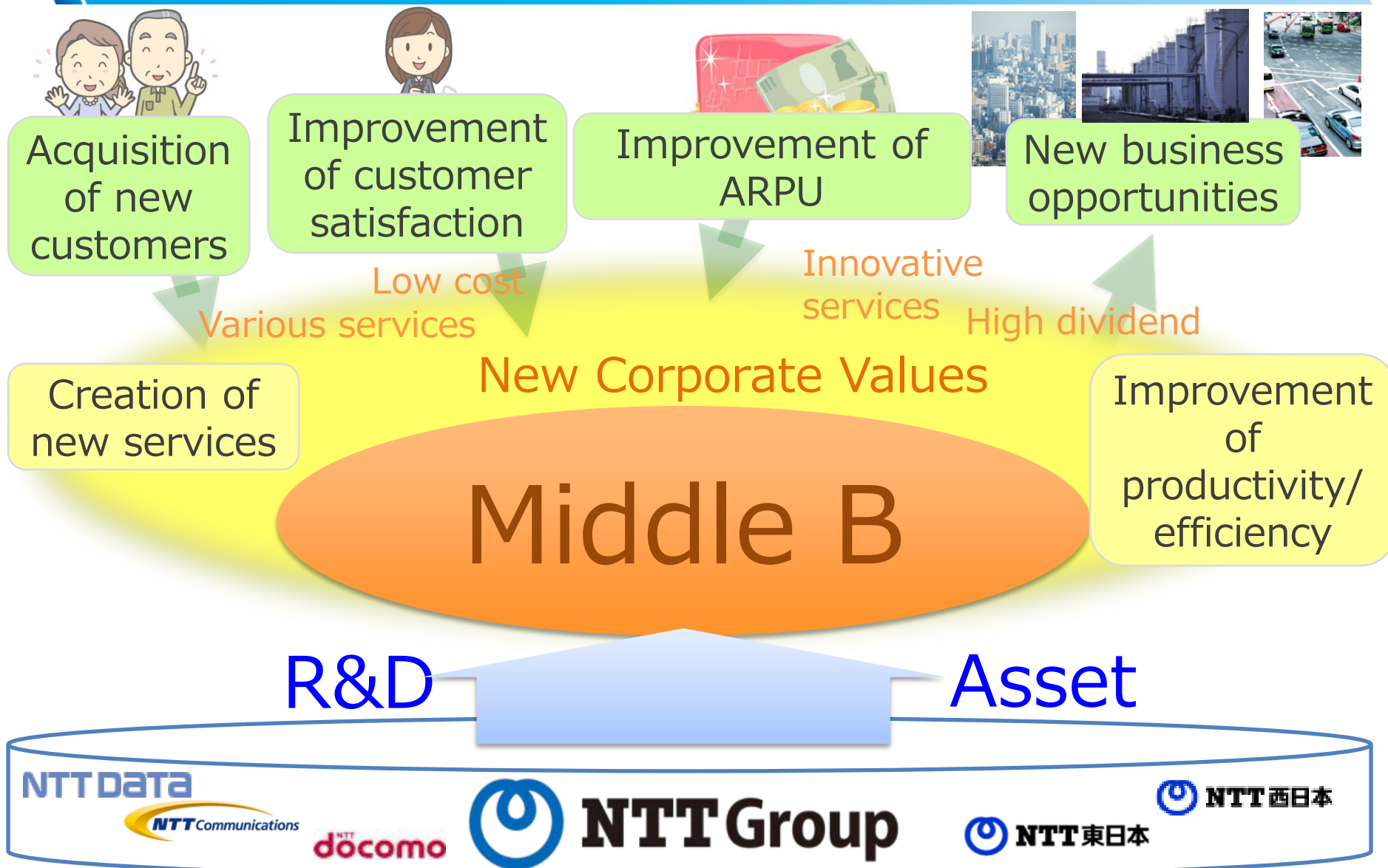


Expansion of B2B2X by NTT Group



September 29, 2016

Values Brought by B2B2X Model



- Sports, ICT and beyond
- Having a professional sports team in your community
 - For development of affluent sports culture -
- Expansion of Stadium Business Using New Technologies
- B2B2X with Industrial Circles
- Traditional Entertainment and ICT
- Joint Experiment with NTT on Integration of Kabuki and ICT
- Summary



Expansion of Stadium Business Using New Technologies



B2B2X with Industrial Circles



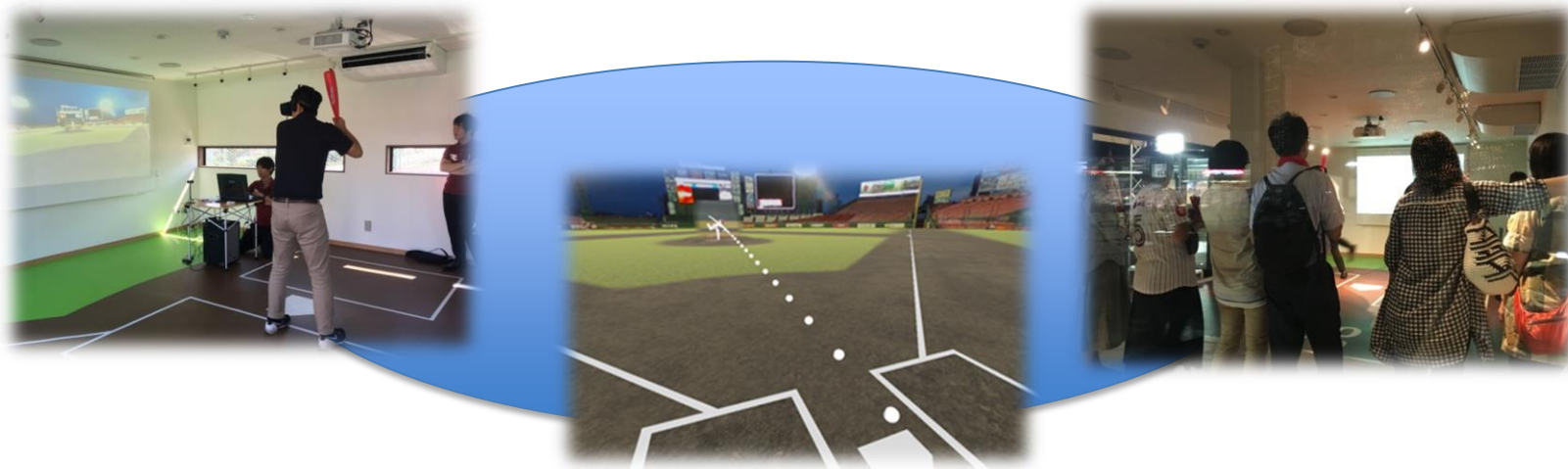
Traditional Entertainment & ICT

- ◆ Expansion of Stadium Business Using ICT
 - Services for premium members
 - Improvement of operation rate of stadium
 - Visualization of players' vital data
 - Expansion of local businesses

- ◆ Strengthening of Athletes Using ICT

VR Players Experience

Through a head mounted display, we can experience a virtual image with a player's view as if they were real players.



Athlete First-Person Vision Synthesis



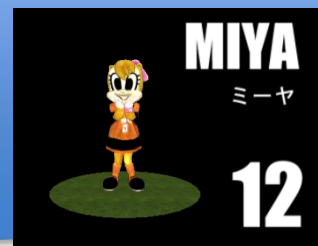
At Rakuten Kobo Stadium Miyagi,
a batting event was held.



At Nack5 Stadium Omiya,
an event to experience goalkeeper's
view will be held(Oct. 22).



Service to enable the users to download 3D images of their favorite players and mascot characters to a smartphone via Wi-Fi.

