

Research & Development (Fujitsu Laboratories Ltd.)

[Established]	November 1968 as Fujitsu Laboratories Limited (Originally established in 1962 as an internal unit of Fujitsu Limited)
[President]	Hideyuki Saso
[Capital]	5 billion yen
[Employees]	Approx. 1,200 employees in Japan

With the mission of leveraging leading-edge technologies to support the Fujitsu Group's brand promise, "shaping tomorrow with you," Fujitsu Laboratories serves as a central pillar of the Fujitsu Group's research and development (R&D) activities. The company conducts R&D on advanced technologies in a wide range of fields, from next-generation solutions and services to systems, networking technology, devices, and materials.

■ R&D Sites in Japan

Fujitsu Laboratories currently operates two research sites in Japan, located in Kawasaki and Atsugi. Nine laboratories focus on a respective areas, and two offices which provide research and development support, work together to propel research and development activities.

ICT Systems Laboratories

ICT Systems Laboratories works on system products and ICT infrastructure service technologies for servers, storage, networks, platform software, database systems, HPC, and data centers to lay a strong foundation for connected infrastructures.

Network Systems Laboratories

Aiming to help construct next-generation networks, Network Systems Laboratories researches and develops technologies for providing systems and services in the areas of network architecture, control methods, optical communications, and wireless communications.

System Software Laboratories

System Software Laboratories focuses on system lifecycle management, operational management, big data processing, and distributed service infrastructures to help support next-generation cloud platforms for innovation-oriented fields.

Human Centric Computing Laboratories

In hopes of building a new information-processing paradigm that puts the priority on people, Human Centric Computing Laboratories researches and develops technologies for mobile computing architecture that fuses smart devices with the cloud, human interfaces that use ubiquitous devices, and real-life solutions.

Media Processing Systems Laboratories

Media Processing Systems Laboratories works on media information transmission/display/processing (treatment and recognition, etc.), high-volume media data processing, speech language processing systems, human sensing, and environment sensing to provide front-end systems and services for processing and utilizing media through the integration of information, communications, and transmission.

Ubiquitous Platforms Laboratories

Ubiquitous Platforms Laboratories conducts research and development on technologies related to ubiquitous product architecture construction for connecting people with the cloud and ubiquitous front architecture construction for linking things with the cloud through sensing technology.

Social Innovation Laboratories

Working to create new solutions in the social innovation field, which stands at the core of Fujitsu's growth strategy, Social Innovation Laboratories researches and develops technologies for knowledge platforms that integrate, analyze, and optimize large amounts of wide-ranging data and knowledge within corporate and social frameworks and security for creating safe, secure enterprise and social infrastructure systems that help fuse together data for social innovation and build a safe utilization infrastructure.

Devices & Materials Laboratories

Devices & Materials Laboratories researches and develops high-speed, high-output, and high-sensitivity terminal devices with astounding performance capabilities, implements technology that minimizes device size and weight, and green technologies for improving system energy efficiency in order to give products better performance and reliability.

Product & System Engineering Laboratories

To make products as competitive as possible, Product & System Engineering Laboratories works on the full range of production technologies (from the design and development of hardware/software products and systems all the way to production), product element technologies for things like chassis materials, structural analysis, and cooling, and manufacturing technologies mainly for items such as production line automation elements and inspections.

R&D Strategy and Planning Office

R&D Management Office

■ Research Direction

Fujitsu Laboratories receives development funding from Fujitsu and its affiliates, and returns this value to the Fujitsu Group with research and development results.

Fujitsu Laboratories has classified its framework for research into three categories—research for near-term commercialization, advanced research, and seeds-oriented research—to orient its work in a clear structure along the research and development time axis. Through this framework, Fujitsu Laboratories carries out strategic research and development for the future of the Fujitsu Group, aligns business segment strategies with research strategies, and enhances resource shifts in response to changes in Fujitsu's business portfolio.

Research for near-term commercialization, which represents approximately 30% of all research, has direct links to current business, operates on a clearly defined commercialization plan, and receives funding from business units and affiliates.

