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14th Asia-Pacific Eco-Business Forum in Kawasaki
Session2 Environmental Technology to Help Achieve SDGs

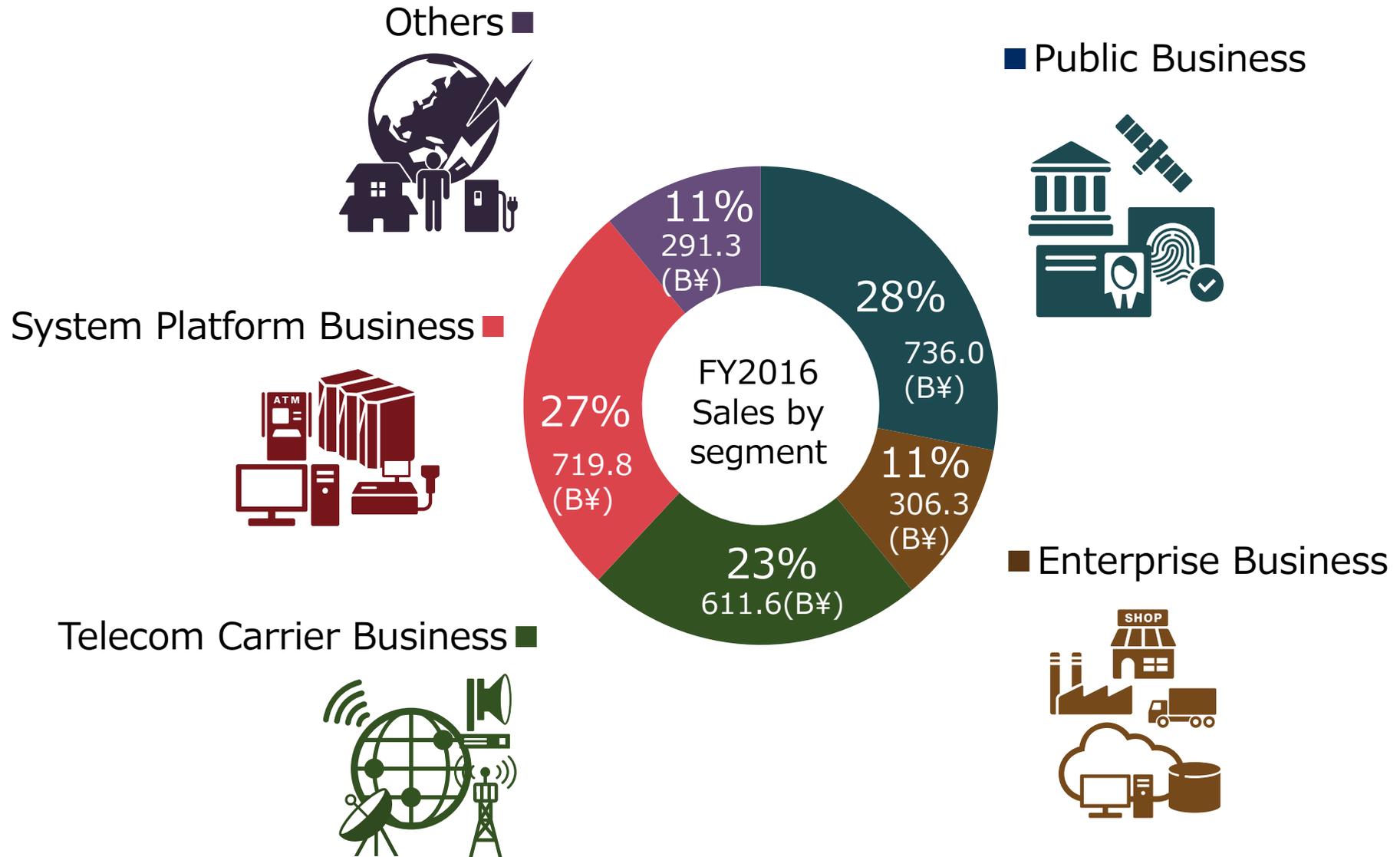# Contribution to SDGs by using ICT

February 1, 2018

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Assistant General Manager of TQM Division

Department Manager of Environmental Management Department

Proportion of Sales （By Operating Segments）

Others ■

Public Business ■

System Platform Business ■

11%
291.3
(B¥)

28%
736.0
(B¥)

FY2016
Sales by
segment

27%
719.8
(B¥)

11%
306.3
(B¥)

23%
611.6(B¥)

