captured**

*1 Gartner regularly publishes the above emerging technology hype cycle schematic. Web URL: https://www.gartner.co.jp/ja/newsroom/press-releases/pr-20200910

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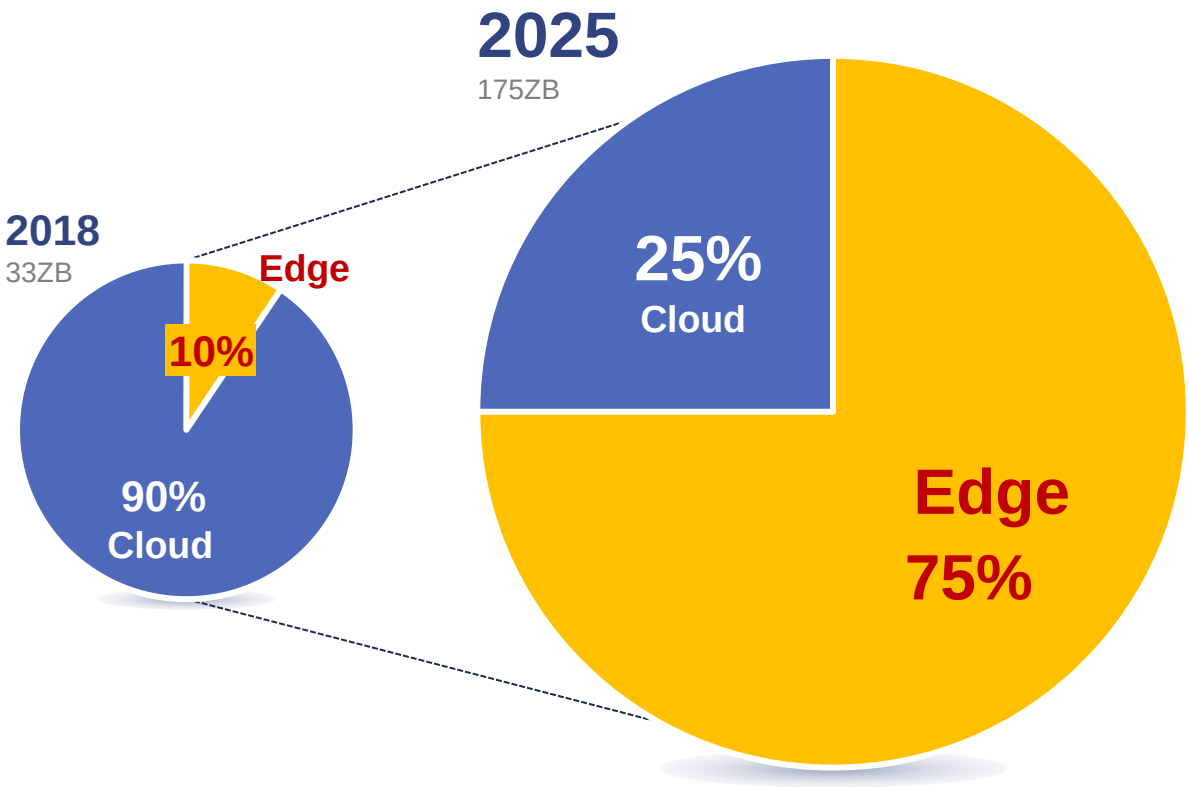
# A major macro transition from the Cloud to the Edge is in progress

## Edge vs Cloud share forecast *1*2




## Growth forecast
(2018→2025)

**Edge**

**40x growth**
(CAGR*3 69%)

**Cloud**

**1.5x growth**
(CAGR*3 6%)

- As data volumes explode, processing data in the cloud becomes more and more inefficient
- In response, computer power is being rapidly pushed from the Cloud onto the Edge

*1 Source for Edge share: What Edge Computing Means for Infrastructure and Operations Leaders, Gartner (Oct 2018).
*2 Source for amount of data: Data Age 2025 Whitepaper, IDC (Nov 2018), accounts for all data created, captured, and replicated globally *3 Compound annual growth rate`

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# Neural Pocket's unique strengths in the Edge AI space

## Develop and possess ultra-lightweight AI that is 1/10th the size of general AI through the usage of proprietary AI logic

(A single edge device can be equipped with multiple AI programs)

## Involved in defining requirements for domestic and international edge AI devices

(Utilize specialized equipment with optimal specs to run our edge AI)

## Possess abundant and diverse training data of people, cars, etc. enabling high AI quality

(Can provide proprietary packaged solutions vs conducting a demonstration experiment using customer data)

