

**JVCKENWOOD**

**Translation for Reference Only**

# **Introduction to JVCKENWOOD Communications Systems Business**

October, 2020

JVCKENWOOD Corporation

# Sales Composition Ratio by Sector (Fiscal Year Ended in March 2020)

Net sales 291.3 billion yen



DX Business and others

Media Service Sector



19%

5%

Automotive Sector



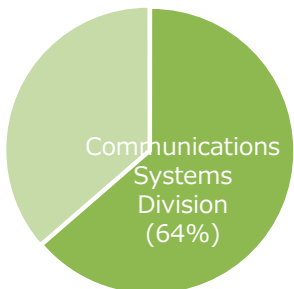
51%

24%

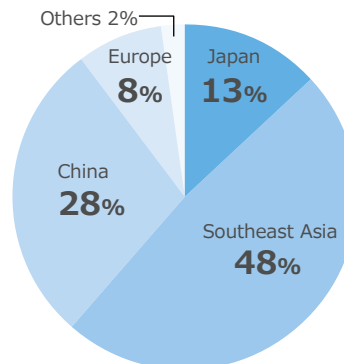
Public Service Sector



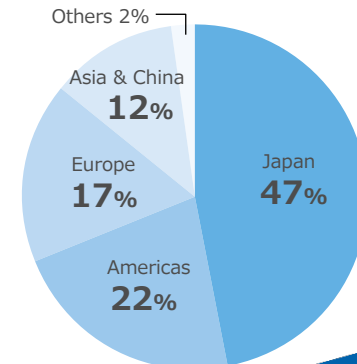
Sales composition ratio of the  
Public Service Sector  
(fiscal year ended in March 2020)



Production ratio by region  
(fiscal year ended in March 2020)



Revenue composition ratio by region  
(fiscal year ended in March 2020)

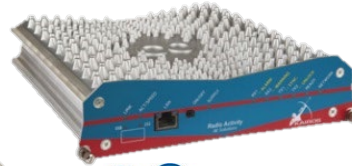


# Our Communications Systems Business

## Professional radio (LMR: Land Mobile Radio)



EFJohns<sup>®</sup>



RadioActivity  
Infinite Solutions



## Command & Control (C&C)\*

\* A control system that sends commands from a console to a mobile terminal by radio, etc.



MAX  
SOLUTIONS



## PoC (Push to Talk over Cellular)\*

\* A service that enables one-to-many instant calls through a cellular phone network by simply pushing the Talk (call) button (PTT: Push to Talk)



BOUNDLESS, the PoC service for professional smartphones

PoC devices for overseas markets

PoC devices for Softbank users

# Professional Radio: Ideal for Professional Communications

## One-to-many instant calls

1.
  - Commands or guides sent to many people at once
  - Simple operation by pushing the PTT\* button once

\*PTT = Push To Talk



## Advantages of professional radio

## High quality and robustness

- Quality assurance through high-level testing
- Compatible with severe operational environments such as police and fire fighting

## Self-owned

- Communication coverage areas can be assigned by users
- Initial investment only, no monthly communication fee



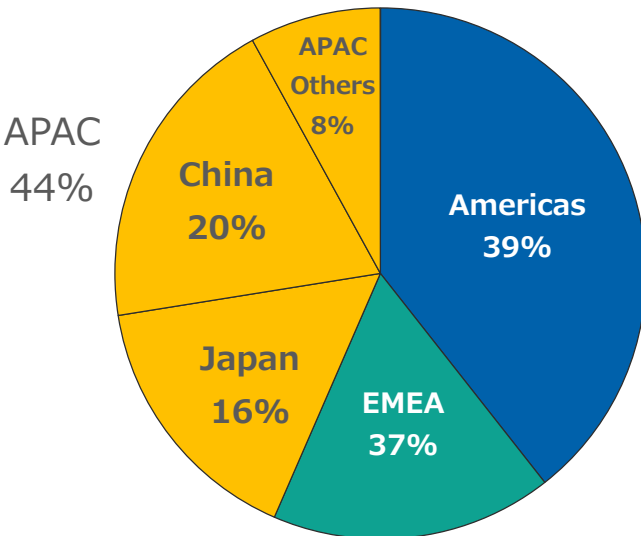
## Disaster-proof

- Self-owned communication systems that allows communication even with partial infrastructure
- Radio devices can communicate with each other