Enterprise Business ■

Telecom Carrier Business ■

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Sustainable Earth

Safer Cities & Public Services

Quality of Life

The Seven Themes for Social Value Creation

Lifeline Infrastructure

Work Style

Communication

Industry Eco-System

Safety

Security

Efficiency

Equality

7 social value creation themes correspond to SDGs

Important Themes for Environmental Management

Paris Agreement on climate change measures

COP21 held in 2015
(21st Session of the Conference of Parties
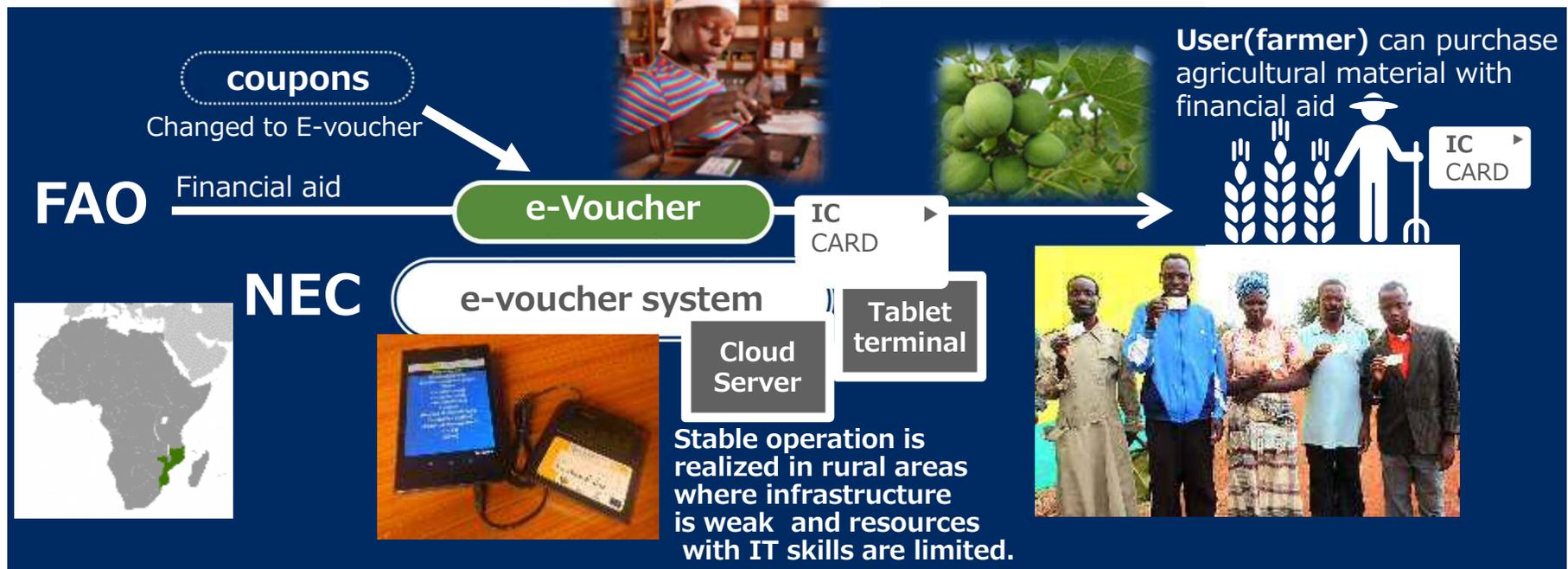to the United Nations Framework
Convention on Climate Change)

SDGs (Sustainable Development Goals)

United Nations Sustainable Development Summit
held in 2015

Review and reinforce our environmental management action plan focusing on SDGs and climate change.

NEC's approach

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Poverty and agricultural productivity improvement ~Mozambique

coupons
Changed to E-voucher

FAO — Financial aid → **e-Voucher** → IC CARD →

User(farmer) can purchase agricultural material with financial aid — IC CARD

NEC — e-voucher system

Cloud Server — Tablet terminal — IC CARD

Stable operation is realized in rural areas where infrastructure is weak and resources with IT skills are limited.