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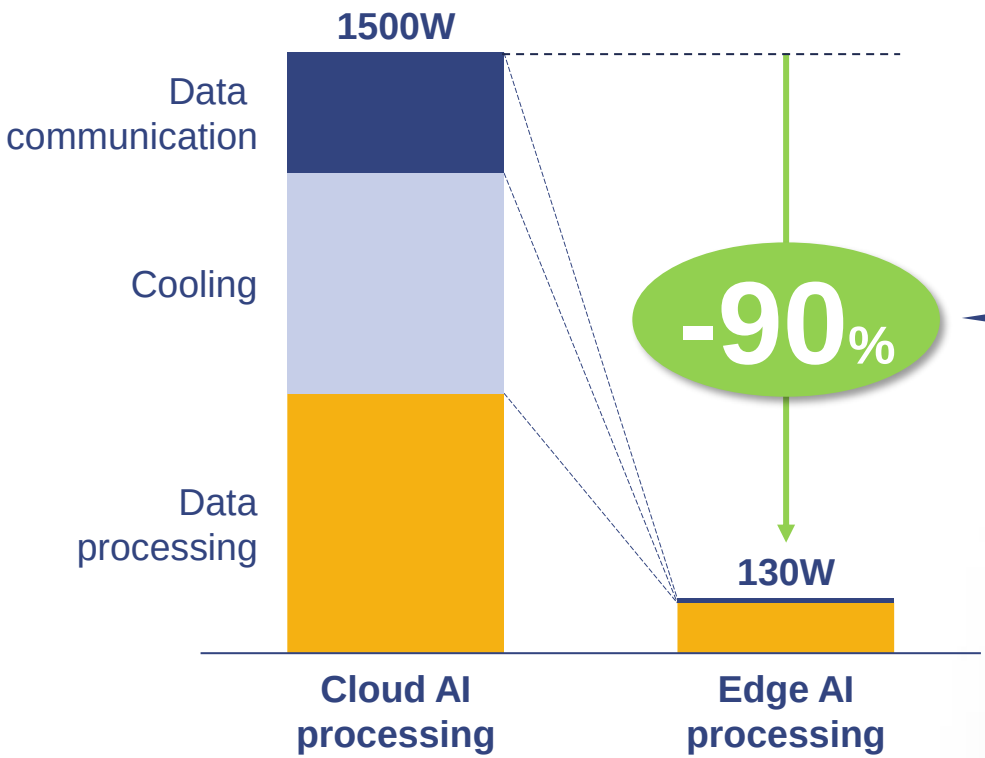
# Edge AI technology also contributes to carbon neutrality and SDGs

## Power consumption for AI processing per 100 cameras*1




**Low power consumption contributing to the reduction of $CO_2$ emissions**

Comparison of power consumption when AI processing (object detection) for 100 cameras is performed in a cloud vs edge system, respectively. Company research.
Cloud AI： Object detection at 4FPS on NVIDIA V100 (112 TFLOPS, 8 GPUs), parallel processing 679 cameras, which is the theoretical limit calculated assuming a 20% GPU utilization efficiency. Video data transfer rate per camera is assumed to be 450MB per hour.
Edge AI： Object detection at 4FPS with NVIDIA JetsonTX2, parallel processing 12 cameras, which is the theoretical limit calculated assuming a 20% GPU utilization efficiency. Metadata transfer per camera is assumed to be 3.6MB per hour.
Total power consumption is converted to a value per 100 cameras to compare the two methods.

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# We provide 5 unique packaged smart city-related AI services that capture large cross-industry general needs

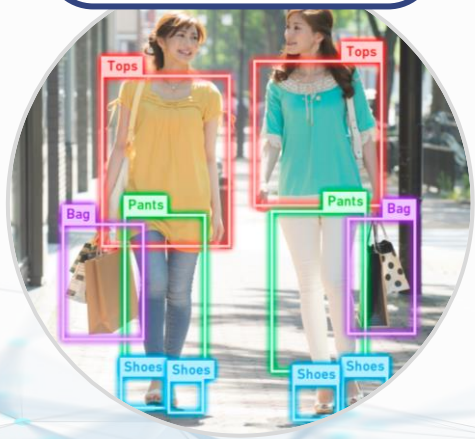
People flow, crime prevention
**DigiFlow**

Parking and Mobility*1
**DigiPark**


Signage Advertisements
SIGN DIGI


WFH security
**RemoDesk**

Fashion Analysis
AIMD®




*1 3D City Map related services such as “Smart-kun” are included within Parking and Mobility

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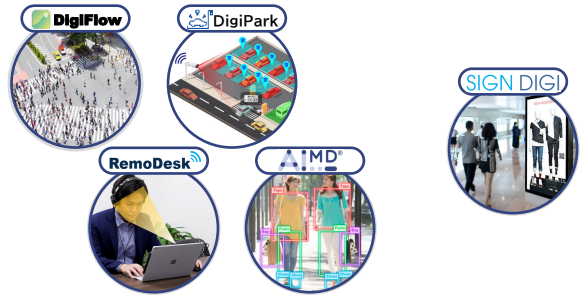
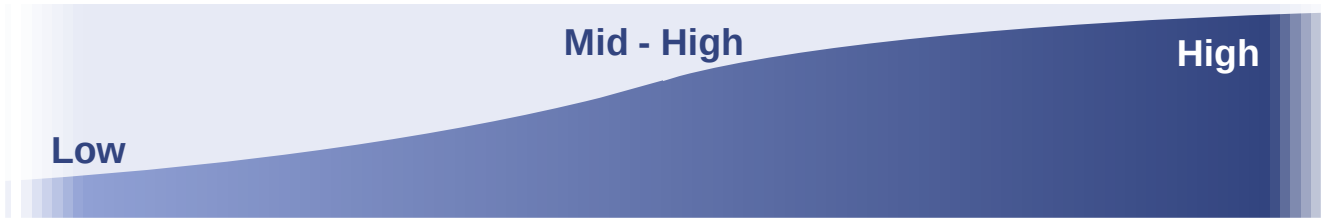
# Our business model

