Fujitsu recommends Windows 11 Pro.

Data Sheet
Fujitsu Workstation CELSIUS R970

Uncompromising Workstation Performance for Extreme Requirements

Do you require the maximum in performance for simulations, analysis, rendering or High Performance Computing? Fujitsu’s CELSIUS R970 desktop workstation is designed to surpass all expectations. Achieving first-class benchmark results, this reliable, high-end dual processor desktop workstation is optimized for extremely demanding and memory intensive multi-threaded applications.

Unleash the power
Achieve the optimum out of any demanding application
- Up to 2nd Gen Intel® Xeon® Scalable Processors
- Support of Windows 11 Pro
- Support of up to 1024 GB DDR4 2,933 ECC memory
- FUJITSU SSD PCIe card (up to 2 x 2 TB)

Maximum expandability
Broad selection and configuration options
- Broad choice of professional graphics cards from AMD and NVIDIA
- Up to two ultra-high-end, three high-end 3D or four mid-range graphic cards for simulation or photorealistic renderings

Work around the clock
Certain components can be configured to support an extended lifetime usage
- Selection of top-quality components and comprehensive testing in certified in-house laboratories
- Full support for ISV applications and easy integration into existing IT environments

We are (VR) ready
Enjoy a fully immersive and real-time Virtual Reality experience with low latency at high frame rates
- Up to NVIDIA RTX™ A6000 VR-ready graphics cards
Fujitsu recommends Windows 11 Pro.

Components

Processor
- Intel® Xeon® Silver processor 4215R (8C, 3.20 GHz, up to 4.0 GHz)
- Intel® Xeon® Silver processor 4214R (12C, 2.40 GHz, up to 3.5 GHz)
- Intel® Xeon® Silver processor 4210R (10C, 2.40 GHz, up to 3.2 GHz)
- Intel® Xeon® Gold processor 6240R (24C, 2.40 GHz, up to 4.0 GHz)
- Intel® Xeon® Gold processor 6226R (16C, 2.90 GHz, up to 3.9 GHz)
- Intel® Xeon® Gold processor 5220R (24C, 2.20 GHz, up to 4.0 GHz)
- Intel® Xeon® Gold processor 5218R (20C, 2.10 GHz, up to 4.0 GHz)
- Intel® Xeon® Platinum processor 8276 (28C, 2.20 GHz, up to 4.0 GHz, 10.4 GT/s)
- Intel® Xeon® Gold processor 6244 (8C, 3.60 GHz, up to 4.4 GHz, 10.4 GT/s)
- Intel® Xeon® Gold processor 6240 (18C, 2.60 GHz, up to 3.9 GHz, 10.4 GT/s)
- Intel® Xeon® Gold processor 5222 (4C, 3.80 GHz, up to 3.7 GHz, 10.4 GT/s)

Operating systems
- Linux
  * FREE Upgrade to Windows 11*
  * Upgrade timing may vary by device. Features and app availability may vary by region. Certain features require specific hardware (see aka.ms/windows11-spec).

Memory modules
- 512 GB (4 module(s) ) Intel® Optane™ persistent memory: 4x DCPMM 128GB 2666 MHz, 8x DDR4 RG 16GB 2933 MHz, 8 GB (1 module(s) 8 GB) DDR4, registered, ECC, 2,933 MT/s
- 16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,933 MT/s
- 32 GB (1 module(s) 32 GB) DDR4, registered, ECC, 2,933 MT/s
- 64 GB (1 module(s) 64 GB) DDR4, registered, ECC, 2,933 MT/s

