

食・農クラウド

Akisai (秋彩)

FUJITSU

shaping tomorrow with you

Introduction of Fujitsu's Food and Agriculture Cloud “Akisai”

26th February, 2015

FUJITSU LIMITED

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- Fujitsu's growth strategy
- The potential of the food & agriculture market
- Fujitsu's Food and Agriculture Cloud "Akisai"
- Expansion into global markets
- Considerations for market expansion

Fujitsu's growth strategy

Roadmap to Earnings Growth

FY2012-2013

FY2014-2016

Structural Reforms

- Taking action to restructure specific businesses
 - Semiconductors
 - Ubiquitous Solutions
 - Businesses outside Japan

Growth Strategy

- Expand ICT usage areas for enterprises
 - Modernization
 - Business innovation
 - Social innovation
- Expand into new ICT usage areas
 - Social innovation
- Expand business areas globally

Group-wide efficiencies / Management transformation
Organizational changes and efficiencies / Adoption of IFRS

Investments in New Areas (Cumulative FY2014-2016)

■ Plan to invest 200 billion yen to achieve growth strategy

Strengthen global delivery capabilities

50 billion yen

Social innovation

50 billion yen

Business innovation

100 billion yen

Modernization of existing business systems

Sales targets for products and services supporting innovation*

- Cloud ■ 350 billion yen
- Mobile ■ 260 billion yen
- Big Data ■ 250 billion yen
- Social ■ 240 billion yen

* Sales based on business deals (includes double-counting among categories)

Examples of Initiatives in Social Innovation Field

- Develop initiatives that, as a business, resolve societal problems
- Deliver new value through partnerships with variety of companies, organizations

Health/Medicine



Enable medical services tailored to individual needs

Transportation/Automobiles



Develop new services using positional data

Food/Agriculture



Build safe and secure food value chain

The potential of the food & agriculture market

Meeting of the
Headquarters for Japan's
Economic Revitalization
“Growth strategy”
(June 14, 2013)

Making agriculture, forestry, and fisheries into growth industries

Growth targets

- Bring number of corporate-run organizations to 50,000
- Bring scale of agricultural market (including processing and services) to JPY 10 trillion by 2020 (from JPY 1 trillion now)
- Bring exports of agriculture, forestry, fisheries products and food to JPY 1 trillion by 2020 (currently at JPY 450 billion)
- Form strategy to double agricultural and rural community income over next ten years while advancing combined agricultural value chain

Strategic Headquarters
for the Promotion of an
Advanced Information
and Telecommunications
Network Society
“Realizing the World's
Top-Class IT Society”
speech
(May 24, 2013)

Using IT to raise the level of Japan's agriculture and related industries; converting to a knowledge industry & developing internationally (“Made by Japan” agriculture)

1. Create business models based on agri-informatics and other agricultural data, and convert into knowledge industry
2. Build field-to-table traceability systems

Key Performance Indicators

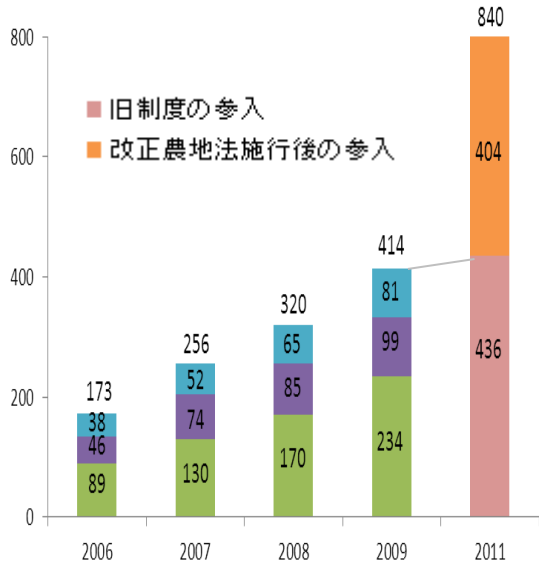
- Scale of agricultural IT market
- Share of sales of services in agricultural and related industries
- Status of global expansion of Japanese-style agricultural service solutions

Signs of innovation in Japan

Corporate entrants into agriculture

- 2009 Agricultural Land Act Amendment energized corporate entrants into agriculture
- 1.5 years after amendment, number of companies doubled to 840 compared to before the amendment

Number of participating companies

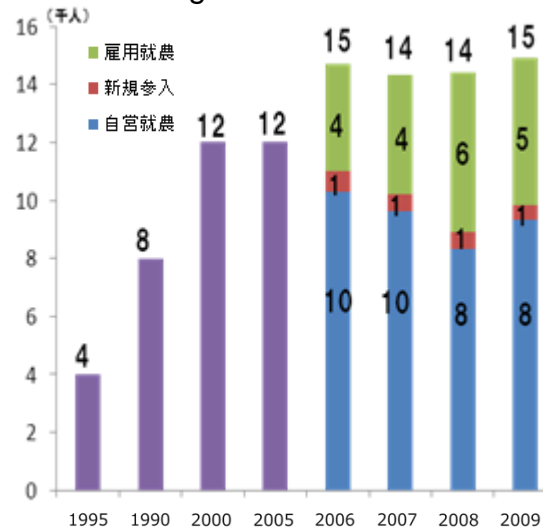


Ministry of Agriculture, Forestry and Fisheries' "2010 White Paper on Food, Agriculture, and Rural Communities"

Trend in new employment in agriculture among younger workers

- Number of people 39 and under entering agriculture rising for past 10 years
- 34% now work at agricultural corporations

Trends in new agricultural workers aged 39 and under

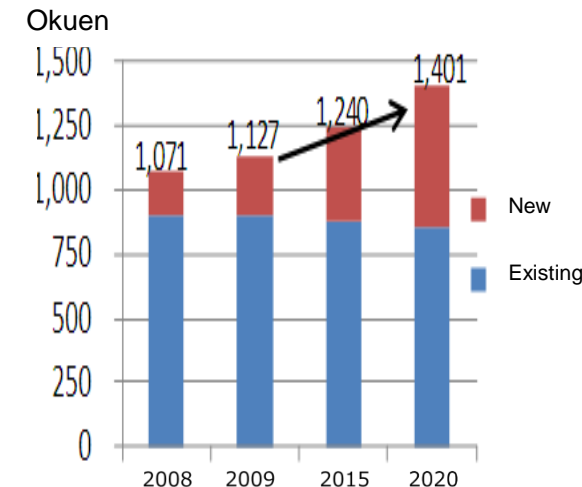


MAFF's "Survey of Trends in Agricultural Employment, Survey of Changes in the Structure of the Agricultural Sector, Agriculture and Forestry Census, Survey of New Employment in Agriculture"