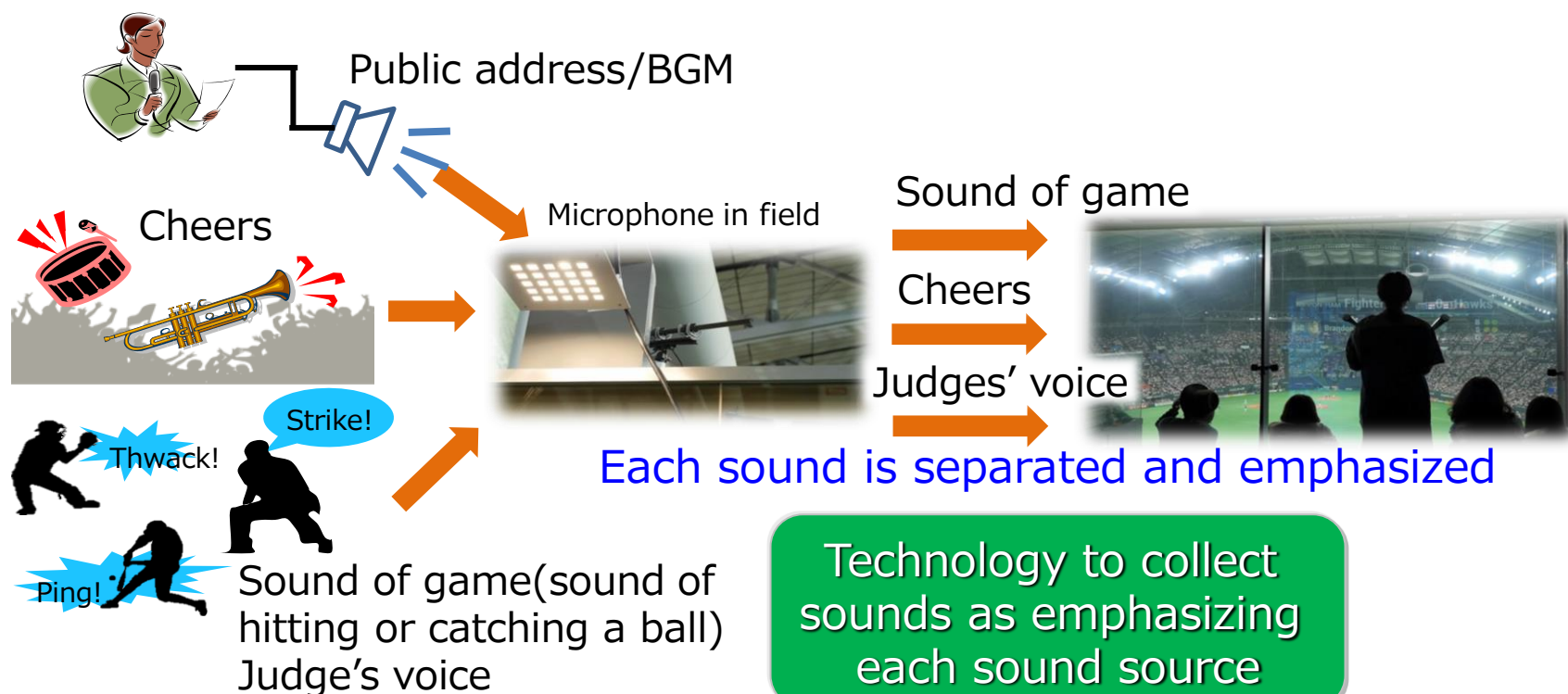


Free Viewpoint Video Synthesis



At Nack5 Stadium Omiya,
a viewing experience event was held.

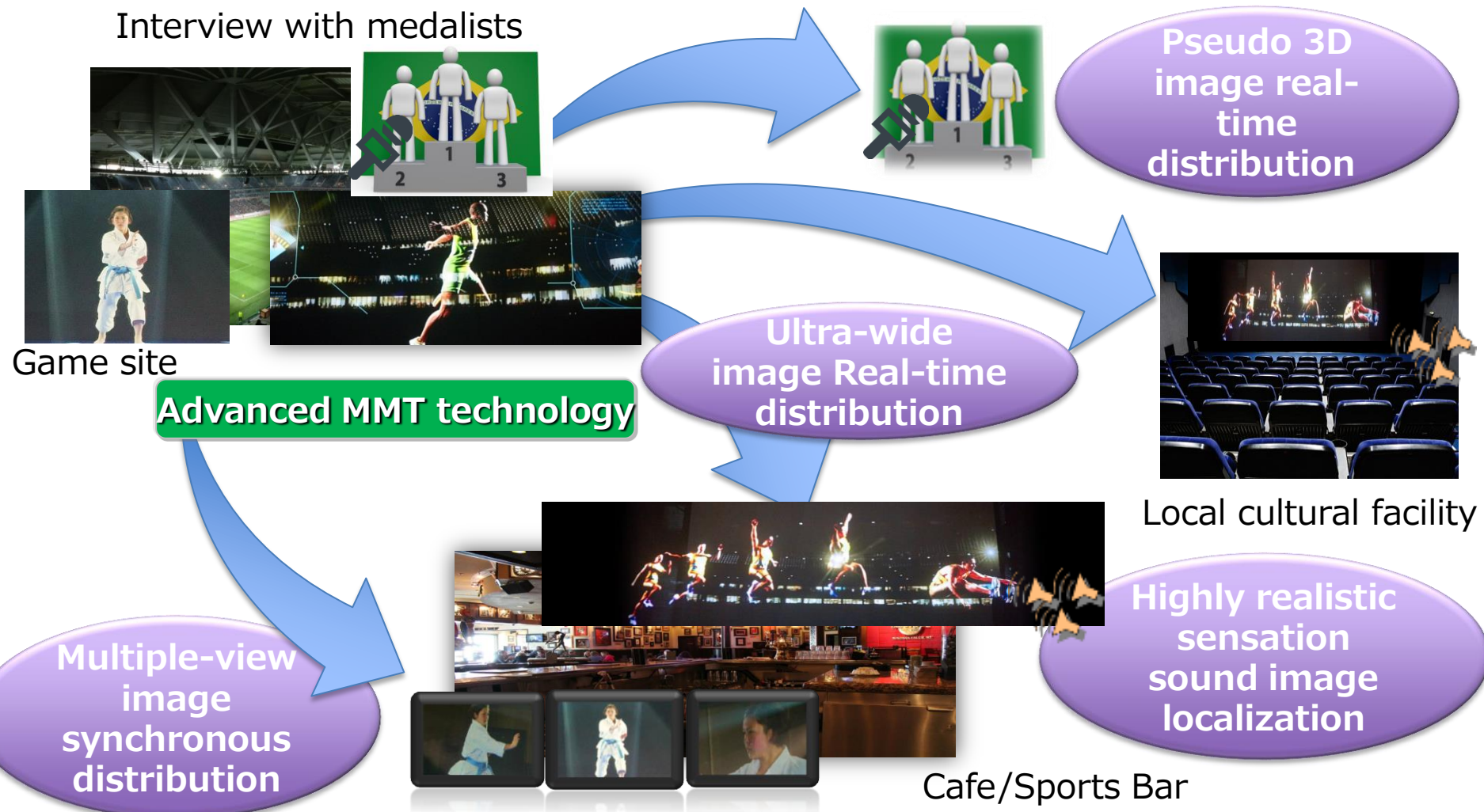
A new spectating style which enables spectators to hear real “playing sound”, “judges’ voices”, and “cheers” as if they were in the ground although they are in a premium room, etc.



