Brief Summary of Intellectual Property Activities

FUJITSU LIMITED
Dec. 2017
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Transformation of Fujitsu Business & related Industry environment
A digital society

- Instead of standardized service and products, personalized value is delivered to each individual in a digital society.
- IT, especially software, help people to create knowledge.

A digital society

- Hunter-gatherer societies transitioned to agricultural societies
- Experienced a dramatic shift from industrial societies to post-industrial information societies.

Source: FT&SV 2017
Co-creating Digital Business

Case: Unleashing the creativity of people

Design Thinking Workshops Digital Transformation Center

Co-creation in Silicon Valley Open Innovation Gateway

Maker Space TechShop Tokyo

Co-creation with Start-ups MetaArc Venture Program

Source: FT&SV 2017
Co-creating Digital Business

Digital Co-creation

- Blending business expertise and digital technology
- Creating new value together with ecosystem partners and customers to shape a different future

Source: FT&SV 2017
Business Model Going Forward

Focus on Technology Solutions

Today

- Technology Solutions
- Ubiquitous Solutions
- Device Solutions

To Be

- Connected Services
  - Services
  - Software
  - SDx Core hardware

“Devices”

Competitive independent businesses
“Connected Services”

Ecosystem for “Connected Services”

Government projects in each country and SDGs

Core Business

Customers

Global leading enterprises and ICT players

Key contributions
Core business support

Co-creation

Services

Alliances

Fujitsu Laboratories
Research & Development

Fujitsu Research Institute
Business model development

Global Frontlines
Knowledge Integration
Key Technologies

Joint research

Talent

Research institutions
Universities
Global partners

Knowledge acquisition

Experts in various fields

Independent Businesses

Synergy

Ubiquitous Solutions
Device Solutions

Source: Presentation Material for Management Direction FY2017 Progress Review June, 2017
Fujitsu IP Strategy & IP Activities

- IP Strategy for supporting Digital Co-creation

"EX^3 \times IP^2"
Fujitsu IP Strategy "EX³ × IP²"

- Handling Intellectual Property as an Innovation Pilot, Strengthen Fujitsu technologies by IP EXpertise, EXplore in the digital ocean for connecting technologies and business, Co-create new value with customer and provide User-EXperience

Intellectual Property × Innovation Pilot

Handling Intellectual Property as an Innovation Pilot

Based on EXpertises

EXploring in the Digital Ocean

for Providing User-EXperience

Intellectual Property team coined the phrase “Innovation Pilot” (new IP definition) to denote:
Internal-External Networking and Connecting together Fujitsu intelligent units, such as R&D Units and Business Units
Summery of Fujitsu IP Strategy

IP Strategy for supporting Digital Co-creation; "EX³ × IP²"

- **SDGs contributions (Case⑥)**
- **Hackathon Support (Case③)**
- **Open Licensing (Case④)**
- **OSS Support**

**IP Activities for “Connected Services”**

- **IP Protection for Core Tech. (Cases①, ②)**
- **Joint R&D Support**
- **Business Support cooperated with Legal team**

**Government projects in each country and SDGs**

**Core Business**

- **Key contributions**
  - Core business support
  - Co-creation
  - Services

**Customers**

**Global Frontlines**

**Knowledge Integration**

**Key Technologies**

**Fujitsu Laboratories**

- Research & Development

**Fujitsu Research Institute**

- Business model development

**Independent Businesses**

- Synergy
  - Ubiquitous Solutions
  - Device Solutions

**Experts in various fields**

**Alliances**

**Knowledge acquisition**

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Case①: TOMOE Corporation

Increased efficiency of assembly inspection by using AR technology

※AR: Augmented Reality

TOMOE Corporation

- Being engaged in a broad range of business areas, from general construction to specialized steel towers, bridges
- Relied primarily on visual inspection of its assemblies, but defective inspections resulted in significant rework
- Developed an assembly inspection system combining AR technology and existing 3D CAD data
- Achieved taking only 2 to 3 minutes for inspection, which is about 10% of the time required for visual inspection as well as elimination human errors.

In Co-Creation project with TOMOE Corporation, Fujitsu AR core technologies, protected by IPR, are combined to resolve inefficient inspection by the customer to create new value.

Source: FT&SV 2017

Case②: Sports ICT

- For Sport ICT, design Fujitsu core technologies (3D sensing, 3D data processing, etc.) for sports science.

- Providing new User-Experience by the Co-creation, connecting customer’s needs and knowledge with Fujitsu core technologies.

3D Sensing

Smart Arena

Desire of Fujitsu Sports

http://sports-topics.jp.fujitsu.com
In Fujitsu Hackathon*, “Hackathon participation Agreement” provided by Fujitsu enables participants to generate or co-create new ideas at their ease.

* Hackathon is an coined word (“Hack” plus “Marathon”), and means design sprint-like event in which several teams, including (internal and/or external) application service engineers, project managers, experts or students, collaborate intensively on given theme for a short term (typically, from one day to one week).

Outcome of the Hackathon is full of unique and excellent ideas to attract customers. Securing the created IP in a timely manner, enables swift launch of the outcome to the agile business prototyping.

[Diagram of the Hackathon process with keypoints: Participation Agreement, Creating Ideas, Prototyping, Outcome presentation, Patent Filing, Risk Hedge, Delivery to customers]
Case④: Open Licensing

- Community contribution to create new business utilizing Fujitsu IP
- Collaborate with local governments or financial institutions. Promote to produce new products or services.
- Enhancing technologies to outside of Fujitsu business territory.

Collaboration Cases with Local Companies

<table>
<thead>
<tr>
<th>Collaboration Cases with Local Companies</th>
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<tbody>
<tr>
<td>KAIODO CO., LTD.</td>
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<td>Code embedding technology for printed images</td>
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<tr>
<td>Printed Nanbu Senbei (Nanbu rice crackers)</td>
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<td>MAC Knife, Inc.</td>
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<td>Photocatalytic Antibacterial Titanium apatite technology</td>
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<td>Antibacterial Knife</td>
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<td>ALCO EX, LTD.</td>
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<tr>
<td>Patent watching sensor technology</td>
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<td>Signing ceremony</td>
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License (Technology Transfer)

Rewards (Royalty)

Desire to produce original products

Business Strategy

New Products/Services

Market

IP Promotion, Subsidy

Local Government

Industrial Promotion Foundation

Supporting R&D

Collaboration

University/Student

Industrial Promotion

Mass Media

Publicity

Financial Institution

Financing, Business Support

Sales Strategy
(Use of Student’s creativity)
Case⑤ : Standardization Activities

- Standardization of **Key Technologies** for “Connected Services”

### IoT
- **IIC (Industrial Internet Consortium) activities to build eco system** (2014～)
- **SEPs and strategic patent filing on 3GPP LTE/LTE-Advanced/Advanced Pro** (2010～)
- **Standardization activities for 5G** (2016～)

### Cloud
- **Full contribution to issue a guideline for improving DC (Data Center) environment performance** (2015～2017)
- **OpenStack activities for enhancing Fujitsu specs.** (2013～)

### Security
- **Activities to establish a security platform for connected vehicle** (2003～)
- **Standardization activities for biometric authentication** (2002～)

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Case 6: Collaboration with International Framework for Co-Creation

- Partnership with WIPO GREEN in September, 2017

**Enhancement of Fujitsu Technologies**

**Partnership with WIPO GREEN**

**Co-Creation with Global Companies toward SDGs goal**

**WIPO GREEN** provides world wide DB for entry of technologies and needs, and holds matching events supported by government institutions.

- 200 patents (HEMT AC adapter, etc.) registered to WIPO Green
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