Graphics
- High-end 3D: NVIDIA® RTX™ A4000, 16 GB, PCIe x16, 4 x DisplayPort
- Entry 3D: AMD Radeon™ Pro WX 3200, 4 GB, PCIe x16, 4 x miniDP
- Ultra-high-end 3D: NVIDIA® RTX™ A6000, 48 GB, PCIe x16, 4 x DisplayPort
- Ultra-high-end 3D: NVIDIA® RTX™ A5000, 24 GB, PCIe x16, 4 x DisplayPort
- Midrange 3D: NVIDIA® RTX™ A2000, 6 GB, PCIe x16, 4 x DisplayPort
- High-end 3D: NVIDIA® RTX™ A4500, 20 GB, PCIe x16, 4 x DisplayPort
- Ultra-high-end 3D: NVIDIA® Quadro® GV100, 32 GB, PCIe x16, 4 x DisplayPort
- Ultra-high-end 3D: NVIDIA® Quadro® RTX 6000, 24 GB, PCIe x16, 4 x DisplayPort, 1 x Virtual Link
- Ultra-high-end 3D: NVIDIA® Quadro® P6000, 24 GB, PCIe x16, 1 x Dual Link DVI-D, 4 x DisplayPort
- High-end 3D: NVIDIA® Quadro® RTX 4000, 8 GB, PCIe x16, 3 x DisplayPort, 1 x Virtual Link
- Midrange 3D: NVIDIA® Quadro® P2200, 5 GB, PCIe x16, 4 x DisplayPort
- Entry 3D: NVIDIA® T1000, 4 GB, PCIe x16, 4 x miniDP
- Entry 3D: NVIDIA® Quadro® P1000, 4 GB, PCIe x16, 4 x miniDP
- Entry 3D: NVIDIA® T600, 4 GB, PCIe x16, 4 x miniDP
- Entry 3D: NVIDIA® T400, 2 GB, PCIe x16, 3 x miniDP
- Others: DP to DVI-D (single link) Adapter Cable
- Others: MiniDP to DP Adapter Cable
Fujitsu recommends Windows 11 Pro.

### Hard disk drives (internal)

<table>
<thead>
<tr>
<th>Drive Type</th>
<th>Capacity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSD ATA III, 960 GB</td>
<td>1.5DWDP, 2.5-inch</td>
<td></td>
</tr>
<tr>
<td>SSD ATA III, 480 GB</td>
<td>1.5DWDP, 2.5-inch</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 2048 GB M.2</td>
<td>NVMe Highend</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 1024 GB M.2</td>
<td>NVMe Highend</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 512 GB M.2</td>
<td>NVMe Highend</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 256 GB M.2</td>
<td>NVMe Highend</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 2x 2048 GB M.2</td>
<td>NVMe Highend card</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 2x 1024 GB M.2</td>
<td>NVMe Highend card</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 2x 512 GB M.2</td>
<td>NVMe Highend card</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 2x 256 GB M.2</td>
<td>NVMe Highend card</td>
<td></td>
</tr>
<tr>
<td>SSD PCIe, 512 GB M.2</td>
<td>NVMe module, SED</td>
<td></td>
</tr>
<tr>
<td>HDD ATA III, 7,200 rpm, 4,000 GB, 3.5-inch, business critical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDD ATA III, 7,200 rpm, 2,000 GB, 3.5-inch, business critical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDD ATA III, 7,200 rpm, 2,000 GB, 2.5-inch, business critical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDD ATA III, 7,200 rpm, 1,000 GB, 2.5-inch, business critical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDD ATA III, 7,200 rpm, 1,000 GB, 3.5-inch</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hard disk notes

- One Gigabyte equals one billion bytes, when referring to hard disk drive capacity.
- 24/7 ready (Business Critical HDDs or SAS HDDs or High Endurance SSDs required)
- Up to 20 GB of HDD space is reserved for system recovery
- SED (Self-Encrypting Drive)
- SSD (Solid State Disk)

### Drives (optional)

- BD Triple Writer SATA ultra slim (tray)
- DVD Super Multi
- DVD Super Multi ultra slim (tray)
- MultiCard Reader 24in1 USB 2.0 3.5"

### SCSI / SAS Controller

- Intel VROC HW key Standard M.2

### Interface add on cards/components (optional)

- PLAN EM X557-T2 2x10GBASE-T
- PLAN EM 2x10Gb SFP+
- Dual 10 Gigabit Ethernet PCIe x8
- PLAN EM X550-T2 2x10GBASE-T
- WLAN 802.11ac (2x2) PCIe x1 and BT 5, SRD 5.8GHz (dedicated regions only)
- Dual serial card PCIe x1

### Base unit

**Base unit**

- CELSIUS R970B (S26361-K1449-V565)

**Mainboard**

- Mainboard type: D3488-A2X
- Formfactor: proprietary
- Chipset: Intel® C624
- Processor socket: Socket P
- Processor quantity maximum: 2
- Supported capacity RAM (max.): 1,024 GB
### Mainboard