| | Contracted Development (AI delivery) | Licensing Revenues | Co-Business Development |
|---|---|---|---|
| **Business model description** | • Develop solutions based on customer requirements<br>• Submission of software, including intellectual property<br>• Need to continuously propose and receive orders for new projects | • Providing solutions through a subscription model<br>• Number of new contracts, average licensing price, and retention rates are measures of business growth | • Share sales by developing medium-to-long term, large-scale businesses jointly with multiple companies<br>• Leverage the strengths of each company's different assets to create synergies |
| **Our services** | - |  | |

**Value provided by AI companies**

As a result, the durability and scale of sales

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- Business Overview
- **FY2021 Q2 Business Progress**
- Performance Highlights and Growth Strategy

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# Business highlights for the FY2021 Q2

1. **Released commercial packaged offerings as planned**
   - **RemoDesk** SaaS version launched to allow for the usage by smaller accounts, whilst new functions were developed
   - **DigiPark** In addition to the monitoring of occupancy of flat parking lots, new functions such as indoor parking and license plate recognition were released
   - **SIGNDIGI** Offering a unique standalone device that can be installed immediately from a single device

2. **Progress towards unit-based sales with expansion of services across commercial customers and governments**
   - Further deepened relationships with major developers, logistics companies, SoftBank Corp., METI[*1], and MIC[*2].
   - Scheduled to appear in SoftBank World 2021, and activities for further external communication are underway.

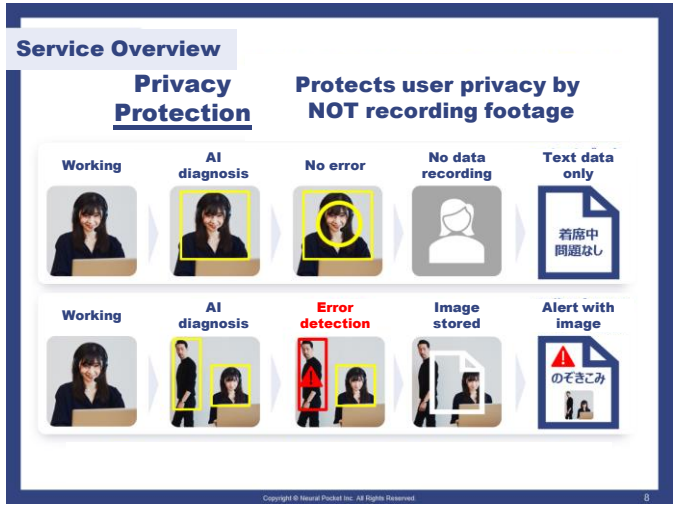
3. **Improved hardware and software packaging and testing environment for commercial scaling**
   - **“Cataloged” products capturing cross-industry general-purpose needs:** Previously, services were typically installed individually depending on customer/ location requirements. Now, AI services are being catalogued, allowing for simplified installation and reduction in lead time and costs.
   - **“Packaging” services with improved quality assurance:** Rigorous selection of cameras, edge boxes, and software libraries has optimized cost and performance of AI implementation and can now be offered as a packaged service. In addition, in order to conduct comprehensive quality control of such services, "AI Test Field," has been established to conduct quality verification with integrated hardware and software.

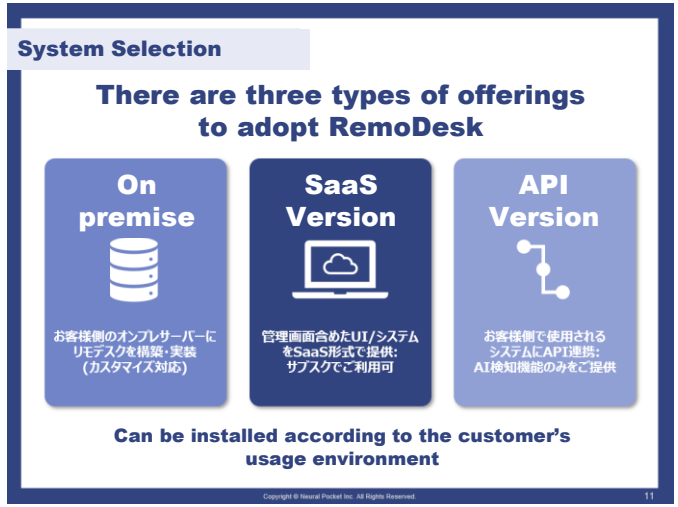
4. **Although sales are expected to be concentrated in Q4, the business is progressing in line with the business plan for FY2021. Packaging of services is progressing.**