Trial viewing was held at
Sapporo Dome

Development of Live Viewing

For cafes and sports bars in which a game is broadcasted, a service to enable viewers to experience videos and sounds with highly realistic sensation according to various viewing styles is provided.



(Example) Smart "HIKARI" Futsal

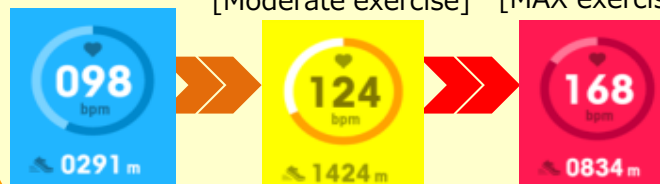
A new way of enjoying sports is provided: The exercise strength level of each player is visualized as a "hustle index", and the index is provided in a dedicated web site so that the users can talk about the effort level of each play.

<During Game>
Large Monitor



Analysis results are displayed in real time

[Moderate exercise] [MAX exercise]



Functional material hitoe[®]
Exercise level visualization technology

Heart-rate visualization service

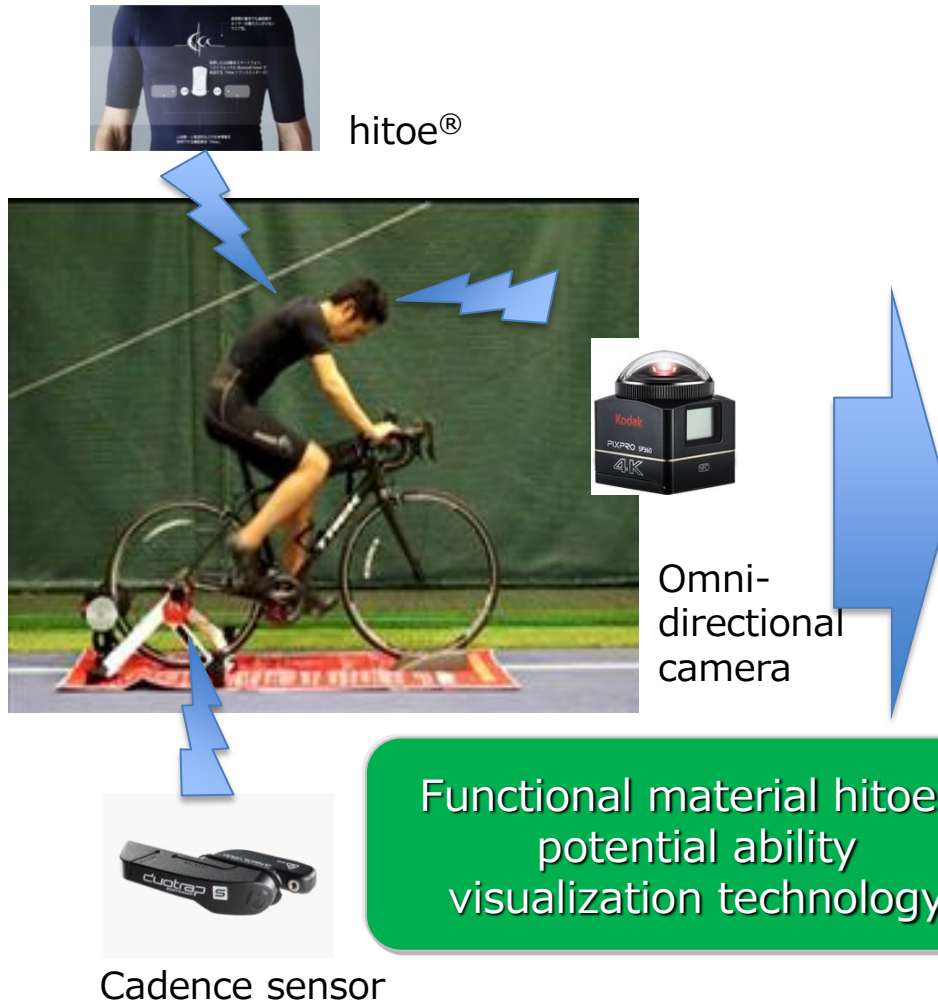


<After Game>
Website for Smartphone

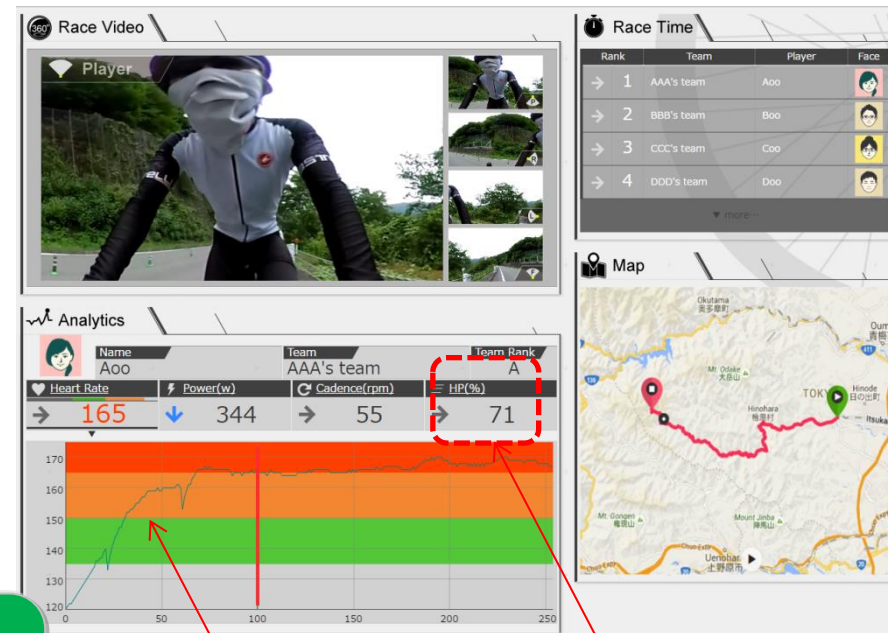
Visualization as "Hustle Index"



HP (Hit Point) which indicates player's remaining physical energy calculated from heart rate data is distributed so that the viewers can enjoy breathless excitement of a broadcasted race as seeing the real-time condition of each player.