Projected investments in greenhouse farming

- Growth in greenhouse-farming market, where production can be stable
- Investment expected to grow from JPY 112.7 billion in 2009 to JPY 140.1 billion in 2020

Projected scale of greenhouse farming market

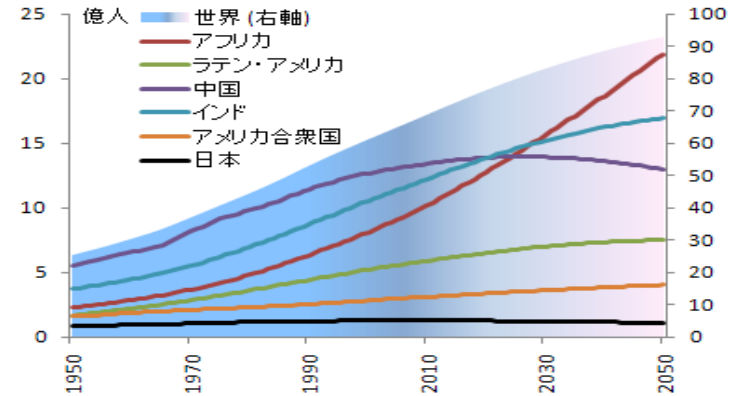
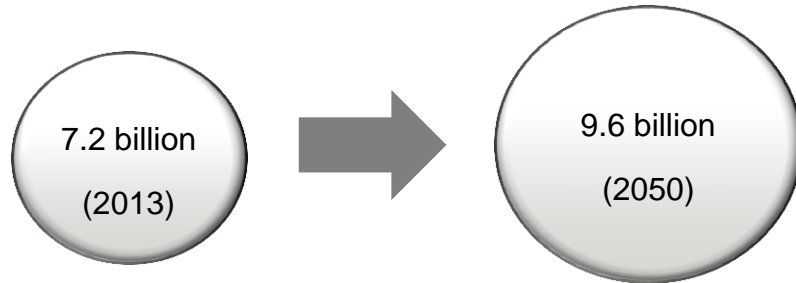


Fujitsu estimates

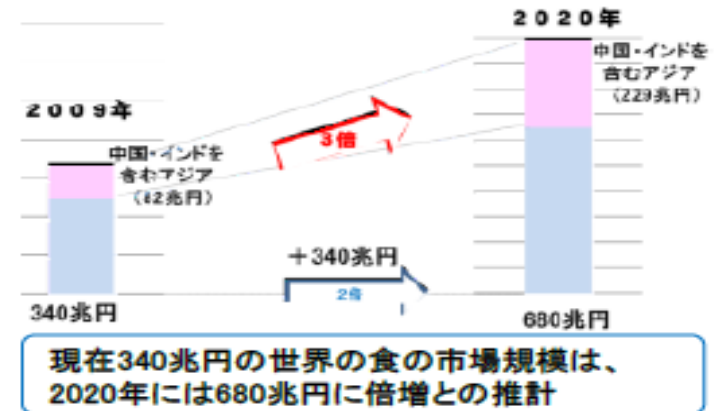
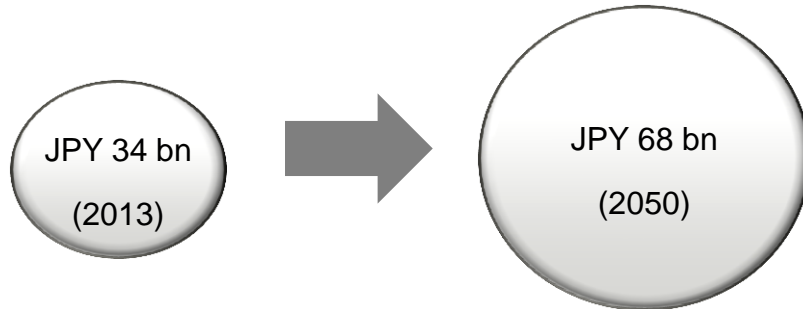
Fast-growing global food and agriculture markets FUJITSU

Agricultural production will need to double from current levels to respond to explosive population growth

■ Global population growth (UN survey)



■ Global food market (MAFF & A.T. Kearney survey)