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory slots</td>
<td>16 (8 per processor) DIMM (DDR4) ECC</td>
</tr>
<tr>
<td>Memory frequency</td>
<td>2,933 MT/s</td>
</tr>
<tr>
<td>Memory notes</td>
<td>6 memory channels, thereof 2 channels supporting 2 DIMMs per channel. For optimized 6 channel performance, a minimum of 6 memory modules have to be ordered and the capacity per channel has to be the same. DDR4 2,933MHz may be clocked down to 2,666 or 2,400 or 2,133 depending on the processor. Supports up to 2TB of main memory (offered on request). This requires dual CPU usage with selected CPUs and 128GB DDR4 memory modules.</td>
</tr>
<tr>
<td>LAN</td>
<td>10/100/1,000 MBit/s Intel® I219LM and Intel® I210</td>
</tr>
<tr>
<td>BIOS version</td>
<td>AMI Aptio V</td>
</tr>
<tr>
<td>BIOS features</td>
<td>BIOS Flash EPROM update by software</td>
</tr>
<tr>
<td></td>
<td>Recovery BIOS</td>
</tr>
<tr>
<td></td>
<td>Unified Extensible Firmware Interface (UEFI)</td>
</tr>
<tr>
<td>Audio type</td>
<td>On board</td>
</tr>
<tr>
<td>Audio codec</td>
<td>Realtek ALC671</td>
</tr>
<tr>
<td>Audio features</td>
<td>High Definition Audio</td>
</tr>
<tr>
<td>Controller functions</td>
<td>Serial ATA III (6 Gbit) AHCI RAID 0/1/5/10</td>
</tr>
</tbody>
</table>

### Interfaces

<table>
<thead>
<tr>
<th>Interface</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio in (rear)</td>
<td>1</td>
</tr>
<tr>
<td>Audio out (rear)</td>
<td>1</td>
</tr>
<tr>
<td>Audio in</td>
<td>1</td>
</tr>
<tr>
<td>Audio out</td>
<td>1</td>
</tr>
<tr>
<td>Internal speakers</td>
<td>1</td>
</tr>
<tr>
<td>USB 2.0 total</td>
<td>9</td>
</tr>
<tr>
<td>USB 3.1 Gen1 (USB 3.0) total</td>
<td>4</td>
</tr>
<tr>
<td>USB 3.1 Gen2 total</td>
<td>optional via add on card</td>
</tr>
<tr>
<td>USB front</td>
<td>2x USB 2.0; 2x USB 3.1 (Gen1); optional: 1x USB 3.1 Type-C (Gen2) via add on card and front adapter bay</td>
</tr>
<tr>
<td>USB rear</td>
<td>6</td>
</tr>
<tr>
<td>USB internal</td>
<td>3, thereof 1 type A</td>
</tr>
<tr>
<td>Ethernet (RJ-45)</td>
<td>2</td>
</tr>
<tr>
<td>eSATA</td>
<td>1 (optional)</td>
</tr>
<tr>
<td>Interface Module notes</td>
<td>Anytime USB charge functionality</td>
</tr>
</tbody>
</table>

### Input device / components

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical USB wheel mouse</td>
<td></td>
</tr>
<tr>
<td>Keyboard</td>
<td></td>
</tr>
<tr>
<td>Optical USB tilt wheel mouse</td>
<td></td>
</tr>
<tr>
<td>Optical USB wheel mouse</td>
<td></td>
</tr>
</tbody>
</table>

### Drive bays

<table>
<thead>
<tr>
<th>Bay Type</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive bays total</td>
<td>12</td>
</tr>
<tr>
<td>2.5-inch internal bays</td>
<td>8</td>
</tr>
<tr>
<td>3.5-inch internal bays</td>
<td>4</td>
</tr>
<tr>
<td>3.5-inch external bays</td>
<td>2</td>
</tr>
<tr>
<td>5.25-inch external bays</td>
<td>1</td>
</tr>
<tr>
<td>Drive bay notes</td>
<td>Up to 8x 2.5-inch HDDs (cold plug) and 1x 2.5-inch SSD or Up to 4x 3.5-inch HDDs (cold plug) and 1x 2.5-inch SSD or Up to 2x 2.5-inch and 2x 3.5-inch HDDs (cold plug) and 1x 2.5-inch SSD</td>
</tr>
<tr>
<td>M.2-2280</td>
<td>1 x on mainboard (for PCIe SSD modules)</td>
</tr>
</tbody>
</table>
Fujitsu recommends Windows 11 Pro.