Web distribution





**Expansion of
Stadium Business
Using New Technologies**



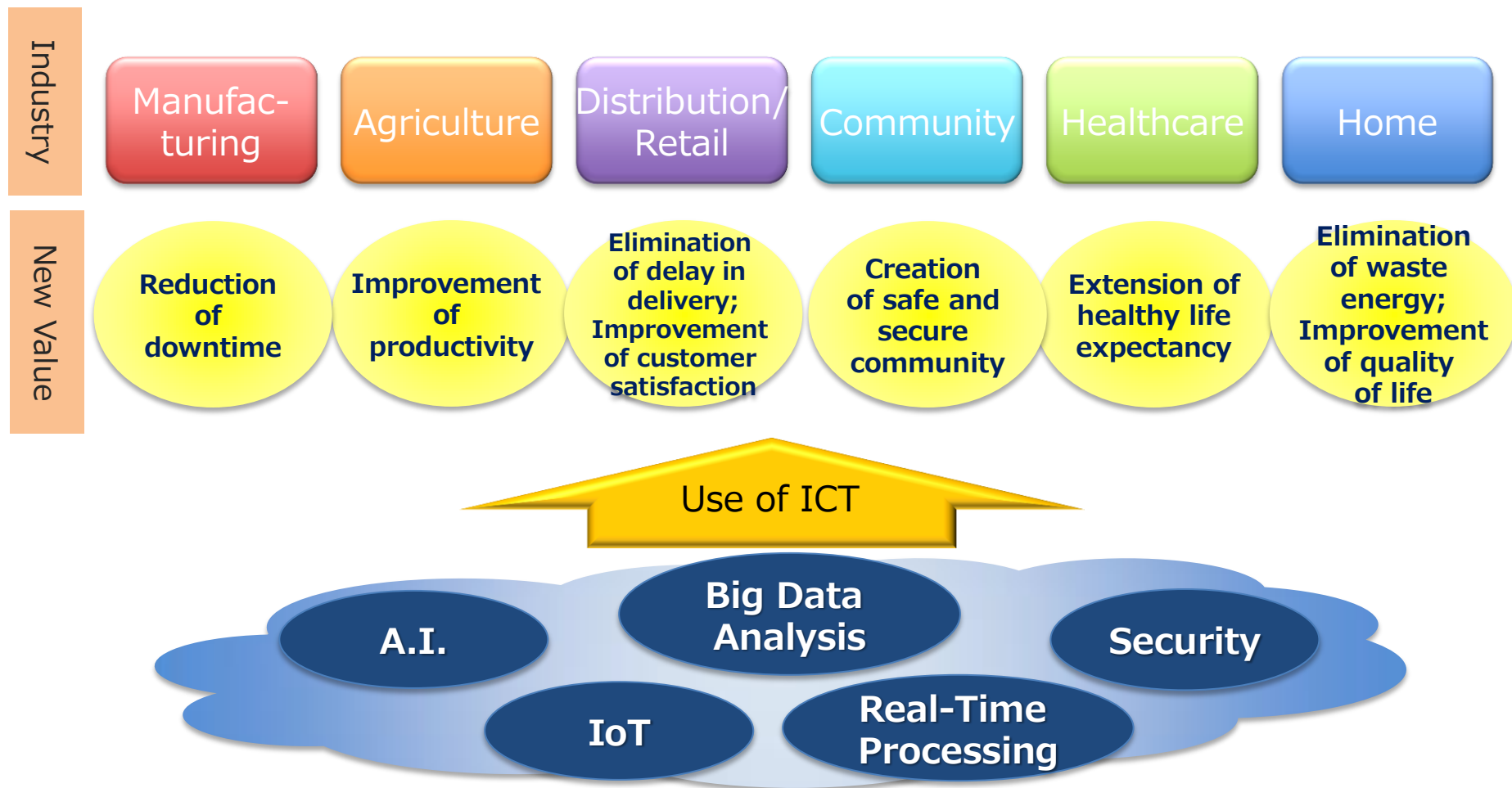
**B2B2X with Industrial
Circles**



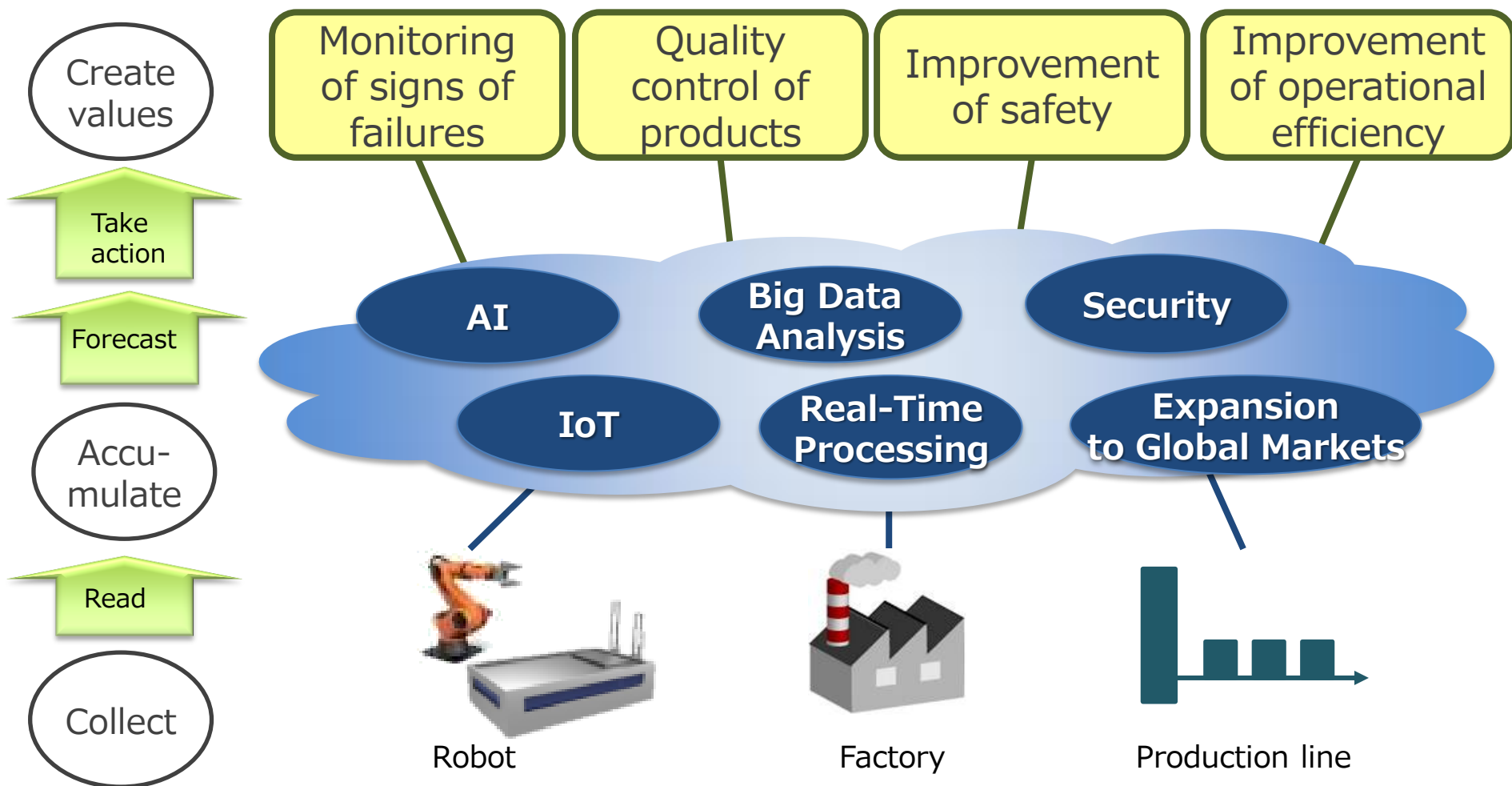
**Traditional Entertainment
& ICT**

Creation of New Values in Each Industry Using ICT

Efforts will be made to create new values in each industry using ICT such as IoT and AI



- Connect devices used at manufacturing sites via network
- Analyze collected data and resolve various problems in factories



NTT Group 2 Fanuc 2 Factory



Cooperate with Fanuc Corp., who is a worldwide FA and robot supplier, we realized "FIELD system" to optimize manufacturing and production at an early stage and make it a de facto standard.

Providing advanced technology
(Edge Computing)



Establishment/operation
of FIELD system
Support for implementation
of FIELD system



Development of applications
of FIELD system

NTT Data

This service will be launched in December 2016.

New Values of Manufacturing/Production Created by ICT and Upgrade



Global customers of manufacturing industry
(vehicles, etc.)

Multiple factories and robots
are connected via network,
improving the productivity.

Planning maintenance
and reduction of
maintenance cost by
zero downtime

Machine tool
manufacturers, etc.

Various machines can be
connected by FIELD system
which is made available to
the public.