Service Update

# RemoDesk SaaS version launched






**SaaS version launched, enabling adoption from small # of user customers**

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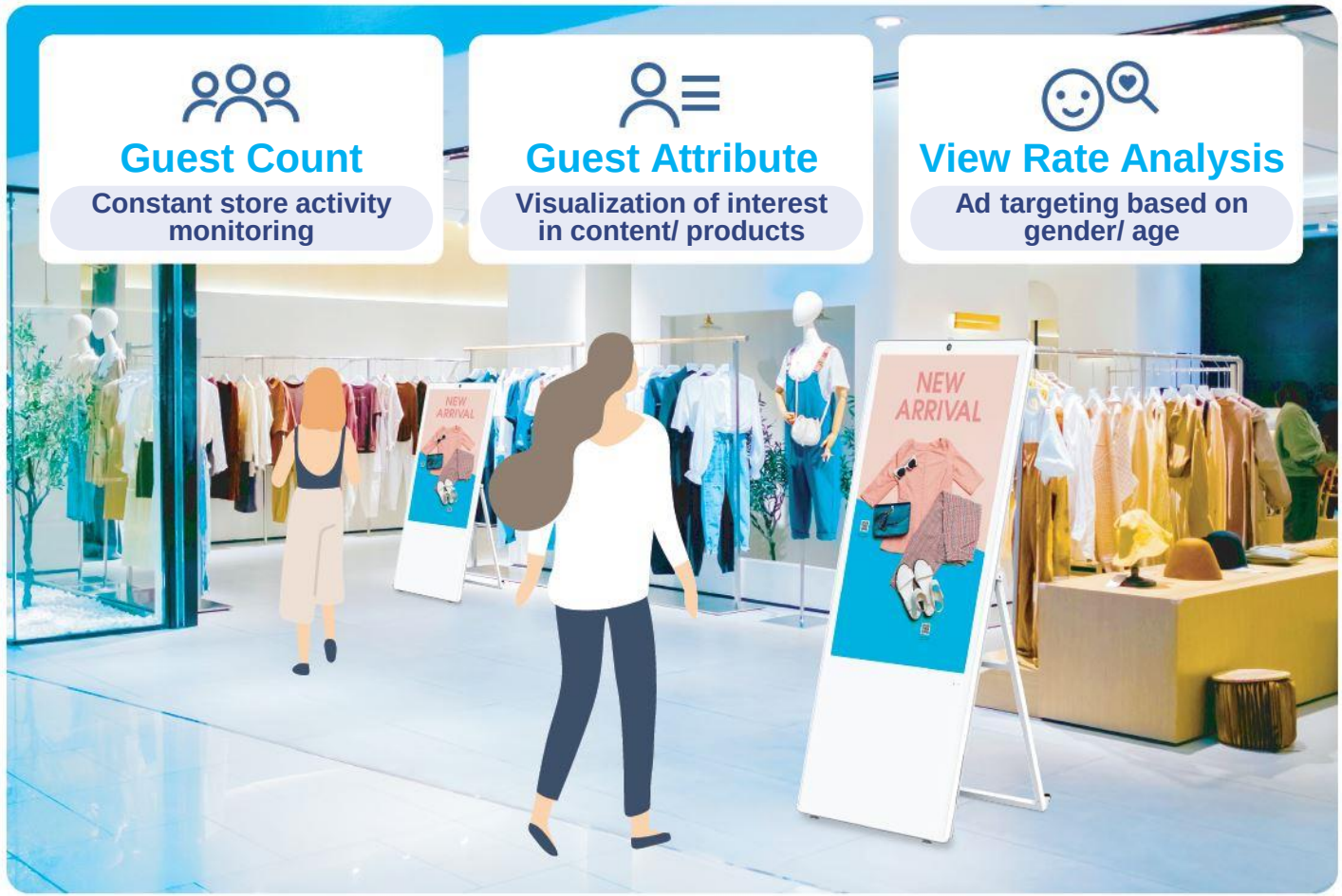
# Immediate visitor analysis enabled with simple installation

SIGN DIGI




**Providing unique standalone digital signages that can be installed from a single device in stores and commercial buildings**

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Service Update

# DigiPark new feature releases

## Occupancy monitoring for outdoor parking lot

## Occupancy monitoring for parking garage & truck berth

“DigiPark” to improve convenience and operational efficiency for parking lot management

Edge AI enabled

**Parking Solution DigiPark**

DigiPark

1 Easy installation, cost optimization

2 Workload reduction for operators

3 Improve convenience of parking lot management

## Moving vehicle license plate detection

## Facility entrance/ exit monitoring and guidance

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Activity Map

# Domestic and overseas smart city-related engagements

## Domestic

### Tawara-motocho, Nara Pref.
Tourism promotion through visualization of usage of tourism facilities

### Muroran City
Regional revitalization through AI-based urban planning and tourism

Muroran City

Ministry of Land, Infrastructure and Transport and Tourism

### Osaka City Umekita 2nd Phase Development
Outdoor people flow, attributes, and behavior detection

New

SENDAI CITY

City revitalization by analyzing human flow in shopping arcade

Local development and regional revitalization through ICT smart city initiative

Enabling smart city through city block/ mobility interlinking with edge AI

### Sugamo District
Industry-university collaboration for the advancement of education and digitalization in surrounding area