Accounting for around 50% of all research expenses, advanced research is research that will create new business, expand business, or enhance the competitiveness of existing business from a medium- to long-term perspective. The Fujitsu Group deliberates and agrees on research and development themes, selecting those that will point Fujitsu Group business in the right direction for the future.

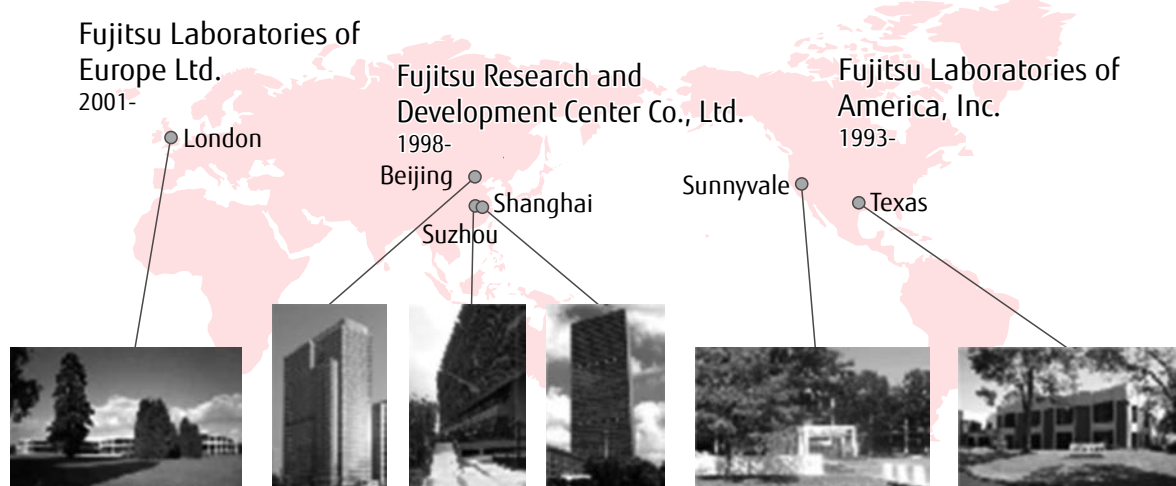
Seeds-oriented research focuses on taking a long-term approach toward revolutionary, innovative technologies that fit within the Fujitsu Laboratories vision.

Fujitsu Laboratories selects research topics for seeds-oriented research, which represents approximately 20% of the overall research effort.

Through open innovation, Fujitsu Laboratories also launches and participates in national projects and engages in joint research with universities and other research institutions to give its initiatives a flexible, dynamic scope that ranges from early incorporation of technology to long-term development of basic technologies. The organization is currently at work on 107 projects in 16 countries around the world.

■ Global R&D Sites

Fujitsu Laboratories has R&D sites in the US, China, and Europe that pursue R&D within a global framework. Global R&D sites contribute to technology marketing, partner collaboration, human resource training, and regional business. By forging close, collaborative relationships with local universities and research institutions, the global sites also research technologies designed to meet the needs of local markets.



Fujitsu Laboratories of America, Inc (USA) [Capital] US\$4.8M [Employees] Approx. 70 employees

From its advantage-rich location in Silicon Valley, Fujitsu Laboratories of America explores ways of co-existing with the community, investigates the latest ICT technology trends, and does research and development on topics like health care, smart grids, optical networks, and education.

Fujitsu Research and Development Center Co., Ltd. (China) [Capital] US\$4.4M [Employees] Approx. 110 employees

Fujitsu Research and Development Center focuses its technological development initiatives on expanding business in China by researching and developing advanced Chinese recognition technology, image processing technology for disaster preparedness and disaster mitigation, approaches to environmental issues, smart cities, and more.

Fujitsu Laboratories of Europe Ltd. (Europe) [Capital] £670.0K [Employees] Approx. 50 employees

Concentrating on joint research in Europe, Fujitsu Laboratories of Europe works on topics like wireless network standardization, supercomputer applications, and big data processing.

