Fujitsu: 25 Years of Workstation Innovation

Cadalyst takes a look back at the company's history of delivering engineering breakthroughs and industry-first products for CAD/BIM/CAE applications.

Worldwide, Fujitsu is a leading provider of computer technologies for business, including workstations designed for CAD, building information modeling (BIM), simulation, media and entertainment, geographic information systems, and other demanding applications. Yet over its 25-year history, as the company has pursued the workstation markets in Europe, Asia, and Africa, the Fujitsu brand has remained largely unknown in the United States.

To help CAD professionals in the United States better understand the company, this overview provides insight into Fujitsu and its two-and-a-half decades of growth in the workstation market. Read on for a look at the company that invented the first Microsoft® Windows®/Intel®–based desktop workstation, created the mobile workstation market, and is responsible for numerous other technology breakthroughs and market firsts.

Getting to Know Fujitsu

With 159,000 employees in more than 100 countries, Fujitsu offers a wide-ranging portfolio of technology products, solutions, and services. The company develops and manufactures mobile workstations in Shimane, Japan, and desktop workstations and servers in Augsburg, Germany. Japanese strengths in high-tech are blended with German engineering excellence that results in state-of-the-art hardware and software development, from specification to the finished product.

In Augsburg, the entire desktop workstation and server development team works together on one campus, considered to be the most modern computer factory on the European continent. All key manufacturing disciplines — product management, product development, supply chain and quality, production, and third-line support — are housed under the Augsburg roof, and BIOS and motherboards are developed in-house. All this equates to a factory that has the flexibility to fulfill specific customer requirements, and it results in the highly reliable desktop and rack workstations and whisper-quiet desktops that are synonymous with the Fujitsu brand.

From the editors of

cadalyst

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» *Fujitsu's facility in Augsburg, Germany, is considered to be the most modern computer factory on the European continent. Click to view the virtual factory tour.*

Maximum product performance is the focus there, and a high degree of pride reflects the quality of products produced. When it comes to workstation design, the development team adheres to four primary values:

- **Reliability** built on system quality, expertise, and excellence that has led to comprehensive ISV certifications. BIOS and mainboards are developed in-house, along with other components and modules developed with longevity in mind.

- **Human-centric** — that is, ergonomic, user-oriented products. Notably, desktop workstations are whisper quiet, delivering high performance without liquid cooling for even the most compute-intensive applications.

- **Innovation** in notable areas including thermal management and unique palm vein recognition technology for mobile workstation security.

- **Green** design principles guide materials specifications, packaging options, and energy-optimized manufacturing, which in turn have led to green product certifications and awards.

Fujitsu also offers customized hardware development and services for companies that integrate workstation components into their own hardware products. Because customized products are often expected to have longer lifecycles than the typical workstation, Fujitsu works to maximize longevity of components. Custom products and services is a key part of Fujitsu business.

25 Years of Engineering Feats and Industry Firsts

Fujitsu has built its reputation for engineering excellence over two-and-a-half decades in the workstation market. Following are highlights of that history.

1990 The seeds of the company were planted with the merger of Siemens and Nixdorf to form Siemens Nixdorf Informationssysteme AG (SNI, Siemens Nixdorf).

In 1991, the company released its first self-branded workstation, the UNIX®-based WX200, which included 8 MB of memory and a 168-MB hard drive, priced at $47,000. In 1992, it moved into the 3D graphics workstation arena in cooperation with Silicon Graphics® (SGI), and the partnership lasted until 1995.

The company sold MIPS®-based UNIX® workstations for five years, until new technologies appeared on the horizon that would turn the market upside down — and it was Fujitsu that led the way.

» At Fujitsu Forum 2015 in Munich, Germany, the company celebrated 25 years in the workstation market. On display were several models from throughout that history, including the CELSIUS 1 desktop workstation and the first CELSIUS Mobile workstation (shown stacked).

1995 The visionary team began to developing the CELSIUS 1. It would become the first personal workstation based on Intel architecture and the first to support the Microsoft Windows operating system — and at a much lower price than its UNIX®-based predecessors.

Launched in November 1995, the CELSIUS 1 incorporated

- faster Intel CPUs (200-MHz Intel® Pentium® Pro),

- OpenGL® (available with Microsoft Windows NT), and

- new 3D graphics technology targeting the PCI™ interface (production boards based on 3D Labs® graphics acceleration technology).

Industry first: Fujitsu develops the world's first Windows®/Intel®–based workstation, revolutionizing the computing market.

Fujitsu, Intel, and Microsoft introduce the term "personal computer" in 1995.

» *Fujitsu's Wilhelm Geyer, director of workstation product management, emeritus, walks viewers through the company's 25 years of workstation technology innovation. [Click here to view the video](#).*

1998
Company launches the second-generation CELSIUS 1000 and 2000, which were three times faster than the next-fastest Intel®-based machine, according to the SPEC performance benchmark. The third-generation CELSIUS 420 and 630, introduced a year later, were the fastest Intel® Pentium® III Processor (PIII) and PIII–Intel® Xeon® machines at the time.