FANUC

“FIELD system”, a first open platform for manufacturing industry,
was realized at an early stage and became a de fact standard

Improvement of productivity and efficiency at smart production sites



Real-time processing using
edge computing technology



Providing global ICT
infrastructure to 196 countries
and regions around the world

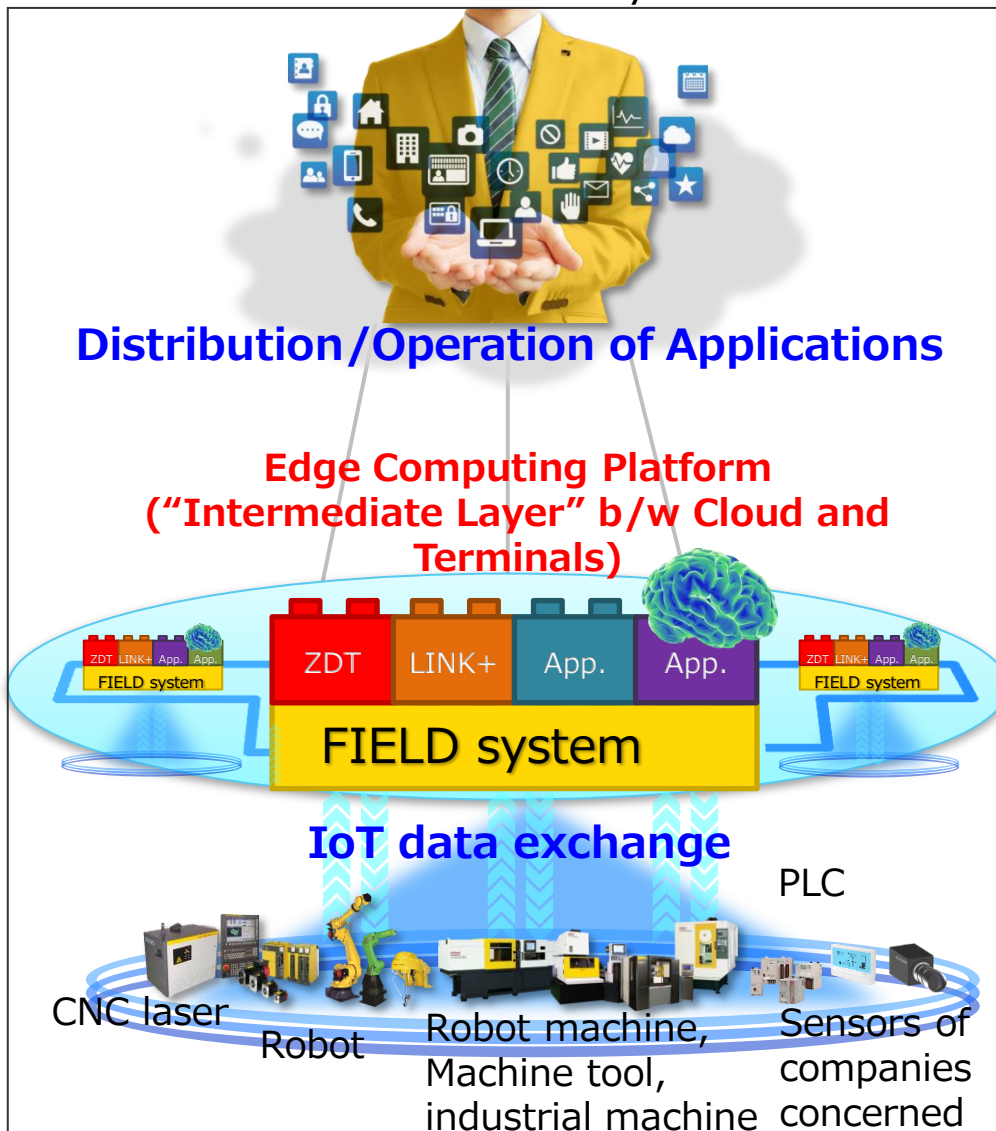


Development of applications
to detect failure signs of
factory machines, etc.

NTT DATA

Edge Computing Technology that Supports Realization of FIELD system

State-of-the-art edge computing technology is introduced for commercialization of FIELD system



Real Time

- Data is exchanged with machine tools

Connection

- Connection with sensors and industrial machines

Modification/Upgrade of Functions

- Open application platform

Offload Processing

- Data is processed within factory

Traffic Engineering

- Communication with cloud is contained

Security

- Information is kept inside factory unless necessary

Expansion of Business Area

Expansion application of
advanced processing
process

Ultra-high-speed and
highly efficient
processing systems

High-precision and
high-quality processing
systems

Advanced production
technologies in heavy
industry field

State-of-the-art
technologies related to
communication devices



Advancement of Production Infrastructure

Large processing machine design/
manufacturing technology

Computer generated
hologram design
technology

High energy laser
processing
technology

High precision
positioning technology

Processing system
control technology

Nano processing
technology

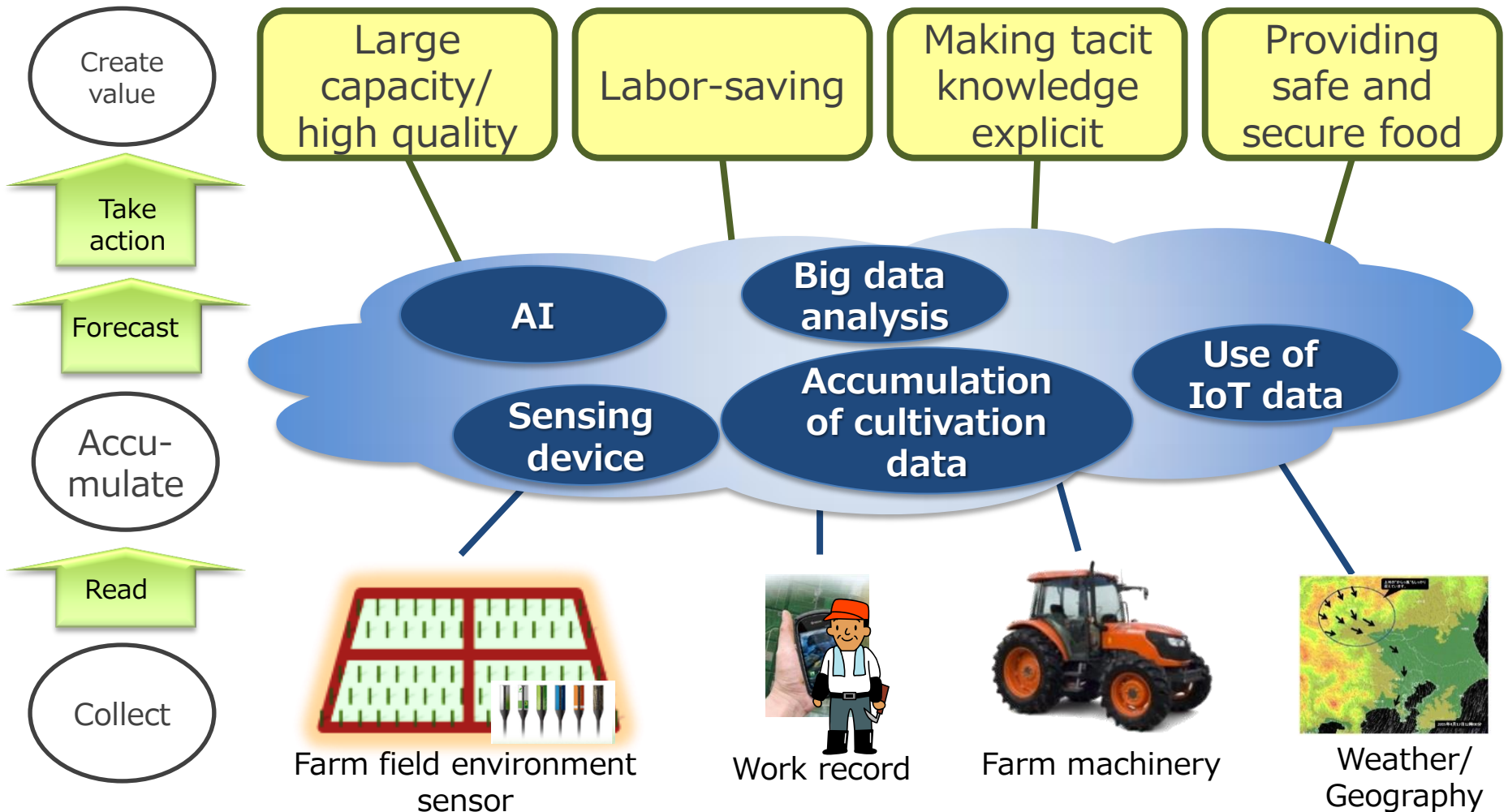
Optical fiber
design/production
technology