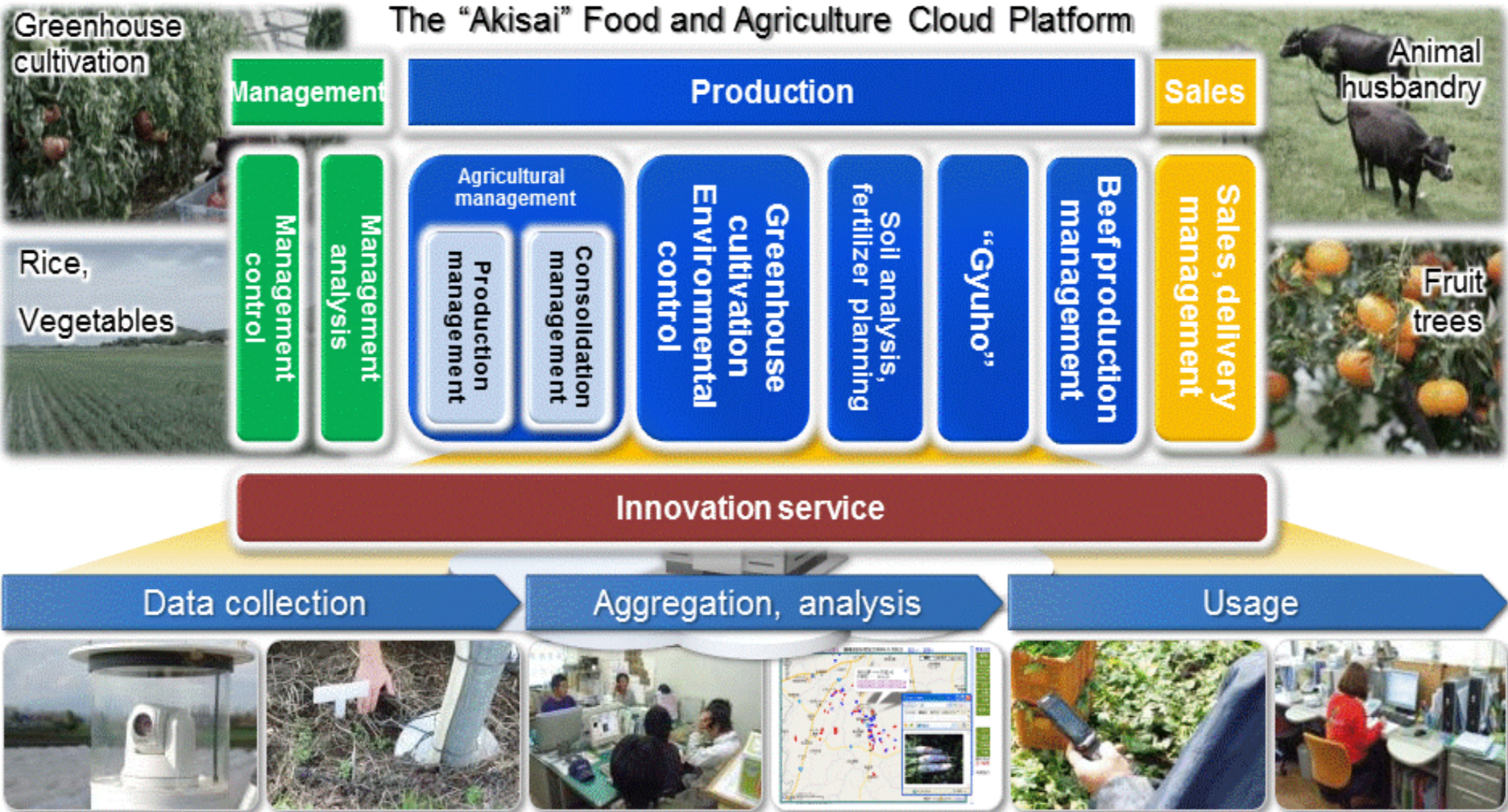


*Asia (including China and India) to rise from JPY 8.2 billion to JPY 22.9 billion (2.8x increase)

Fujitsu's Food and Agriculture Cloud “Akisai”

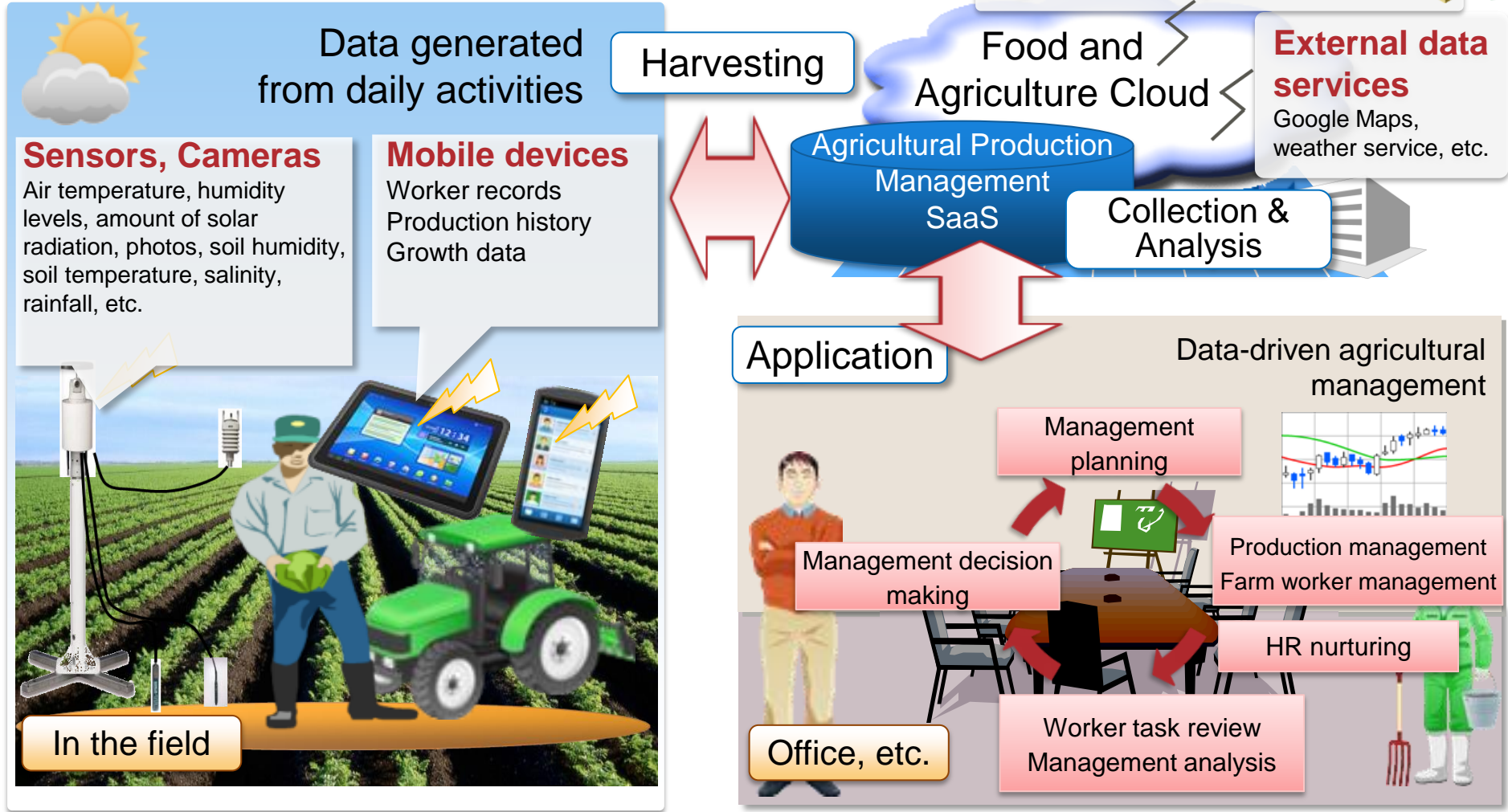
Solution Portfolio

- One-stop ICT solutions by Fujitsu's Food & Agriculture Cloud.
- Variety of innovative solutions and services for agribusiness.



Production Management System for Agriculture

■ Data-driven agricultural management



- Easy to use on site
- Analysis by management
- Centralized management

- Supports mobile devices such as smart phones, tablet PCs



- Easy wizard-guided operation
- Touch screen input – no mouse needed



Easy input of comments and photos

Map-based access to photos, comments from onsite patrols

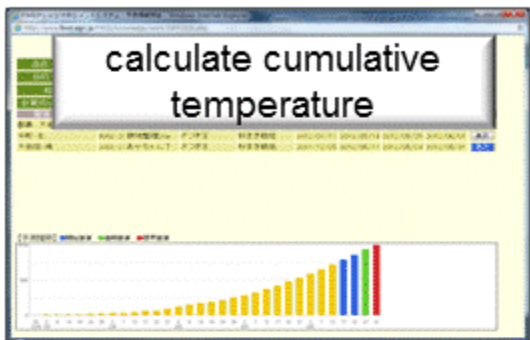
Click on the map for data on crop size, growing conditions, etc.