大正大学 スガモで育む日本の未来。

Taisho University

Automation and optimization of boarding surveys on public buses

Smart compact city through AI-based security and monitoring system

Urban redevelopment through transportation visualization

Smart building and smart city development in central Tokyo

Congestion visualization in government operated large venue halls

New

Ministry of Internal Affairs and Communications, JAPAN

MIC

Participation in MICs' Digital Overseas Development Platform

New

Joined All Nippon Michi-no-Eki Network as Specific Supporting Member

Michi-no-Eki

### Anjo City
Visualization of live road info onto 3D city maps

Ministry of Land, Infrastructure and Transport and Tourism

anjo

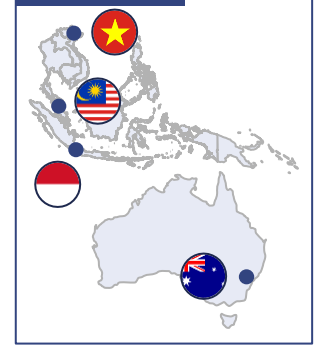
PLATEAU by MLIT

### Kamakura City
Preventing over-tourism and overcrowding by visualizing congestion and traffic

Kamakura

Optimization of facility operations at roadside station by identifying parking space availability and analyzing vehicle data

Overseas



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# Collecting people flow data with Sendai City in city center

SENDAI CITY

ANDEX
(Headquarters: Sendai city, Miyagi Prefecture)

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- **Signed agreement with "Sendai City" and "Andex Corporation** (local IT developer)**"**
- **Visualization of people flow** in shopping arcade to **compile base data to address local challenges** and inform future solutions
- Not limited to Sendai City, we will continue to collaborate with local governments and companies to **promote regional revitalization and regional development with the help of AI technology**

Illustrative image of people flow analysis in shopping arcade (Sendai City)

*1 Sendai City URL regarding above activities. https://www.city.sendai.jp/system/shise/security/johoka/data01.html

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# Service development domestic and overseas through deepening cooperation with various government agencies

## Ministry of Internal Affairs and Communications, JAPAN

MIC

Japan Platform for Driving Digital Development:JPD3

- **The Ministry of Internal Affairs and Communications (MIC) established the "JPD3**[*1]**"** as a framework for public-private cooperation **promoting overseas projects**
- As an initial member of JPD3, we will **accelerate overseas development,** mainly in Southeast Asia, through **public-private partnerships in collaboration with the government**

## Ministry of Land, Infrastructure, Transport and Tourism

Michi-no-Eki

- There are **1,154 roadside stations nationwide** (cumulatively +200 million annual visitors) under the jurisdiction of the Ministry of LITT
- We have been contributing to **regional revitalization by introducing the latest AI technology** to roadside stations
- With our **new participation as a specific supporting member,** we will continue to contribute to "regional revitalization" and "enhancement of disaster countermeasures"

*1 Japan Platform for Driving Digital Development: JPD3 webpage: https://jpd3.jp/about/

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# Expanding the scope of cooperation and accelerating collaboration through participation in SoftBank 5G Consortium*1


"SoftBank 5G Consortium" established in June 2021 as an organization where 5G communication device, cloud/ edge computing/ IoT device providers and other partners will conduct open demonstration experiments on themes across industries.

The 5 areas of focus are manufacturing, transportation, construction, medical care, and smart cities.

## Working group members

- Manufacturing: JFE, 住友電工 Connect with Innovation, DAIFUKU Always an Edge Ahead
- Transportation: JR東日本
- Construction: 100年をつくる会社 鹿島, 大成建設 For a Lively World
- Medical: 大成建設 For a Lively World
- Smart City: 100年をつくる会社 鹿島

## Suppliers

aws, CTC, vmware, uhuru, SCSK, SB Technology, NVIDIA, ERICSSON, OKI, 加賀電子, Catalyna, KYOCERA, Google Cloud, Groovenauts, cybereason, CCS, CISCO, JUNIPER NETWORKS, Sky, 住友電工 Connect with Innovation, DELL Technologies, TREND MICRO, NEC, Hewlett Packard Enterprise, Microsoft, Neural Pocket, NOKIA, NOZOMI NETWORKS, VANTIQ, ptc, HITACHI 日立システムズ, HITACHI Inspire the Next, Hutzper, MACNICA, muRata INNOVATOR IN ELECTRONICS, RENESAS

*1 For details regarding SoftBank 5G Consortium - https://5gc.itc.softbank.jp/s/

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# Schedule to appear in SoftBank World 2021 (Sep 15th)

## SoftBank World 2021

DXの今を知る。明日のビジョンが見えてくる。

タイムテーブル / TimeTable

**Day1　9.15（水）**

Power of DX　テクノロジーで変える、今と未来

13:30 - 13:55

### What is the future realized by AI-based video analysis?

Neural Pocket Inc.
CEO
Roi Shigematsu

SoftBank Corp.
Digital Automation Business
Management Dep. #1, Director
Takashi Yuge

**Session Outline**

The number of video analysis services that have been increasing in recent years, but what will become possible in the future as video analysis continues to evolve? In this presentation, we will invite Neural Pocket Corporation, an AI analysis service provider, to talk about video analysis using edge AI and what the future will bring by combining edge AI with solutions provided by Softbank.