Hunger and poverty in rural areas are big problems in Mozambique

FAO's aid project to provide better breed, fertilizer and agricultural chemicals has also problems.

e-Voucher systems thanks to E-money technology promote to;

✓ decrease negative environmental impact in making paper-based and disposable coupon

✓ enable equitable financial aid and increase the efficiency, usability and transparency of the project

✓ improve the productivity by providing the aids to needy persons

1 NO POVERTY

2 ZERO HUNGER

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

17 PARTNERSHIPS FOR THE GOALS
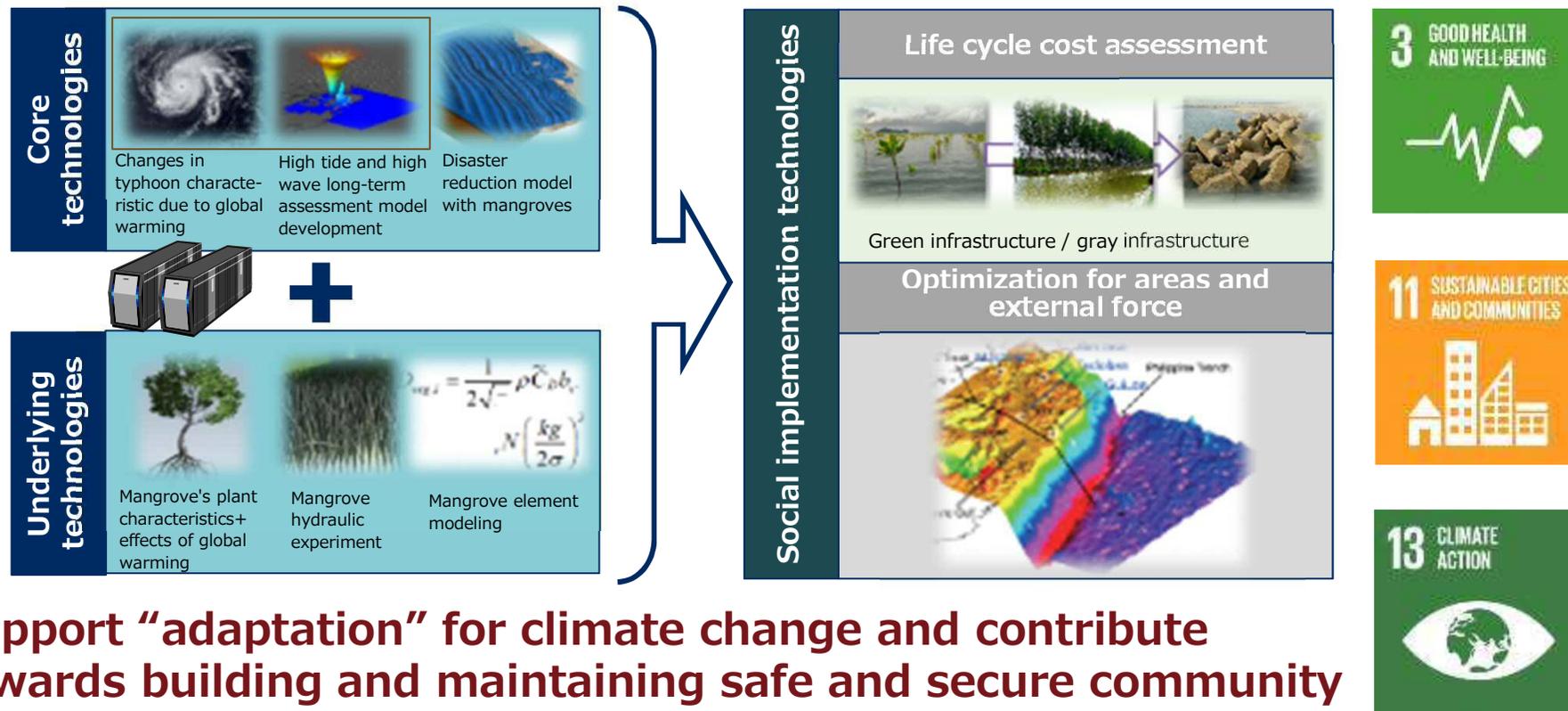
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Damage reduction against large-scale typhoon ~ Philippines

Launched research and development of the "Coastal Disaster Simulation System" to examine and assess disaster reduction effects by Green infrastructure

Granted by the Environment Research and Technology Development Fund in March 2017.

Develop the disaster reduction and life cycle cost assessment method by the optimum combination of the green (mangrove) and the gray (embankment) against typhoons, high tides, and high waves.