ID	Date	Location	Image	Comments
130	11/10/26	牛久農場担当2		今年も秋作採り、順調に育ちつつある。ほってじっくり育てる。コメント数:0件
131	11/10/27	和農場担当3		コメント数:0件
132	11/10/27	和農場担当1		R2密植栽培 反当たU4万株入っている。コメント数:0件
134	11/10/26	宇都宮農場担当2		コメント数:0件
135	11/10/26	宇都宮農場担当2		コメント数:0件
136	11/10/26	和農場第二農場長1		29日から出荷予定の里こる又26~30センチ

- Fields managed using mapping services

■ 30% increase of cabbage yield by optimizing farmer's work operation. Predicting harvesting period and production planning.

Predicting harvesting period



Work in proper periods



settled planting

Pictures of cultivation inspection



Advisory from research center



Review and feedback

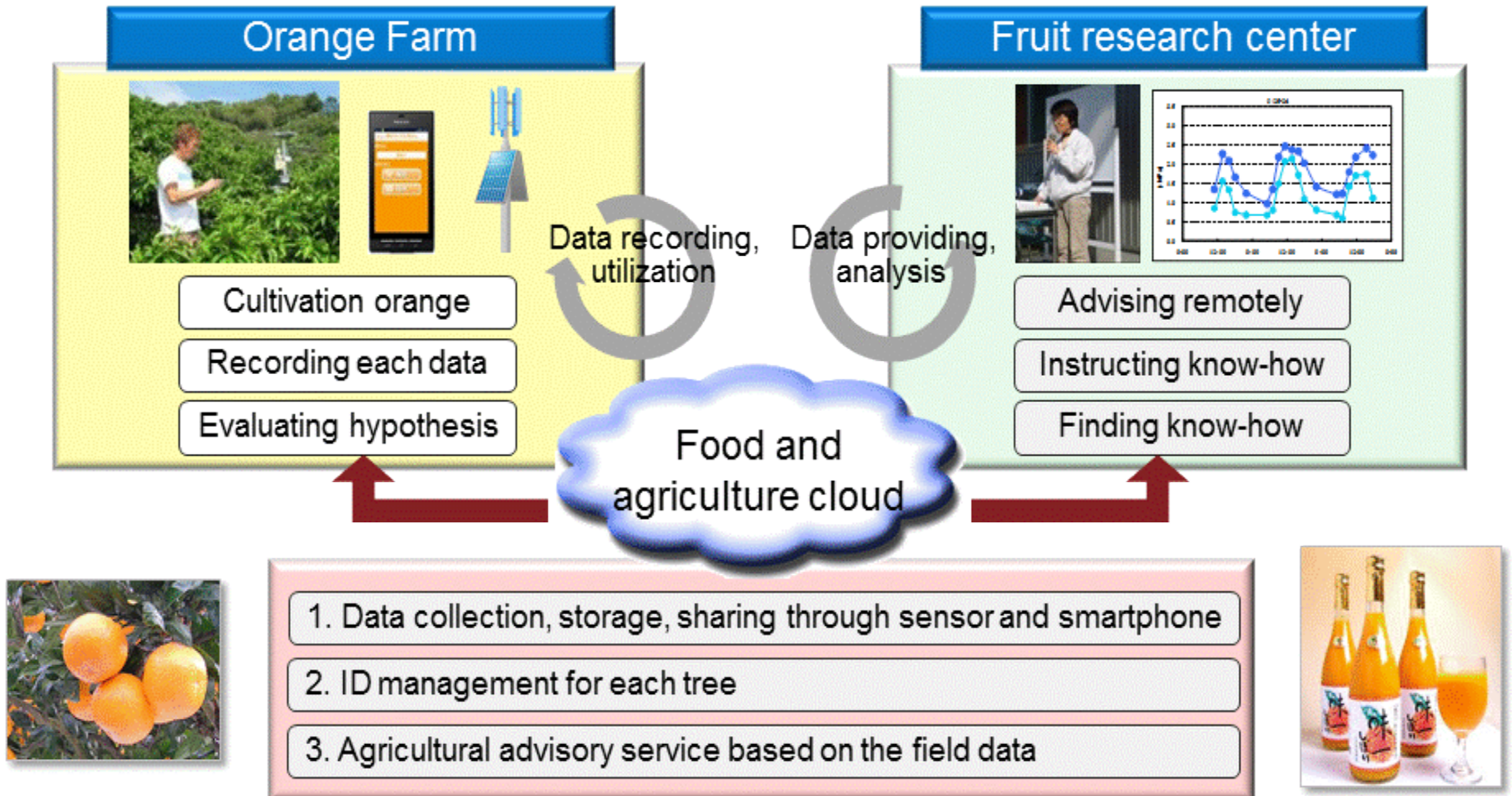
Production planning

Increasing harvest, ensuring stable supplies

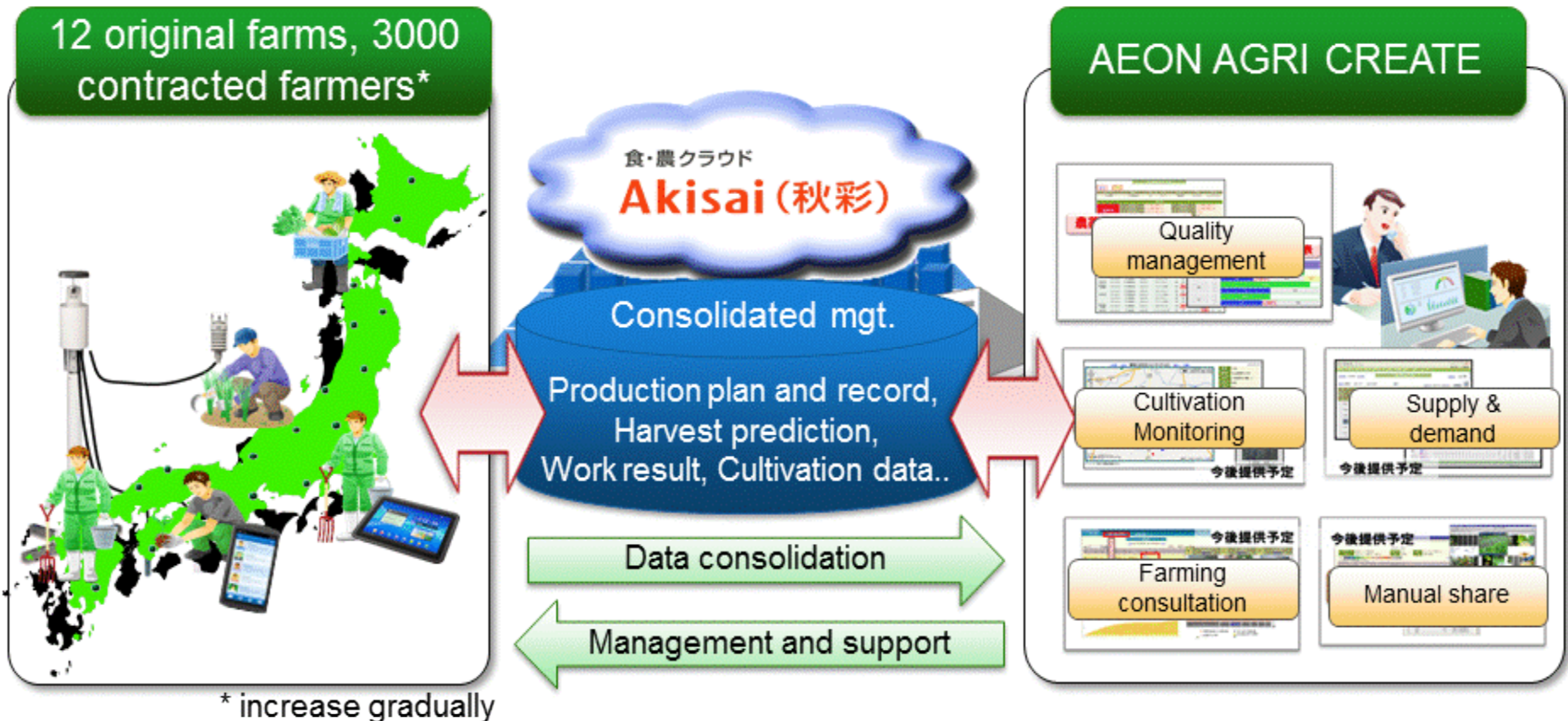
Harvesting