Source:  SoftBank World  2021 webpage: https://www.softbank.jp/biz/events/softbank-world/

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# Launched new location “AI Test Field" as an AI research facility


Kasumigaseki building

## AI Test Field Concept

**1 Algorithm dev. & data learning**

Algorithms developed from scratch. In-house annotation team for high quality training data and high AI accuracy

**2 Prototyping**

Verify developed prototype software

**3 Product Development Testing**

Experiment with AI software from multiple perspectives. Develop commercially viable AI models for usage across various environments

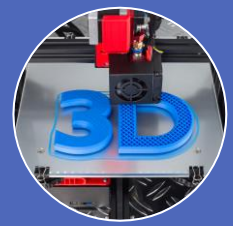
**4 Quality assessment and safe operations**

Quality evaluation and operation monitoring to ensure stable operations

## Environment to enable integrated AI dev.


AI learning data photo studio


AI experiment lab



3D printer for prop. hardware dev.


AI robot test course


Quality, durability testing facility

**Name:** Neural Pocket Inc. AI Test Field
**Location:** Kasumigaseki Building 17F, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan

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Service Update

# Progress in apparel business and efforts towards SDGs

## Featured in Nikkei Cross Trend Our efforts reducing apparel disposals*1

技術・データ

ディープラーニング活用最前線　第43回　Forefront of deep learning applications #43

**在庫激減でアパレルの救世主に！　SNS画像から流行を解析するAI** **Savior for apparel via drastic inventory reduction**

2021年06月30日 読了時間：10分　(Jun 30, 2021)

7

岩元 直久　ITジャーナリスト、ライター

**Neural Pocket has been providing AI-MD from 2018 and was awarded…**

ニューラルポケットは、ファッショントレンド解析サービス「AI-MD」を2018年末から提供している。このAI-MDは、日経クロストレンドと日経クロステックが主催した「第2回ディープラーニングビジネス活用アワード」でファッション部門賞を獲得した。アパレル企業による衣料品の在庫廃棄や常態化した値引き販売への課題など「SDGs（持続可能な開発目標）の実現を考えるうえで重要な取り組み」であることが評価されたためだ。

「今年はこんな服がはやっているね」「この夏はこの色が流行しているようだ」　ファッションには様々なトレンドがあり　流行に乗った服は売れ行きが伸

## Study Group on Sustainability in the Textile Industry*2 held by METI*3

- Our COO presented as guest speaker at study meeting organized by METI*3
- Study group is promoting the use of digital technology to enhance production and sales efficiency in the apparel industry and to improve the way people work


*Neural Pocket presentation material from the 5th Study Group on Sustainability in the Textile Industry (publicly disclosed)*

**Promoting the realization of the SDGs in the apparel industry with AIMD**

*1 Article URL https://xtrend.nikkei.com/atcl/contents/18/00049/00047/
*2 Presentation material and other details can be viewed from the following webpage. https://www.meti.go.jp/shingikai/mono_info_service/textile_industry/005.html
*3 Ministry of Economy, Trade and Industry