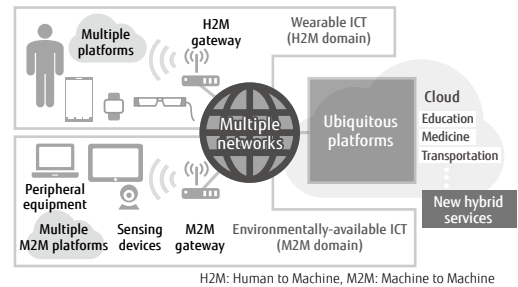
Research Topics

Fujitsu Laboratories aligns its research and development efforts with the Fujitsu Technology and Service Vision's three approaches to realizing innovation—human empowerment, creative intelligence, and connected infrastructure—and the common foundation that forms the basis for those approaches.

Human Empowerment : ICT-based support of people's decision-making and activities

- Researching and developing technologies that use mobile devices and other ICT to help people make decisions and take action based on their surroundings
- Human interfaces and devices, sensor networks, media processing technologies, and more

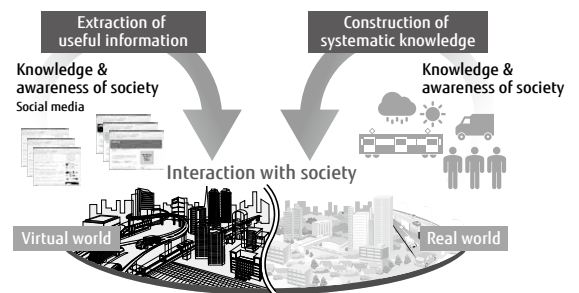
Ubiquitous Front-end Platforms



Creative Intelligence : Knowledge creation by leveraging information

- Researching and developing technologies that foster new knowledge by utilizing massive, diverse amounts of information (big data)
- Solving social problems and enriching society by expanding social business in the fields of the environment, energy, disaster preparedness, transportation, distribution, education, health, and more

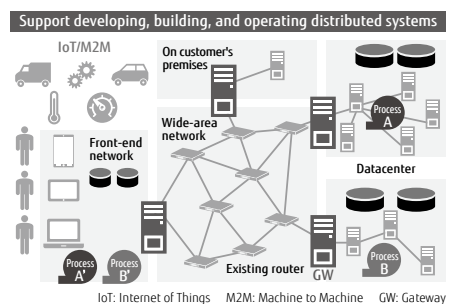
Social Intelligence



Connected Infrastructure : Optimization enabled via connecting people, things, and social infrastructure

- Developing technologies for constructing ICT systems that quickly and proactively connect people, things, information, and social infrastructures and offer compatibility with a wide range of different usage environments
- Integrating computing, networks, and applications (SDN and NFV, etc.)

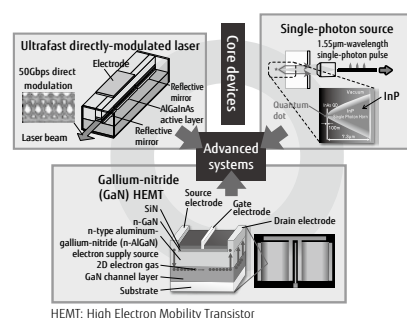
Scalable Distributed Services Platforms



Common Foundation

- Researching and developing core technologies that support the Fujitsu Group's product business by maximizing technological capabilities, quality, reliability, and environment-friendliness
- Developing the hardware, software, electronic devices, and implementation technology that technology value chains need, thereby aiding in the effort to enhance ICT value around revolutionary manufacturing technology