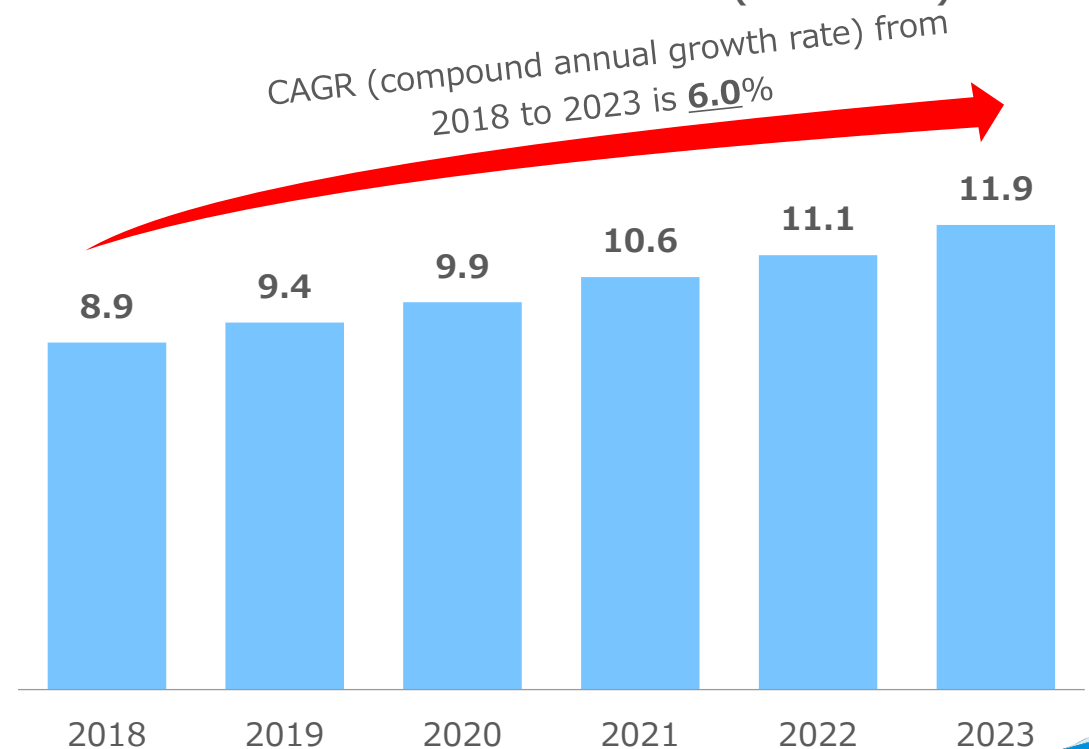
# Overall Trends in the Professional Radio System Market

- The trend in the radio system market is that several digital radio protocols have emerged for **effective use of band frequencies** and **ensuring communication confidentiality**, leading to rapid shift from analog radio
- We will focus on digital standards (NXDN/DMR) in the Americas public security market (P25) and the private sector markets.

Composition of the global market size in 2018



Trends of sales in the global radio system market (Billion USD)