Middle infrared wavelength
conversion technology

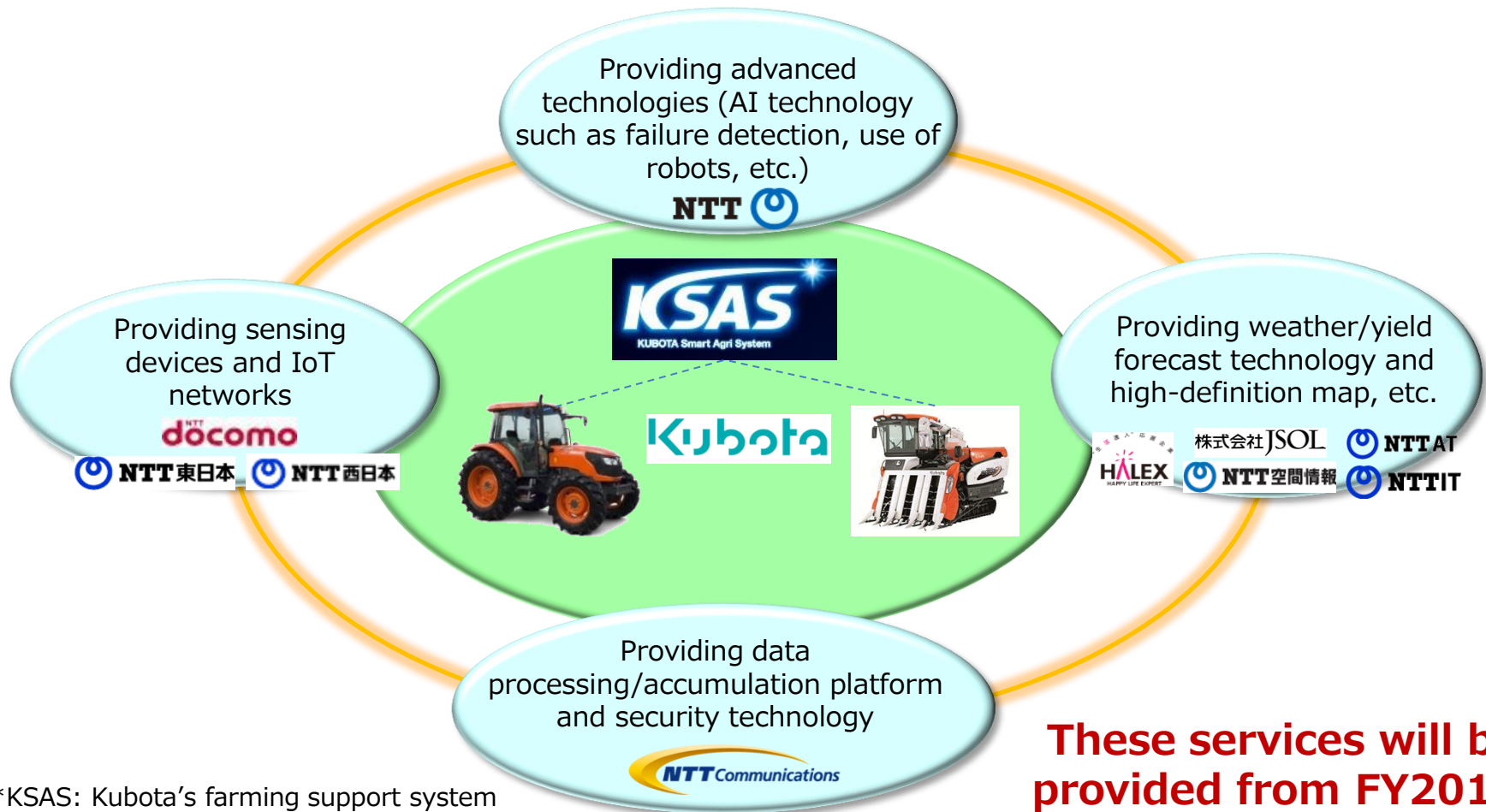
Ultra high speed optical
deflection technology

Sales will be launched in FY2017.

- Connect equipment and sensors used at agricultural sites via network
- Analyze collected data and revolve various problems of agriculture



Cooperate with Kubota Corp., a global manufacturer of farm machinery, in agriculture, water/environment fields with an aim to improve competitiveness in agriculture field and create comfortable life environment.



*KSAS: Kubota's farming support system

For farmers

Cultivate high-yield and tasty crops efficiently to stabilize the business of farmers and realize profitable agriculture



Expansion of agriculture support service business and smart agricultural machinery business

Collect Agricultural Information

<Information to be collected>

- Farm field environment
- Weather/geography
- Yield/protein volume
- Operation status of farm machinery
- Work record, etc.

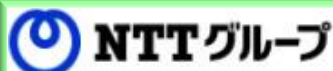
Visualize/Analyze Information

<Approach of visualization/analysis>

- Grasp variation of yield and taste
- Analyze factors of variation using big data analysis technology
- Establish optimum farming methods to achieve high yield and good taste and apply them to agriculture support

Connect/Control Farm Machinery

Conduct agricultural work by connecting optimum farming methods and smart farm machinery

Sensing device

IoT network

Weather/map information

Data processing/accumulation platform

Big data analysis

Device connection control

Security

For local community, etc.

Prevent failures of water/environment plants, etc. and natural disasters, reduce maintenance operation, and realize a safe and secure social infrastructure.

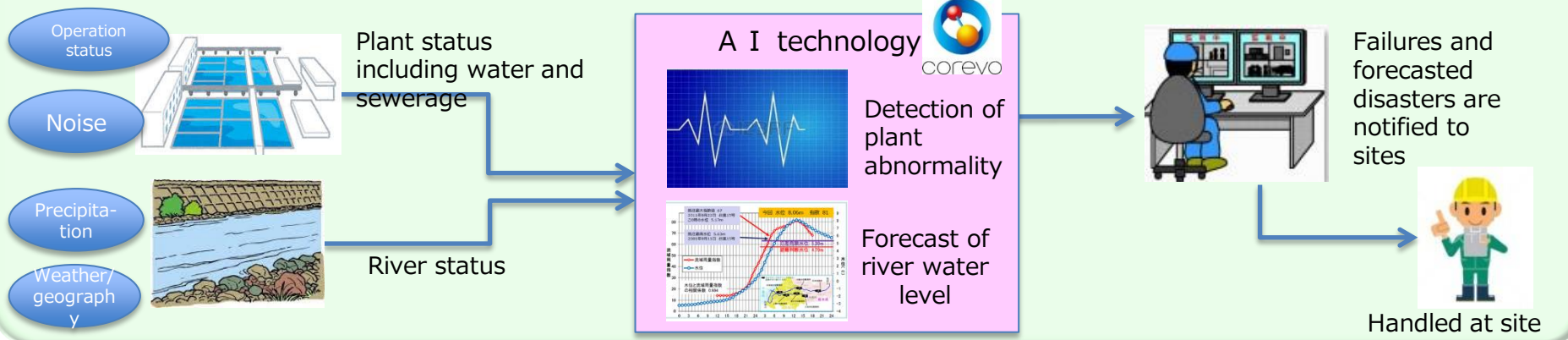


Strengthen competitiveness by realizing a comprehensive service including water/environment technology, product, and maintenance

Collect plant information, etc.