### Slots

<table>
<thead>
<tr>
<th>Slot Type</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI-Express 3.0 x8</td>
<td>2 x (200 mm) Full height (1x PCIe 3.0x8 per processor)</td>
</tr>
<tr>
<td>PCI-Express 3.0 x16</td>
<td>4 x (340 mm / 13.39 inch) Full height (2x PCIe 3.0x16 per processor)</td>
</tr>
<tr>
<td>PCI (32-bit / 33 MHz)</td>
<td>1 x (312 mm / 12.29 inch) Full height</td>
</tr>
<tr>
<td>PCI-Express 3.0 x8 (internal)</td>
<td>1 x (170 mm / 6.69 inch) Full height (available with 2nd CPU)</td>
</tr>
</tbody>
</table>

### Graphics

- **Brand Name**: NVIDIA® Quadro® RTX 5000, RTX 6000, RTX8000 support NVLink

### Electrical Values

- **Power consumption note**: 500 W depending on configuration
- **Rated voltage range**: 100 V - 240 V
- **Rated frequency range**: 50 Hz - 60 Hz
- **Operating voltage range**: 90 V - 264 V
- **Operating line frequency range**: 47 Hz - 63 Hz
- **Max. output of single power supply**: 1000 W up to 90% efficiency
- **Power factor correction/active power**: active
- **Power supply output**: 2 graphics power rails (8pin connector / 18.5A@12V)

### Noise for standard configuration (HDD, ODD, FDD)

- **Related Processors for noise**: Intel® Xeon® Gold processor 6240
- **Standard noise emission**: 8x4 GB, HDD, ODD, Windows
- **Standard noise notes / description**: A-weighted sound power level Lwad (in B) / Workplace related A-weighted sound pressure level LpAm (in dB(A))
- **Standard noise operation mode: CPU 50% load**: 4.7 B / 30 dB(A) Bystander position
- **Standard noise operation mode: CPU 90% load**: 3.9 B / 23 dB(A) Bystander position
- **Standard noise operation mode: Idle mode**: 3.9 B / 22 dB(A) Bystander position
- **Standard noise operation mode: ODD load**: 4.5 B / 28 dB(A) Bystander position
- **Standard noise operation mode: Office applications 2.0**: 3.9B / 22 dB(A) Bystander position

### Dimensions / Weight / Environmental

- **Dimensions (W x D x H)**: 186 x 618 x 430 mm
- **Operating position**: Vertical / horizontal
- **Weight**: approx. 20 kg
- **Weight notes**: Actual weight may vary depending on configuration
- **Operating ambient temperature**: 10 - 35 °C (50 - 95 °F)
- **Operating relative humidity**: 5 - 85 % (relative humidity)

### Compliance

- **Product**: CELSIUS R970
- **Model**: ETNA-L
- **Germany**: GS depending on configuration
- **Europe**: CE
- **USA/Canada**: FCC Class B cCSAus
- **Global**: RoHS (EU & China) Microsoft Operating Systems (HCT / HCL entry / WHQL) WEEE (Waste electrical and electronic equipment)
Fujitsu recommends Windows 11 Pro.

**Compliance**

<table>
<thead>
<tr>
<th>Country</th>
<th>Compliance notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>CCC TPM 2.0 for China (optional)</td>
</tr>
</tbody>
</table>

**Compliance link**

https://sp.ts.fujitsu.com/sites/certificates

**Additional Software**

**Additional software (preinstalled)**

- McAfee® LiveSafe™ (provides award-winning antivirus protection for your PC and much more. 30 days trial pre-installed)
- Microsoft Office (1 month trial for new Microsoft® Office 365 customers. Buy Microsoft Office.)

**Additional software (optional)**

- Recovery DVD for Windows®
- Drivers & Utilities DVD (DUDVD)
- CyberLink PowerDVD BD (playback software for Blu-ray Disc™)
- CyberLink PowerDVD DVD (playback software for DVD)
- Nero Essentials XL
- Microsoft® Office Professional 2021
- Microsoft® Office Home and Business 2021
- (Need to buy license to activate the pre-installed Microsoft Office. Purchase and activation only in the region in which it was acquired.)

**Additional software (notes)**

Use of accompanying and/or additional Software is subject to proactive acceptance of the respective License Agreements /EULAs/ Subscription and support terms of the Software manufacturer as applicable for the relevant Software whether preinstalled or optional. The software may only be available bundled with a software support subscription which – depending on the Software - may be subject to separate remuneration.