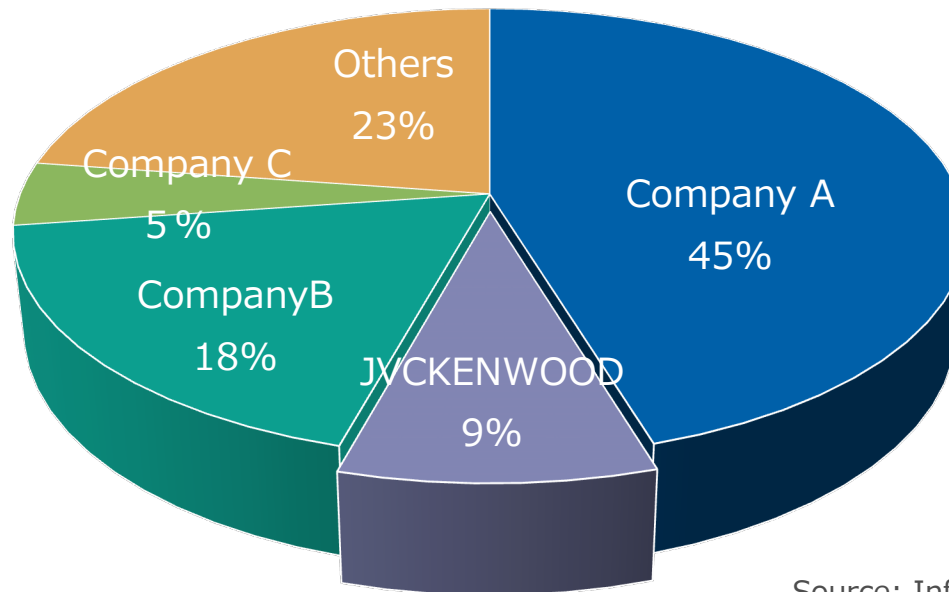


Source: Informa's survey data with some our estimates



# Professional Radio System Market: Shares in the Number of Devices

Professional radio market in 2018  
Shares of device shipments



Source: Informa's survey data

## Future of the professional radio market

- Spread of various digital standards  
→ Segmentation by region and industry
- Expansion of services integrated with broadband  
→ More advanced usage

# Efforts in the Japanese Market

- **Sales of land mobile radio systems increased** due to increased demand for rental equipment for global sports events, etc., while **sales of disaster prevention radio systems for local government agencies remained strong**
- MIC's radio administration will generate **large replacement demand (over 200,000 devices)** toward FY2022
- In December 2019, we introduced to the market **a professional radio system with an intrinsically safe explosion-proof structure\*** that can be used in environments where there is a risk of explosion or fire, including petrochemical plants



Land mobile radio system  
TCP-D751CT



In-car disaster prevention radio system  
TCP-D609DP



Intrinsically safe explosion-proof radio system  
NX-330EX

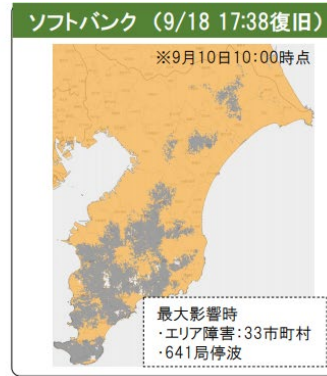
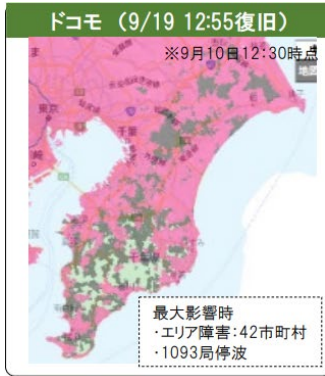
\*Intrinsically safe explosion-proof structure: A structure certified by public organizations as a product that will not becoming a source of ignition (spark or high temperature parts) in a hazardous area where there is a risk of explosion due to gas or dust, etc.

# Case Study: Enhancement of Professional Radio by Ensuring Communications in the Event of a Disaster

\*Typhoon No. 15 in Chiba Prefecture in 2019

\*Typhoon No. 19 in Fukushima Prefecture in 2019

\*Dark gray areas had trouble in communications



**Typhoons No. 15 and 19 caused area failure in the mobile communications networks, and it took up to 9 days for all the areas to be restored**



With the semi-fixed option installed



Remote control unit



With the in-car adapter installed



Image of installation on the slim rack

**Disaster prevention radio systems as a means of communication in the event of a disaster were reinforced**

Source: Ministry of Internal Affairs and Communications, "Ensuring Means of Communication in the Event of Disaster"



# Efforts in the Overseas Markets



iGA Airport (Istanbul), one of the world-largest airports, adopted our NEXDEGE



We have an over 90% share of the U.S. and Canadian railroad radio markets, as well as a large share in South Africa and China



The United States Department of State also adopted and deployed it to U.S. embassies around the world



The world-leading motorcycle race MotoGP™ introduced our latest DMR system

# Case Study: Protect Safety and Security of Police



## California State Highway Patrol Project

California Highway Patrol adopted our low band radio (50 MHz), resulting in our winning the business of about 3 billion yen in total (to be installed in 3,300 vehicles)