Core technologies

Changes in typhoon characteristic due to global warming

High tide and high wave long-term assessment model development

Disaster reduction model with mangroves

+

Underlying technologies

Mangrove's plant characteristics+ effects of global warming

Mangrove hydraulic experiment

$$N\left(\frac{kg}{2\sigma}\right)$$

Mangrove element modeling

Social implementation technologies

Life cycle cost assessment

Green infrastructure / gray infrastructure

Optimization for areas and external force

3 GOOD HEALTH AND WELL-BEING

11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

Support "adaptation" for climate change and contribute towards building and maintaining safe and secure community

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Support for safer cities ～Tigre City, Argentina

Prevent crimes and accidents by recognition technologies

Improve surveillance efficiency by detecting unusual human and traffic related behaviors in specific scenarios:

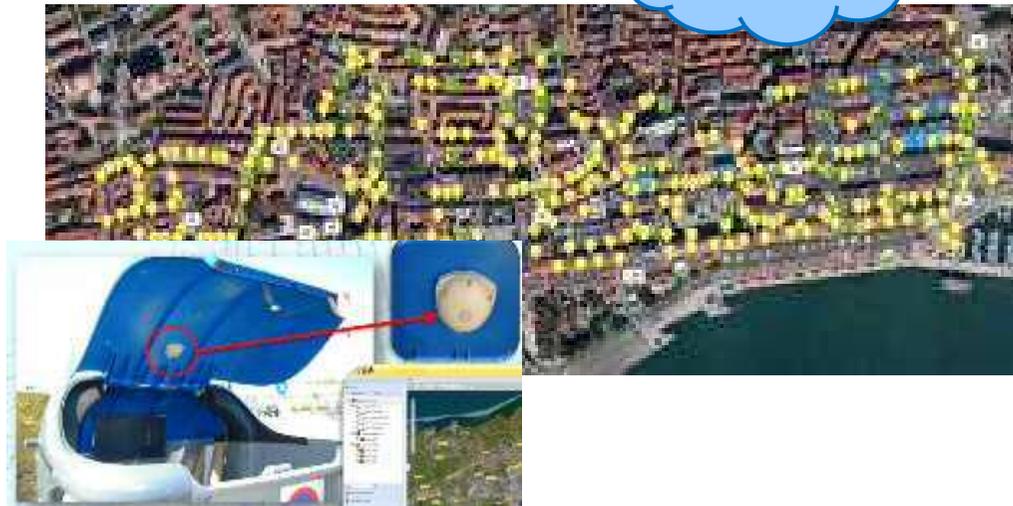**ex. Railways station, Banking areas, Access roads, streets, parks & open places.**

Effective waste collection by using "IoT" ～ Santander, Spain

Joint venture with Spanish waste collection service provider ASCAN

Real time data collection about the quantity of the waste and the location of bin

Analyze the data at the management center, show appropriate collection route and timing to the waste collection vehicle.
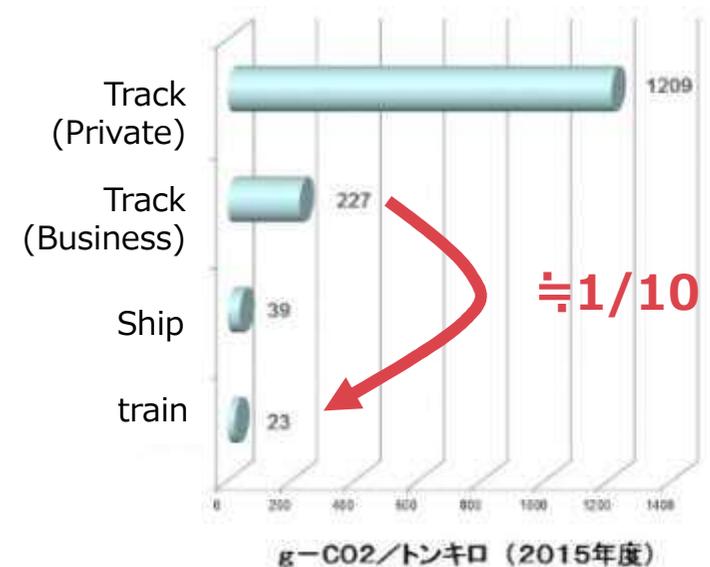
- **Implemented a sophisticated waste collection service for the city of Santander in Spain using sensors and Big Data analytics. This reduced unnecessary collection trips, thereby reducing operating costs and CO_2 emissions.**

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Optimize Logistics ~India

Delhi-Mumbai Industrial Corridor Project

- Container tracking service utilizing Logistics Visualization System
- Real time recognition of accurate location of transporting containers
- Contribution to decrease the transportation lead-time, cost and to improve the accuracy of manufacturing
- **Contribute to consumption reduction of the fossil fuel**
- **Modal shift will be accelerated by the improvement of railroad, and a large CO2 reduction is expected**

RFID tag

RFID reader

(2016.7 Service-in)

Track (Private) 1209
Track (Business) 227
Ship 39
train 23

≒1/10

g－CO2／トンキロ （2015年度）

国土交通省HP；運輸部門における二酸化炭素排出量より
http://www.mlit.go.jp/sogoseisaku/environment/sosei
_environment_tk_000007.html