- 300% increase of sugar content in orange yield by optimizing farmer's work operation. Revitalizing local business.



- In direct management farm, realized secure production by visualizing management, production and quality to use cloud of agriculture business and production management.
- Disseminating cloud to contracted farmers as well, aims for consolidated management to realize JIT management.

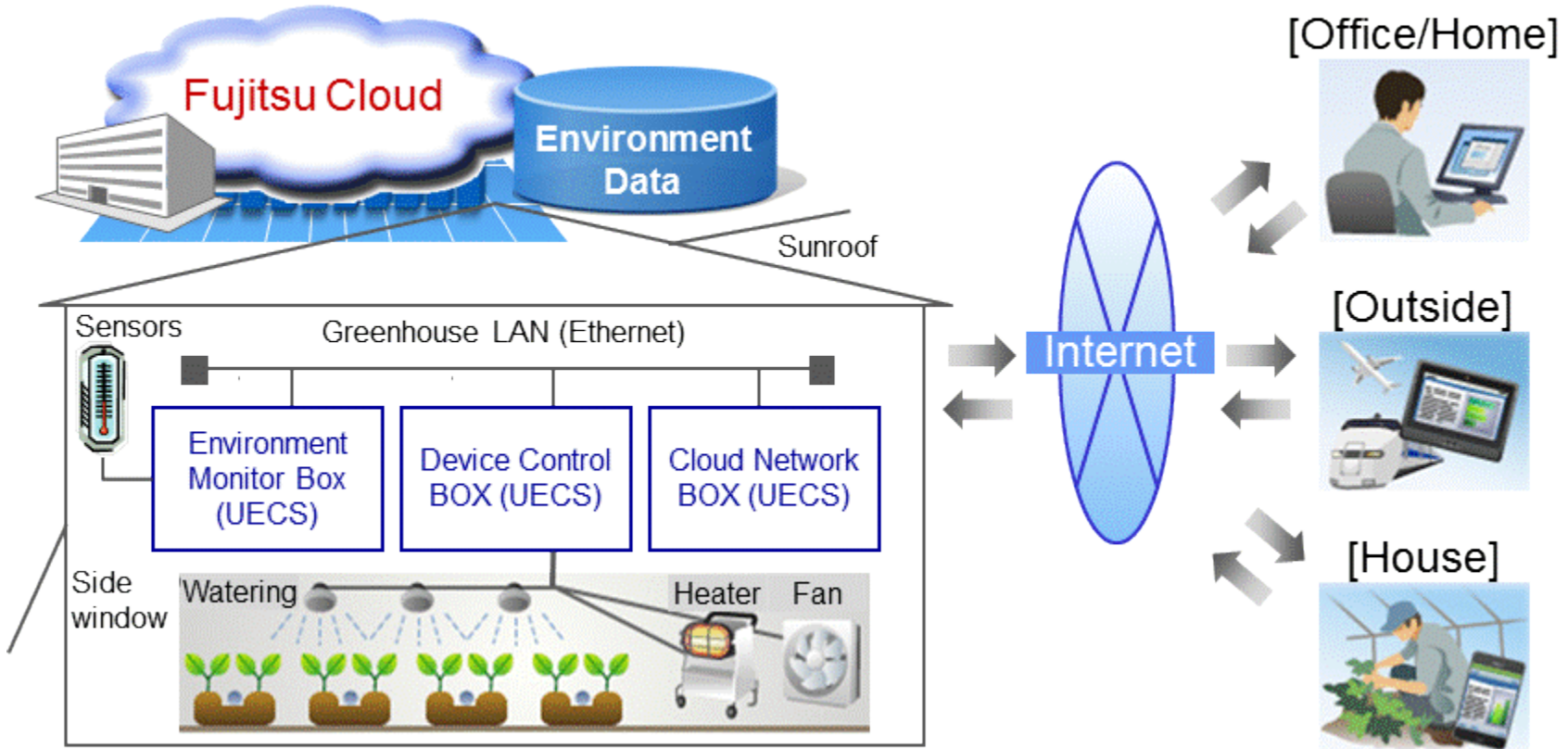


- Building on Iseki's know-how, we customized our agricultural production management cloud, enhancing features for managing agricultural products (now offered as an Iseki service)
- In the future we aim to promote even better data utilization and agricultural management using mechanical information and operational information gleaned from Iseki's agricultural equipment