**KENWOOD**  
**VIKING**

VM7000





# Future Trends: Safety Solution Business of Voice + Data

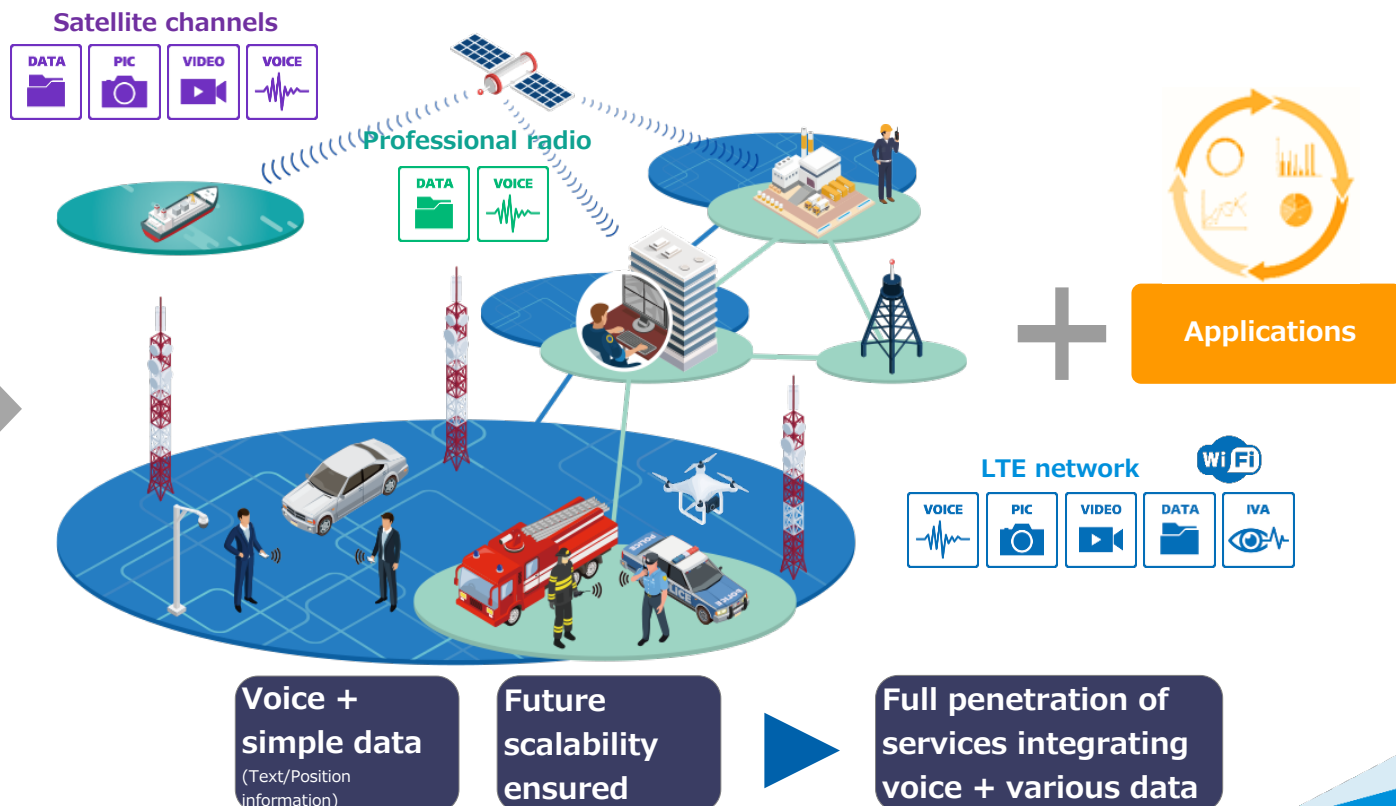
## From Voice to Voice + Data

In the past, professional radio users placed importance on scalability to the broadband when updating their systems. In the future, the actual operation of broadband solutions will expand gradually

### Traditional radio business



### Safety solution platform in the future



# JVCKENWOOD

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