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Spreading the understanding of SDGs to all employees

SDGs Work-shop

- Held in : February, 2017

- Participants : younger employees who are in charge of overseas business / new business development

Facilitator ;
NPO CRT(Caux Round Table)
CSR advisor   Minoru Matsuzaki

SDGs Lecture

- Held in : September, 2017
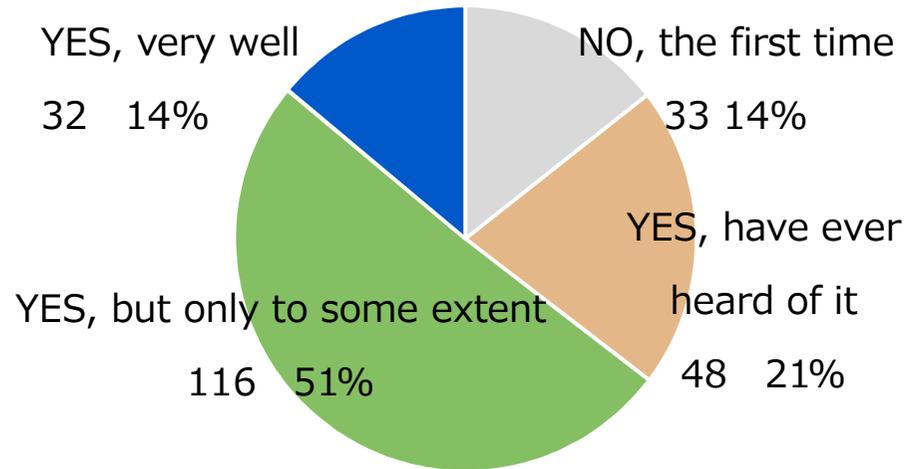
- Participants : Sales Unit / Business Unit / R & D /

  Corporate Staff

Special Advisor to UNEP Finance
Initiative in the Asia Pacific region
Takejiro Sueyoshi

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Effect of the SDGs education

Did you know SDGs？

YES, very well

32　14%

NO, the first time

33 14%

YES, but only to some extent

116　51%

YES, have ever heard of it

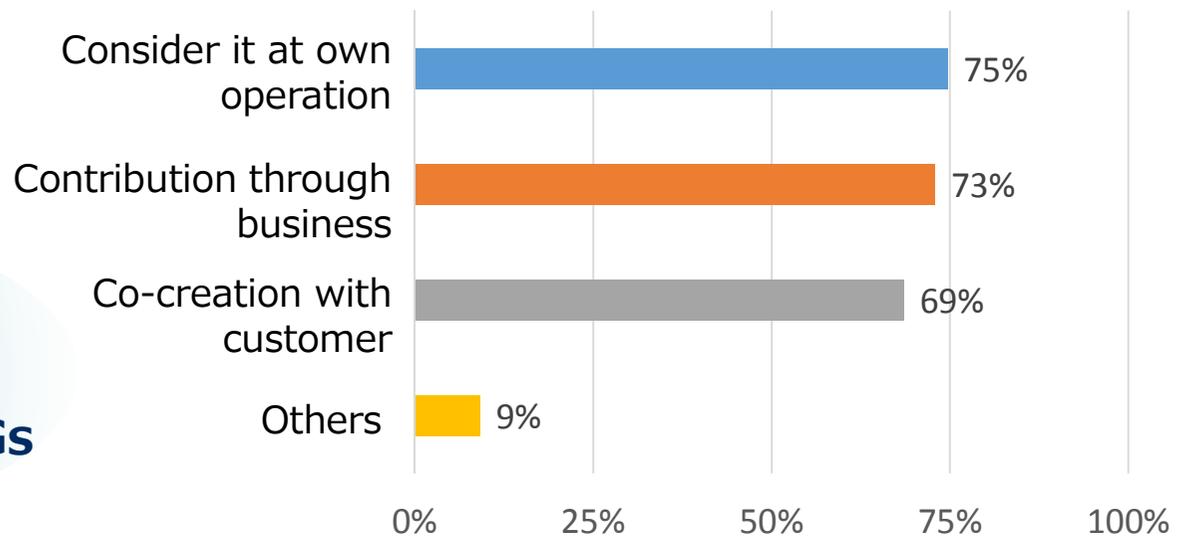48　21%

n=229

- **Before a lecture, not many people did not understand SDGs**

- **After a lecture, many people understood the importance of contribution toward SDGs through the business**

For SDGs, how do you think that you should take action?

Consider it at own operation — 75%

Contribution through business — 73%

Co-creation with customer — 69%

Others — 9%

0%　25%　50%　75%　100%

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