1999
Company invents another new market category with the world's first mobile workstation, the CELSIUS Mobile. It included:

- a revolutionary magnesium chassis, detachable keyboard, and 15" display and
- a Mobile Intel® Pentium® II processor (400 MHz), up to 512 MB of memory, up to a 3-GB hard drive, 6+ hours of battery life (two batteries), stereo sound, integrated chip card reader, and ISV certification for leading applications (PTC Pro/ENGINEER®, Unigraphics® [UGS], SolidWorks®, and Nemetschek Allplan®).

Industry first:
Fujitsu creates the first mobile workstation — and the mobile workstation market.

2001
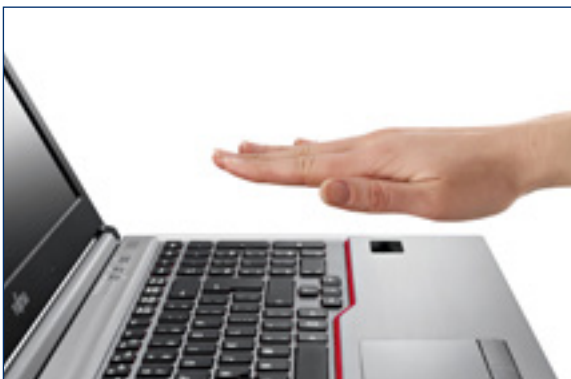Company launches second-generation CELSIUS Mobile 2.

2003
Company launches the first CELSIUS Mobile H.

2004
Company launches first AMD Opteron™–based workstation, offering 64-bit architecture support.

2011
Company launches the FUJITSU CELSIUS C620, the first 1U rack-mount workstation with professional graphics. The CELSIUS C series of rack workstations offers full workstation performance in a compact 1U, making it ideal for any type of remote graphics solution in the data center: Remote Access (1:1), GPU pass-through, or graphics virtualization (1:n). Later, with the addition of the new NVIDIA® GRID™ K2 graphics processor, graphics virtualization took hold.

Industry first:
Fujitsu launches compact rack-mount workstation with professional graphics; CAD users are among the first to adopt it.

2013

Company introduces Palm-Secure™ palm vein authentication on the NVIDIA Quadro®–equipped FUJITSU CELSIUS H730 mobile workstation for highly secure applications.

Industry first: Fujitsu marries palm vein authentication with the mobile workstation.

» FUJITSU's CELSIUS H730 mobile workstation with PalmSecure palm vein recognition technology.

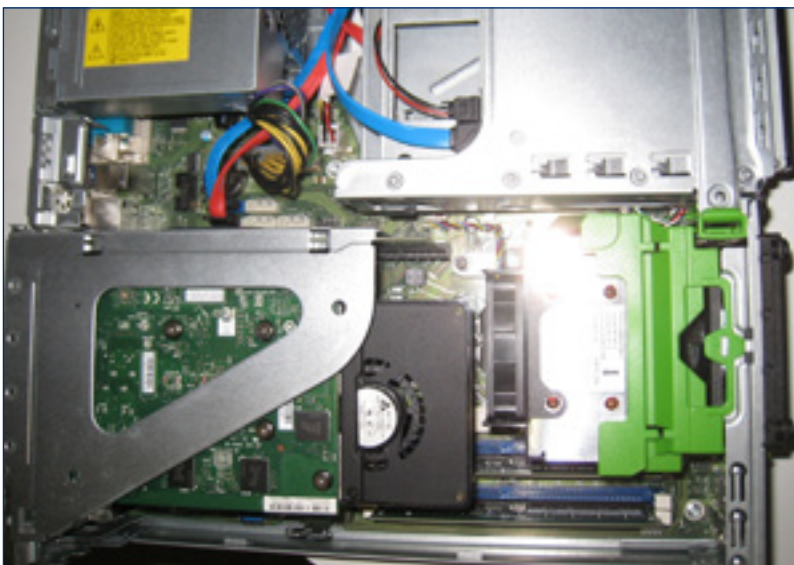**Industry first:** Fujitsu delivers the performance of a full-size desktop workstation in the compact SFF footprint.

2015

Company launches the FUJITSU CELSIUS J550, the first small–form factor (SFF) desktop workstation with full-height graphics card, including the industry-leading NVIDIA Quadro® M2000.

» A full-height professional graphics card, the NVIDIA Quadro® M2000, is shown inside the compact FUJITSU CELSIUS J550 SFF workstation.

Looking Back, Looking Ahead

In addition to 25 years of workstation innovation, Fujitsu is celebrating 80 years of company history. Click here to view the video.

The Fujitsu workstation team has even more innovative workstation developments in the pipeline. Stay tuned! ❖