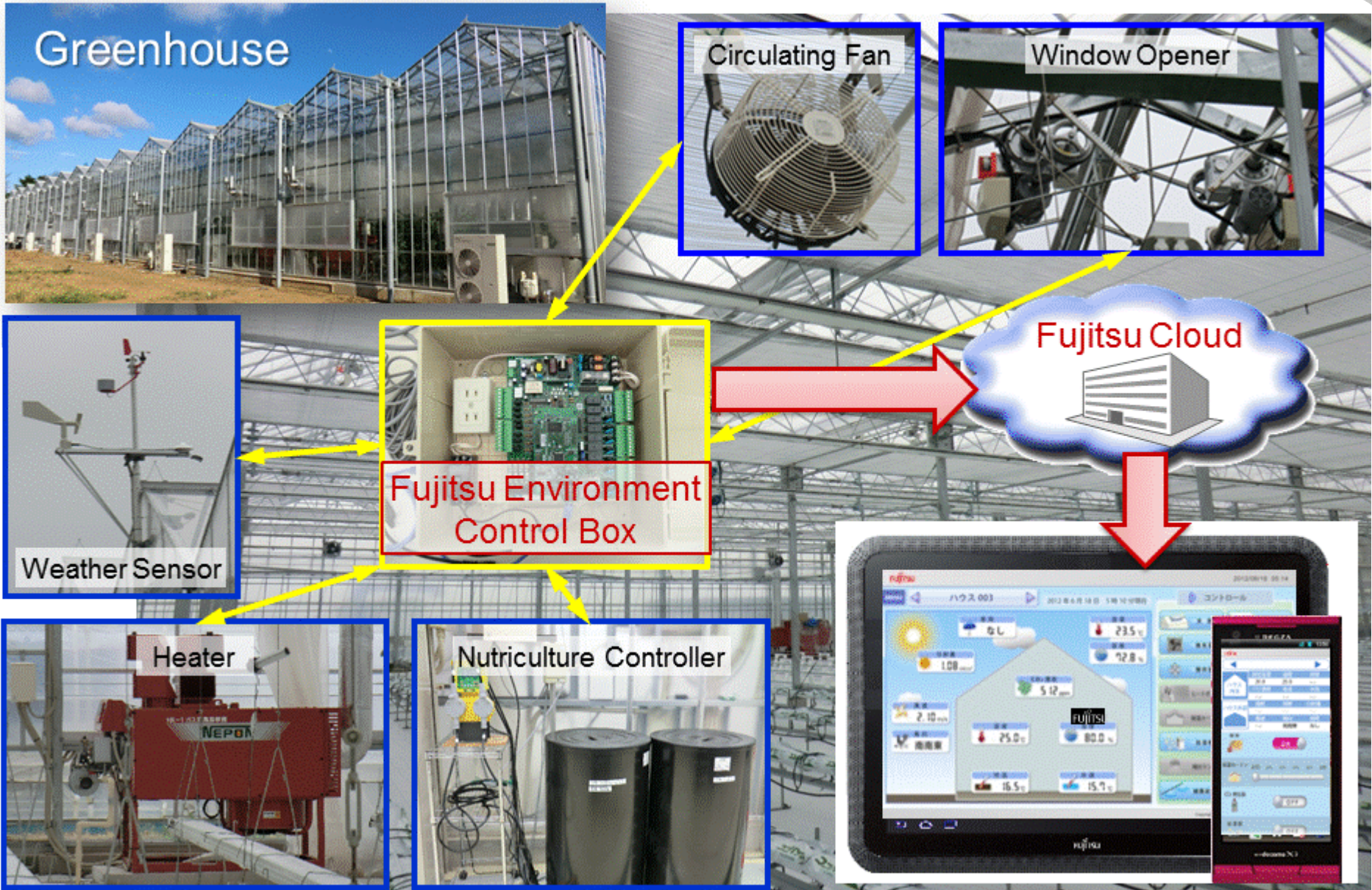


Greenhouse Horticulture System

- Real time monitoring and visualization of the environmental conditions.
- Fully automated environmental condition parameter adjustment within the house appropriately.
- Remote control for each devices and sensors by using smartphone or tablet PC.



At a Glance

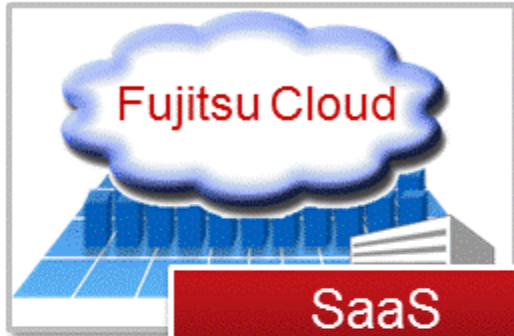


- Japanese railway company JR Kyushu cultivates green pepper “Green Saurus” in Shintomi-cho, Miyazaki Prefecture.
- 250t harvest per year, sales of 1 million US dollars in five years.
- 1.73 ha scale low-cost greenhouse facility in 2.1 ha farmland.
- Expert farmer (Fukuyama farm) offers consultation of cultivating skills. Fujitsu would support greenhouse operation and management by ICT.
- Expected as a new business model and local revitalization.



Aizuwakamatsu Akisai Plant Factory

- Reconstructed previous semiconductor factory into a large scale vegetable factory including 2000 square meters clean rooms. (Open for customers)