Visualize/analyze information

Deliver information to operators



Sensing device

IoT network

Weather/map information

Data processing/accumulation platform

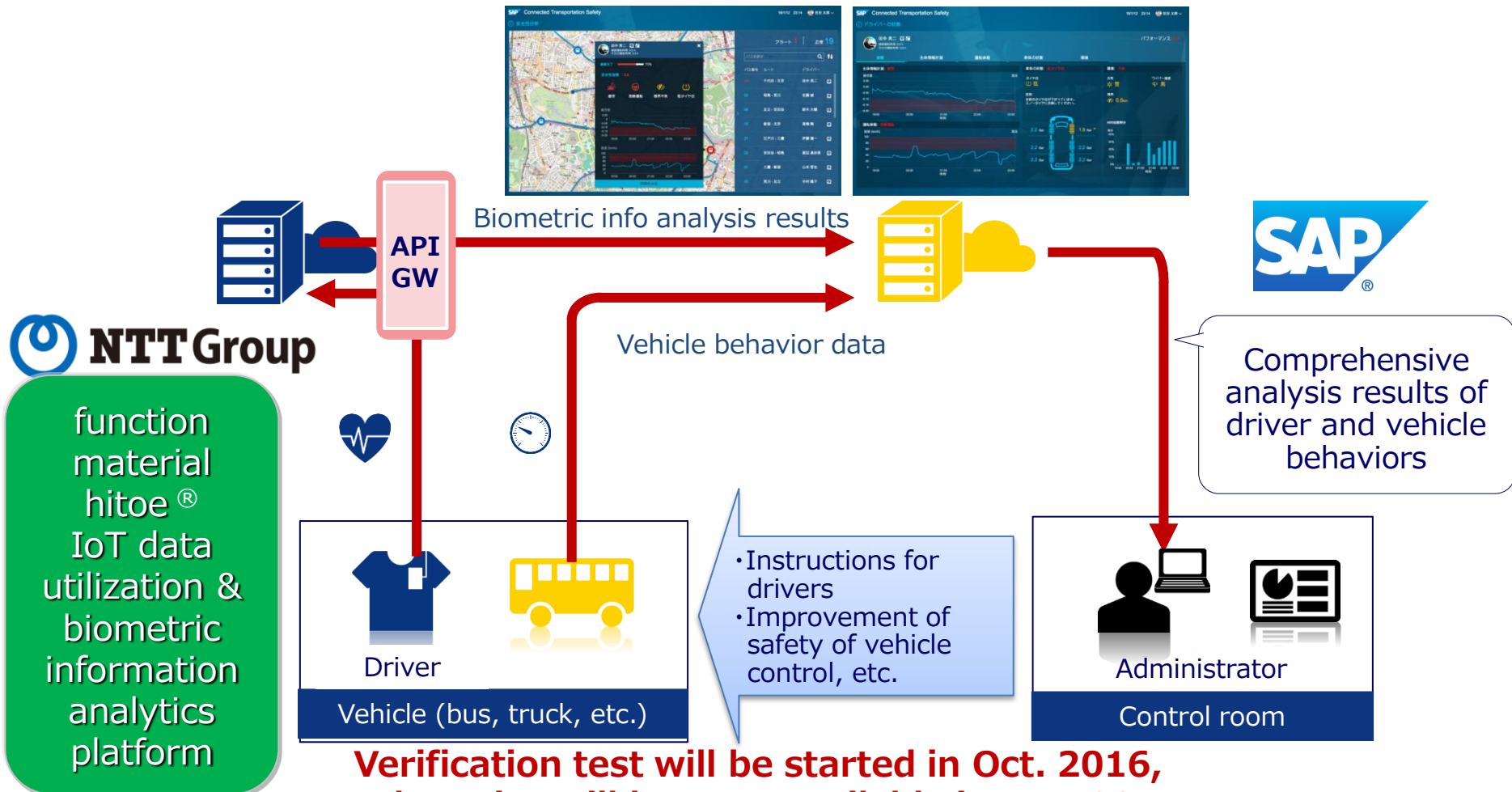
Big data analysis

Device connection control

Security

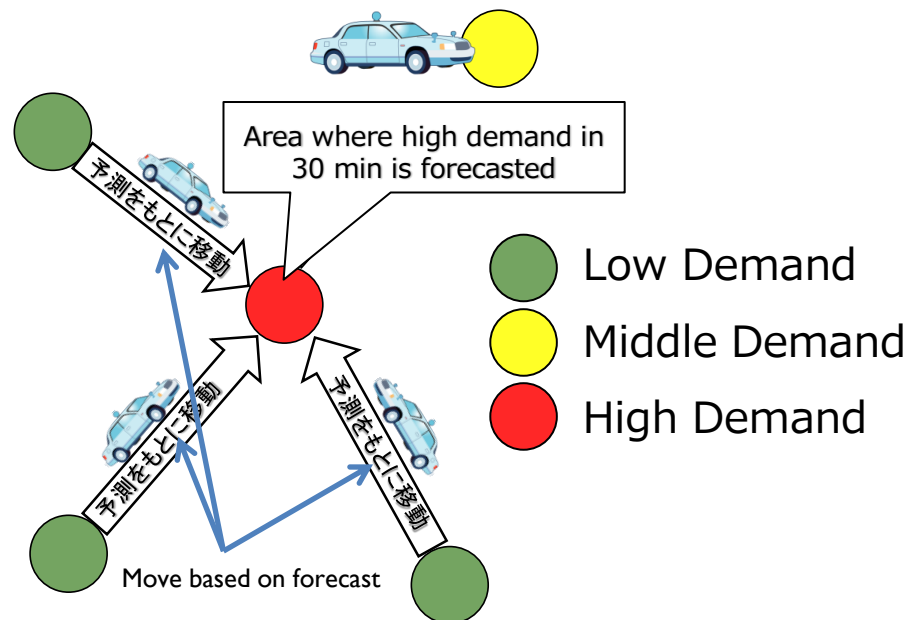
These services will be provided from FY2017.

- Analyze driver's vital signs obtained from a T-shirt-type vital sensor and vehicle behavior info collected from an in-vehicle device.
- Support safe driving control by urging drivers to take a rest to prevent a driving accident caused by fatigue.



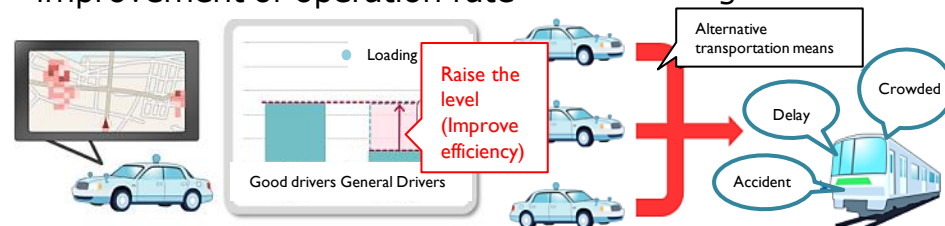
**Verification test will be started in Oct. 2016,
and service will become available in Jan. 2017**

Optimize allocation of drivers to increase taxi sales and reduce waiting time.