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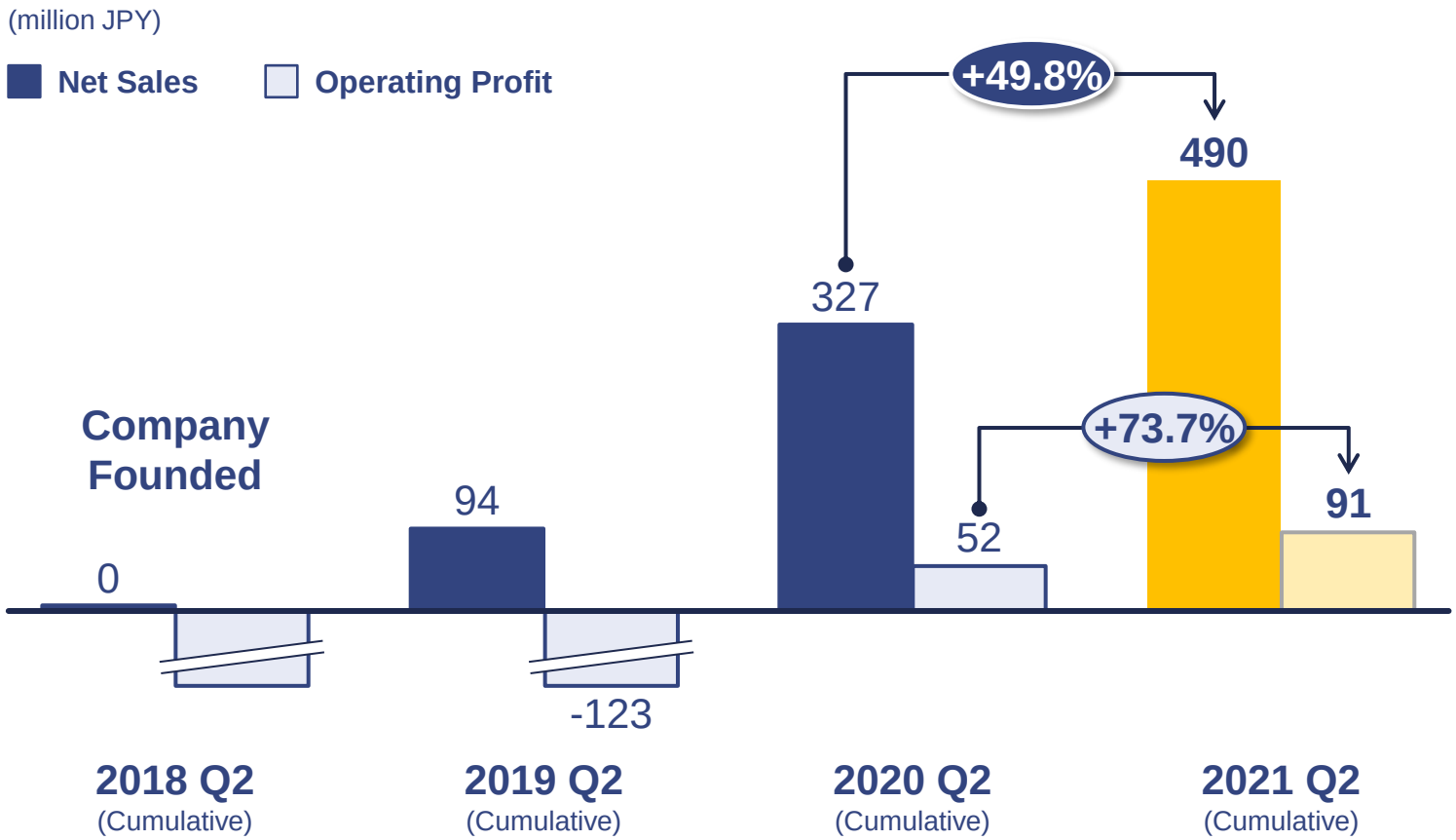
# FY2021 Q2 ended performance trajectory

- Steady business growth in FY2021 Q2
- Business progress in line with the annual forecast
- Sales and operating profits are expected to be concentrated in fourth quarter

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# FY2021 Q2 ended Jun. Statement of Income

| (million JPY) | FY2020 Q2 ended Jun. (cumulative) | FY2021 Q2 ended Jun. (cumulative) | Increase amount | Increase percentage |
|---|---|---|---|---|
| **Net Sales** | **327** | **490** | **+163** | **+49.8%** |
| **Operating profit** | **52** | **91** | **+38** | **+73.7%** |
| % of net sales | *16.0%* | *18.6%* | | |
| **Ordinary profit** | **45** | **88** | **+43** | **+97.2%** |
| % of net sales | *13.8%* | *18.1%* | | |
| **Net profit** | **44** | **87** | **+42** | **+95.3%** |
| % of net sales | *13.7%* | *17.9%* | | |

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# FY2021 Q2 ended Jun. Balance Sheet

| (million JPY) | FY2020 Q4 ended Dec. | FY2021 Q2 ended Jun. | Increase amount |
|---|---|---|---|
| **Total current assets** | **1,673** | **1,803** | **+129** |
| *Cash and cash deposits* | *1,424* | *1,482* | *+57* |
| **Total non-current assets** | **247** | **367** | **+120** |
| **Total assets** | **1,920** | **2,171** | **+250** |
| **Total liabilities** | **714** | **799** | **+85** |
| *Interest bearing debt* | *564* | *662* | *+98* |
| **Total net assets** | **1,206** | **1,371** | **+164** |

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# FY2021 Q2 ended Jun. Cash Flows

| (million JPY) | FY2020 Q2 ended Jun. (cumulative) | FY2021 Q2 ended Jun. (cumulative) |
|---|---|---|
| Cash flows from operating activities | 19 | 1 |
| Cash flows from investing activities | -50 | -118 |
| Cash flows from financing activities | 184 | 174 |
| Increase of cash and cash equivalents | +153 | +57 |
| Cash and cash equivalents at the end of period | 979 | 1,482 |

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# FY2021 full-year ending Dec. forecast

| (million JPY) | FY2021 Q2 ended Jun. results (cumulative) | FY2021 Q4 ending Dec. forecast (cumulative) | Progress percentage |
|---|---|---|---|
| **Net sales** | **490** | **1,256** | **39.0%** |
| **Operating profit**<br>% of net sales | **91**<br>*18.6%* | **380**<br>*30.3%* | **23.9%** |
| **Ordinary profit**<br>% of net sales | **88**<br>*18.1%* | **370**<br>*29.5%* | **24.0%** |
| **Net profit**<br>% of net sales | **87**<br>*17.9%* | **280**<br>*22.3%* | **31.3%** |