SaaS



Vegetable



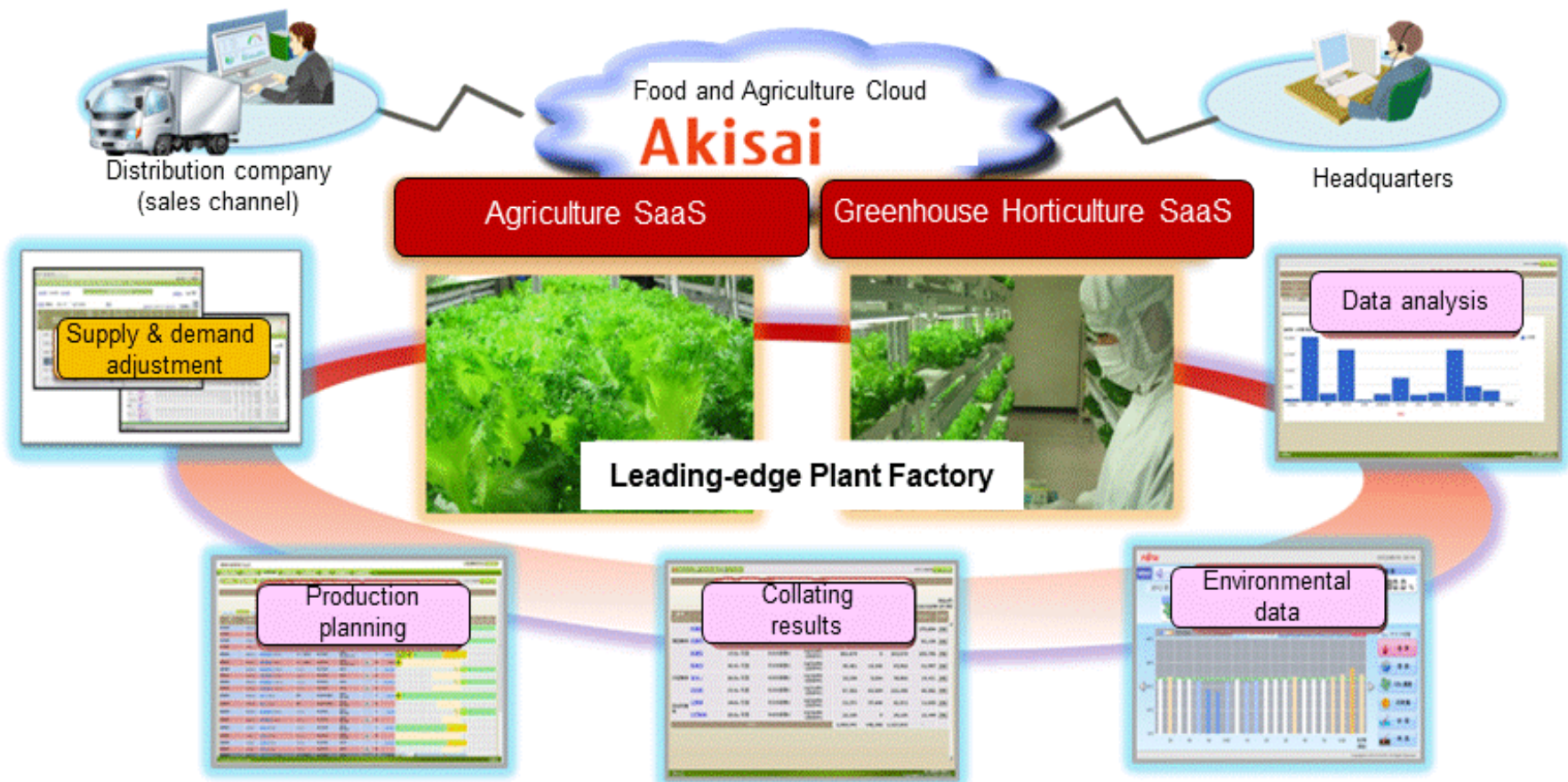
Plant Factory



Operation Center

Data-intensive Agriculture (using Fujitsu's "Akisai" Food and Agriculture Cloud)

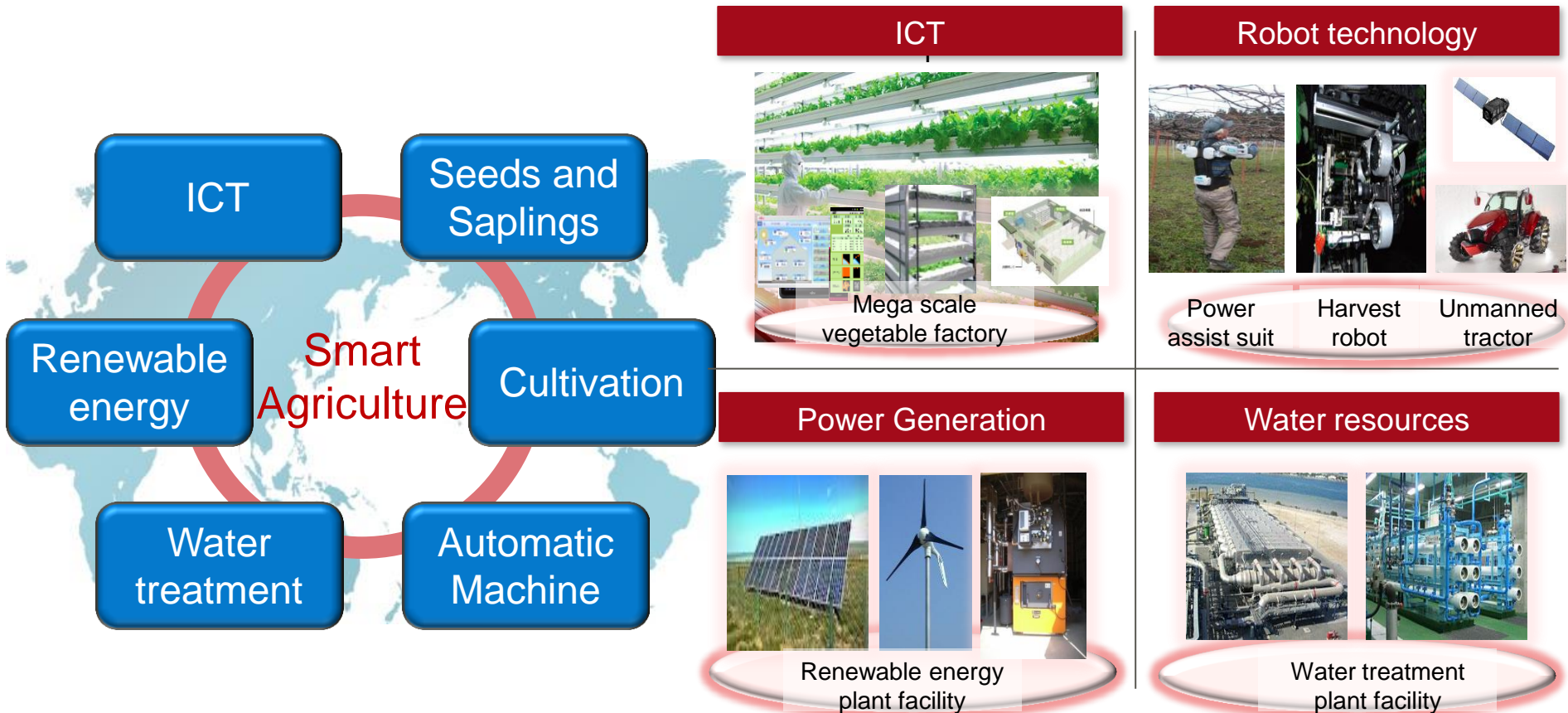
- Visualizing the cost and quality of each process for effective management of production planning and the measurement of results
- Gathering and analyzing environment control data for all production batches



Expansion into global markets

Creating a “smart agriculture” industry

- Establish "smart agriculture" as the crystallization of Japan's technological capabilities in a technology-oriented model of agricultural production
- Build an export industry around industries related to smart agriculture by packaging them ("All Japan" model)



Steps for expanding smart agriculture

- Prove implementation model in Japan > extend internationally
- Establish key technologies as de facto and de jure standards

FY 2014

FY 2015

FY 2016

FY 2017+

Proving implementation model for smart agriculture in Japan:
Collaborate with leading companies in ICT, robotics, energy

Extending implementation model for smart agriculture internationally:
To ASEAN, Middle East, Africa, etc.

Establish key technologies as de facto standards (establish track record):
Japan > Asia > Middle East & Africa, etc.