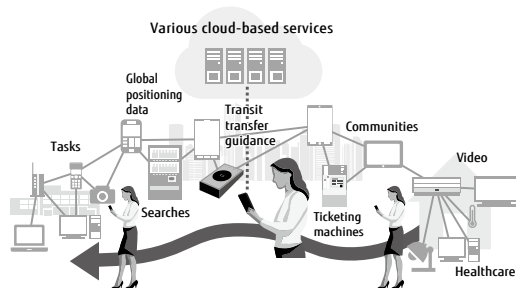
Core Devices



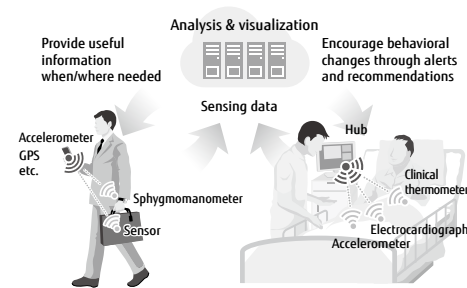
In order to help realize Fujitsu's vision of a "human centric intelligent society," the laboratories promote research activities that stretch beyond the boundaries of the Fujitsu Technology and Service Vision.

Human Centric Computing Laboratories Ubiquitous Platforms Laboratories Media Processing Systems Laboratories

Mobile Services Platforms

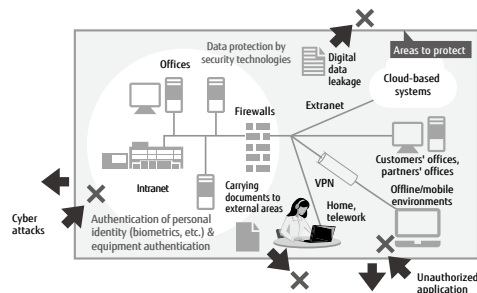


Human Sensing

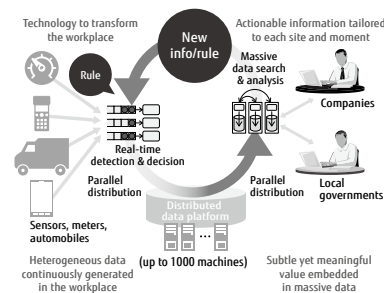


Social Innovation Laboratories

Security

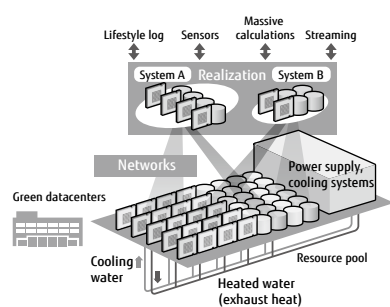


Actionable Big Data

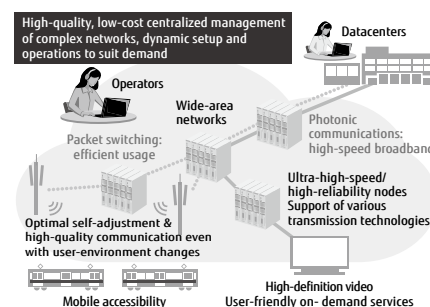


ICT Systems Laboratories Network Systems Laboratories System Software Laboratories

Server Architecture

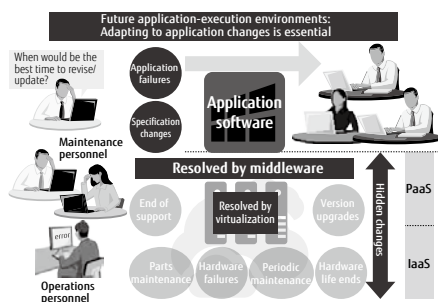


Network Services Platforms

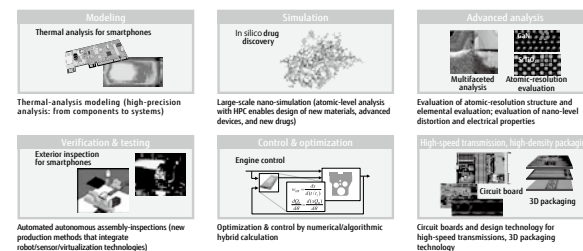


Product & System Engineering Laboratories Devices & Materials Laboratories

Software Engineering Technologies



Hardware Engineering Technologies



<Useful Websites>

1. Global Site:
<http://www.fujitsu.com/global/>
2. Recent Press Releases:
<http://www.fujitsu.com/global/about/resources/news/press-releases/>
3. Investor Relations:
<http://www.fujitsu.com/global/about/ir/>
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