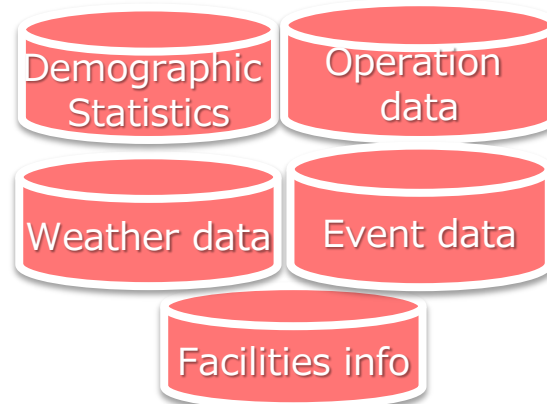


[Effect 1]
Increase of sales by
improvement of operation rate

[Effect 2]
Reduction of
waiting time



**These services will be provided from
second half of the FY2017.**



Demand for Taxi in 30 min

**Real-time transportation
demand forecasting technology**



Expansion of
Stadium Business
Using New Technologies



B2B2X with Industrial
Circles



Traditional Entertainment
& ICT

NTT

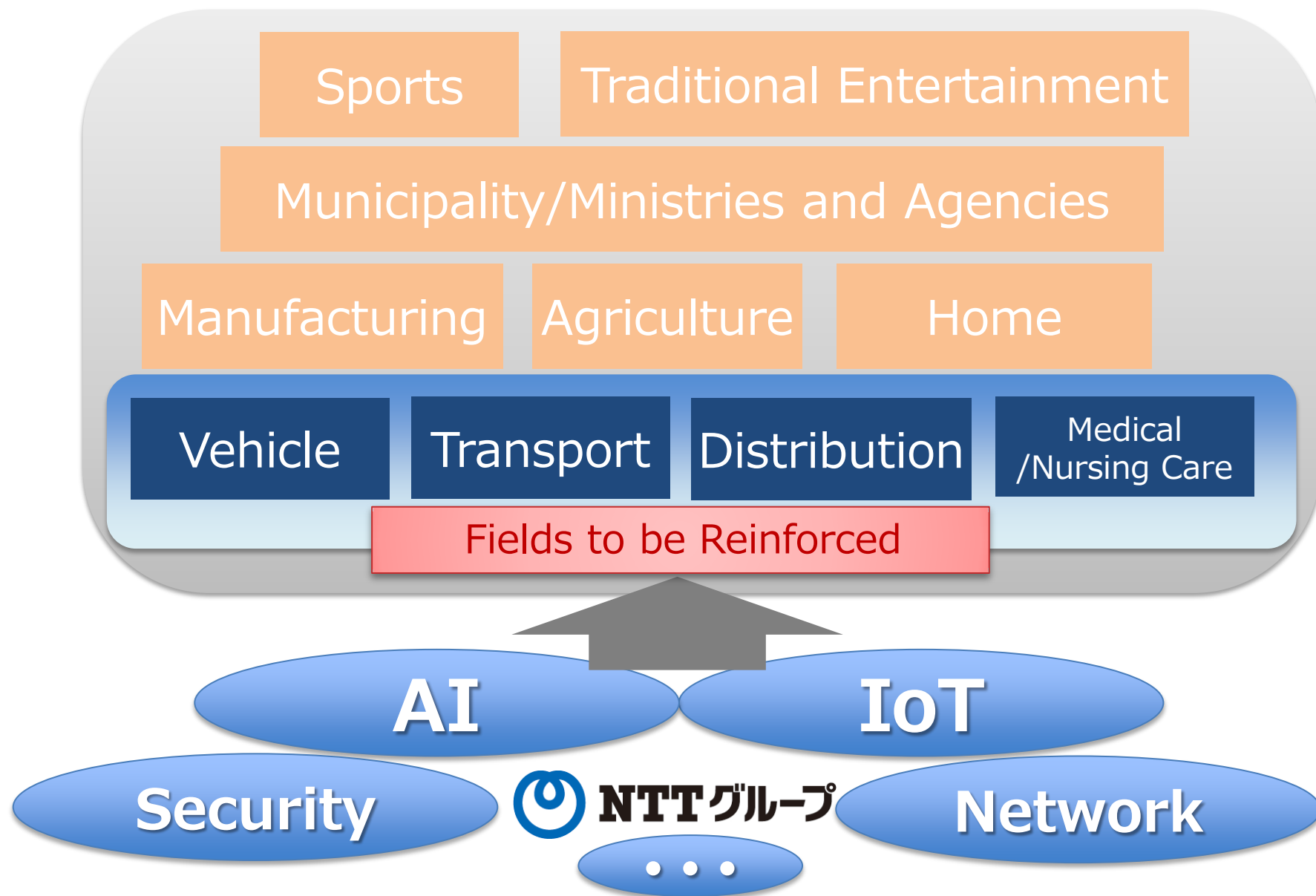
KABUKI LION Performed in Las Vegas



Henshin Kabuki

- An interactive exhibit combining “Kumadori,” Kabuki makeup, and state-of-the-art technology which provides an experience of a new world view was shown in a container.
- Starting with Tokyo Edo Week (Sep. 22 thru Sep. 25), this exhibit will be shown in other exhibitions to be held in Japan.





Application for registration as general medical devices was filed on Aug 10, 2016
Devices concerned: "hitoe® medical electrode", "hitoe® medical lead wire"
(*Toray Group, who is a development partner, filed the application.)

Features

Not Stimulus
to Skin

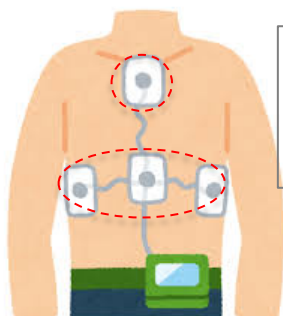
Long continuous
measurement is available

Expected Effects of hitoe

Improvement of Detection of Paroxysmal Atrial Fibrillation by long-term electrocardiogram over 24 hours

Present Holter Electrocardiogram

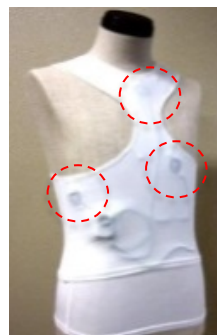
Typical duration is 24 hours
(Considering burden to patients)



Electrodes are affixed to skin with hydrated gel.
(It causes a rash and/or itch.)

Holter Electrocardiogram Using "hitoe"

Long-term electrocardiogram becomes comfortable.



hitoe is a newly developed conductive fabric and can be used as a wearable electrocardiograph.
(Highly safe to skin)



Next Value Partner

for

Transformation

of Business models and Lifestyle

by

Trusted Solutions

*of Global, Secure, End-to-end,
and Full-line ICT services*

The forward-looking statements and projected figures concerning the future performance of NTT and its subsidiaries and affiliates contained or referred to herein are based on a series of assumptions, projections, estimates, judgments and beliefs of the management of NTT in light of information currently available to it regarding NTT and its subsidiaries and affiliates, the economy and telecommunications industry in Japan and overseas, and other factors. These projections and estimates may be affected by the future business operations of NTT and its subsidiaries and affiliates, the state of the economy in Japan and abroad, possible fluctuations in the securities markets, the pricing of services, the effects of competition, the performance of new products, services and new businesses, changes to laws and regulations affecting the telecommunications industry in Japan and elsewhere, other changes in circumstances that could cause actual results to differ materially from the forecasts contained or referred to herein, as well as other risks included in NTT's most recent Annual Report on Form 20-F and other filings and submissions with the United States Securities and Exchange Commission