Establish key technologies as de jure standards:

■ Overview of FPT Corporation

- Major player in Vietnam's ICT industry focusing on ICT services, digital content, mobile retail, outsourcing, education
- Since founding in 1988, has grown quickly and is consistently the leader in Vietnam's ICT industry; with aggressive international expansion, is now in 16 countries.

■ Cooperation agreement on agricultural ICT with FPT

- FPT's Chairman Binh and Fujitsu's President Yamamoto met in March 2014
- Vietnam's President Sang visited Japan in March 2014 and met with President Yamamoto, who proposed the benefits to Vietnam of agricultural ICT
- Fujitsu and FPT have signed a memorandum of understanding.
- Plans to conduct trial project of greenhouse-farming cloud in Hanoi during fiscal 2015



FPT Chairman Binh



Press conference announcing the collaboration between Fujitsu and FPT, Oct 28

Considerations for market expansion

Supporting the entire food & agricultural value chain

Production management for corporate agricultural management



Centralized management directly linked to the field

Supporting innovation that leverages data in agricultural management

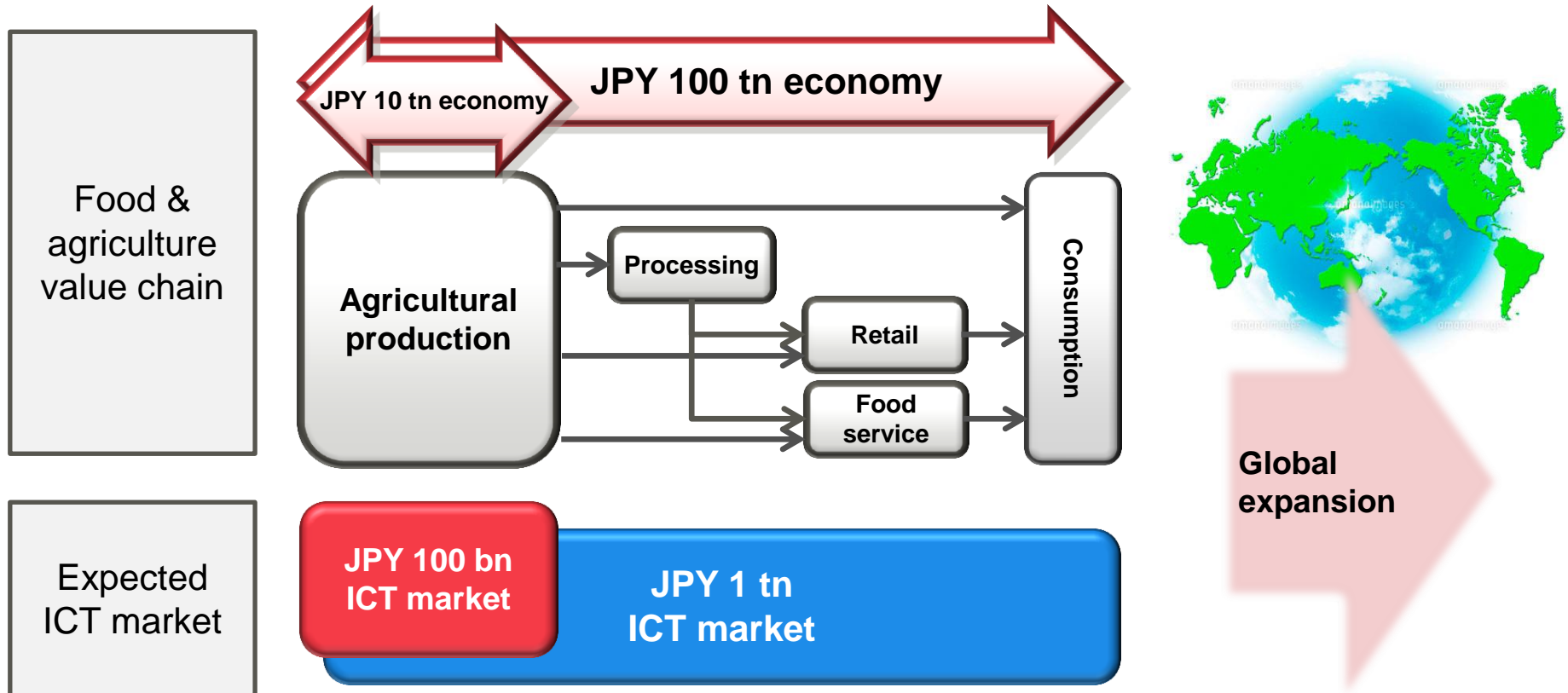
Know-how to put ICT to work in the field

Competitive situation

- Mainly focused on technologies, such as sensing technologies
- Functions supporting corporate agricultural management are weak

Expectations for ICT business in food & agriculture market

- If ICT reaches same penetration as in industry, the ICT market should be worth JPY 1.1 trillion/year (in Japan)
- As smart-agriculture industry, poised to become an All Japan export industry



Growth through social innovation

- Focus resources on the expanding innovation fields
- Expand business by collaborating and co-creating with customers and markets




Cautionary Statement

These presentation materials and other information on our meeting may contain forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. Words such as "anticipates," "believes," "expects," "estimates," "intends," "plans," "projects," and similar expressions which indicate future events and trends identify forward-looking statements.

Actual results may differ materially from those projected or implied in the forward-looking statements due to, without limitation, the following factors:

- general economic and market conditions in the major geographic markets for Fujitsu's services and products, which are the United States, EU, Japan and elsewhere in Asia, particularly as such conditions may effect customer spending;
- rapid technological change, fluctuations in customer demand and intensifying price competition in the IT, telecommunications, and microelectronics markets in which Fujitsu competes;
- Fujitsu's ability to dispose of non-core businesses and related assets through strategic alliances and sales on commercially reasonable terms, and the effect of realization of losses which may result from such transactions;
- uncertainty as to Fujitsu's access to, or protection for, certain intellectual property rights;
- uncertainty as to the performance of Fujitsu's strategic business partners;
- declines in the market prices of Japanese and foreign equity securities held by Fujitsu which could cause Fujitsu to recognize significant losses in the value of its holdings and require Fujitsu to make significant additional contributions to its pension funds in order to make up shortfalls in minimum reserve requirements resulting from such declines;
- poor operating results, inability to access financing on commercially reasonable terms, insolvency or bankruptcy of Fujitsu's customers, any of which factors could adversely affect or preclude these customers' ability to timely pay accounts receivables owed to Fujitsu; and
- fluctuations in rates of exchange for the yen and other currencies in which Fujitsu makes significant sales or in which Fujitsu's assets and liabilities are denominated, particularly between the yen and the British pound and U.S. dollar, respectively.



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