**No change to full-year forecast**

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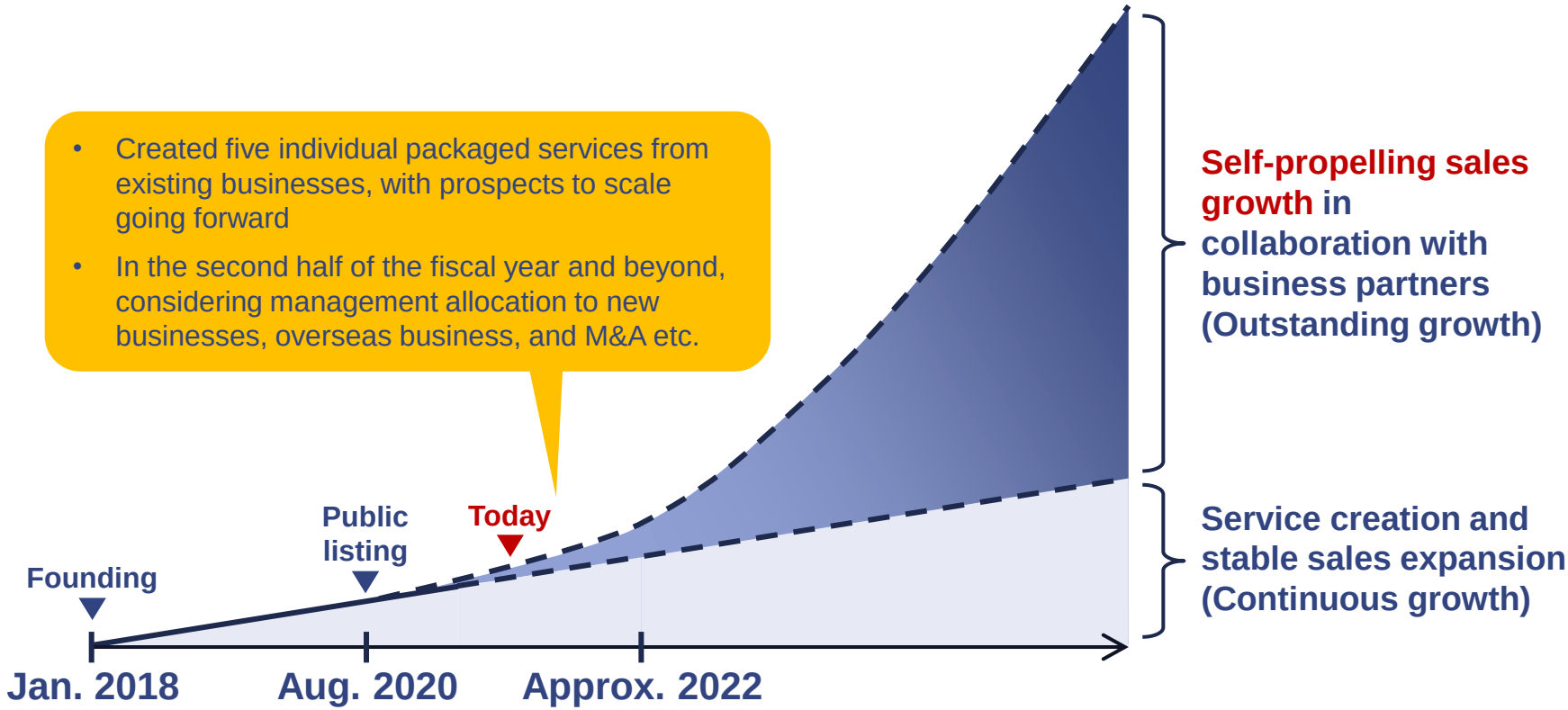
# Future growth strategy (Illustration of business growth)




| Business Creation | Deepening of Business Model | Business Expansion with Scale |
|---|---|---|
| • Build corporate platform<br>• Identify value proposition<br>• Develop services | • Commercialize services<br>• Extend business partnerships<br>• Define business segments and KPIs | • Announce mid-long term management plan<br>• Disclose business segments and start monitoring KPIs |

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# Management policy for FY2021

## From fee-based to unit-based sales

**In addition to expansion through individual contracts with companies/ governments, we aim to accelerate sell-propelling sales from generalized services**

### 【Theme 1】 Expansion of co-creation partners

Expand required elements such as sales, maintenance and support, and bidding rights for government through partnerships or mergers and acquisitions as needed.

### 【Theme 2】 Towards easy-to-use AI services

Pursue ease-of-use of services designed around customer needs.

Aim to achieve 10,000-unit service system, with high AI service quality and operational stability.

### 【Theme 3】 Commitment to AI technology dev.

Collect and accumulate the industry's leading level of data.

Continue to invest in the dev. of optimal AI logics using proprietary learning technologies, including CG.

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# Disclaimer

**Handling of the material**

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