**Security**

**Physical Security**

- Kensington Lock support
- Eye for padlock
- Intrusion switch
- Integrated cabinet lock (optional)

**System and BIOS Security**

- Embedded security (TPM 2.0)
- EraseDisk
- Boot sector virus protection
- Write protect option for the Flash EPROM
- Control of all USB interfaces
- External USB ports can be disabled separately
- Control of external interfaces

**User Security**

- User and supervisor BIOS password
- Hard disk password
- Access protection via external SmartCard reader (optional)
- Access protection via internal SmartCard reader (optional)
- Workplace Protect (secure authentication solution)

**Workplace Embedded Tools**

- Auto BIOS Update via Fujitsu Server
- Auto BIOS Update via customer server (optional)
- Easy PC Protection (optional)
- Easy Restore (optional)

**Manageability**

**Manageability technology**

- iAMT 11.6 (depending on processor)
- DeskUpdate Driver management
- PXE 2.1 Boot code
- Wake up from SS (off mode)
- WoL (Wake on LAN)

**Manageability software**

- DeskView Client
- DeskView Instant BIOS Management

**DeskView components**

- Inventory Management
- BIOS Management
- Driver Management
- Security Management
- Alarm Management
**Manageability**

<table>
<thead>
<tr>
<th>Supported standards</th>
<th>WMI (Windows Management Instrumentation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PXE (Preboot Execution Environment)</td>
</tr>
<tr>
<td></td>
<td>DMI (Desktop Management Interface)</td>
</tr>
<tr>
<td></td>
<td>SMBIOS (System Management BIOS)</td>
</tr>
<tr>
<td></td>
<td>WBEM (Web Based Enterprise Management)</td>
</tr>
<tr>
<td></td>
<td>CIM (Common Information Model)</td>
</tr>
</tbody>
</table>

**Manageability link** https://www.fujitsu.com/global/products/computing/pc/manageability/

**Miscellaneous**

Rack mountable (5U)

Spare part availability 5 years

**Packaging information**

Max. quantity / pallet 11

Packaging notes printed user documentation is bleached in chlorine free process

**Warranty**

Warranty period 3 years (depending on country)

Warranty type Bring-In / Onsite Service (for countries within region EMEIA, for all other countries depending on local regulations)

Warranty Terms & Conditions http://www.fujitsu.com/warranty

**Digital bug fixes**

Subject to availability and following their generic release for the product, bug fixes and function-preserving patches for product-related software (firmware) can be downloaded from the technical support at: https://support.ts.fujitsu.com/ free of charge by entering the respective product serial number. For application software supplied together with the product, please directly refer to the support websites of the respective software manufacturer.

**Recommended Support - the perfect extension**

Recommended Service 9x5, Onsite Response Time: Next Business Day

Spare Parts availability at least 5 years after shipment, for details see https://support.ts.fujitsu.com/


**Recommended Accessories**

**SpaceMouse Pro**

Using the SpaceMouse™ Pro 3D mouse to navigate 3D models or environments is as simple as holding them in your hand. A slight movement of the controller cap delivers easy and precise control. SpaceMouse™ Pro is a companion to the traditional mouse and is operated with the free hand. Your traditional mouse hand is free to select, create and edit.

Order Code: S26381-K459-L100

**Keyboard KB955**

The KB955 is a very flat keyboard with extra low keys and spill-resistant protection. The elegant design and top-quality construction makes the KB955 the ideal input device for any PC or Notebook user. If you accidently spill some water or coffee onto the keyboard, this special construction helps the liquid to flow away.

Order Code: S26381-K955-L4** (**: Country specific variation)
Fujitsu recommends Windows 11 Pro.

More information

Fujitsu products, solutions & services

In addition to the Fujitsu Workstation CELSIUS R970, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation’s reliability.

Computing Products
www.fujitsu.com/global/products/computing/

Software
www.fujitsu.com/software/

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT.

Please find further information at http://www.fujitsu.com/global/about/environment

More information

Learn more about the Fujitsu Workstation CELSIUS R970, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.

www.fujitsu.com/emeia/CELSIUS

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Disclaimer

Please note that the data sheet reflects the technical specification with the maximum selection of components for the named system and not the detailed scope of delivery. The scope of delivery is defined by the selection of components at the time of ordering.

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The overall product has been designed and manufactured for general office use, regular personal use and ordinary industrial use.