

Fujitsu recommends Windows 10 Pro.

# Data Sheet

## FUJITSU Workstation CELSIUS R970

### Unleash The Monster Inside

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

- Intel® Xeon® processor Scalable Family up to 2 x 28 cores
- Support of Windows 10 Pro for Workstations
- Support of up to 1024 GB DDR4 2,666 ECC memory
- Fujitsu SSD PCIe card (up to 2 x 1 TB)

#### Maximum expandability

Broad selection and configurability options

- Broad choice of ISV certified 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
- Compute graphics cards of up to NVIDIA® Tesla® M60

#### 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
- Server capabilities: SAS RAID controller, Windows® Server 2016, Dual 10 Gigabit Ethernet

#### Made in Germany

Design, engineering and production in Germany

- In-house developed systemboard
- Comprehensive testing in certified in-house laboratories for 24/7 operation
- Excellent thermal management concept allows for an optimal cooling of key components
- Whisper quiet: 23 dB(A)

#### We are (VR) ready

Enjoy a fully immersive and real-time Virtual Reality experience with low latency at high frame rates

- Powered by the NVIDIA® Quadro® P4000, P5000 and P6000 VR-ready graphics cards



RADEON PRO WX



# Components

<b>Processor</b>	Intel® Xeon® Platinum processor 8176 (28C, 2.10 GHz, up to 2.8 GHz, 10.4 GT/s)	
	Intel® Xeon® Platinum processor 8160 (24C, 2.10 GHz, up to 2.8 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 6150 (18C, 2.70 GHz, up to 3.7 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 6144 (8C, 3.50 GHz, up to 4.1 GHz, 9.6 GT/s)	
	Intel® Xeon® Gold processor 6140 (18C, 2.30 GHz, up to 3.0 GHz, 9.6 GT/s)	
	Intel® Xeon® Gold processor 6136 (12C, 3.00 GHz, up to 3.3 GHz, 9.6 GT/s)	
	Intel® Xeon® Gold processor 6134 (8C, 3.20 GHz, up to 3.7 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 6132 (14C, 2.60 GHz, up to 3.7 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 6128 (6C, 3.40 GHz, up to 3.7 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 5122 (4C, 3.60 GHz, up to 3.7 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 5120 (14C, 2.20 GHz, up to 3.2 GHz, 10.4 GT/s)	
	Intel® Xeon® Gold processor 5118 (12C, 2.30 GHz, up to 3.2 GHz, 10.4 GT/s)	
	Intel® Xeon® Silver processor 4114 (10C, 2.20 GHz, up to 3.0 GHz, 9.6 GT/s)	
	Intel® Xeon® Silver processor 4112 (4C, 2.60 GHz, up to 2.9 GHz, 9.6 GT/s)	
Intel® Xeon® Silver processor 4110 (8C, 2.10 GHz, up to 2.4 GHz, 9.6 GT/s)		
<b>Operating systems</b>		
<b>Operating system pre-installed</b>	Windows 10 Pro for Workstations Windows 7 Professional (available through downgrade rights from Windows 10 Pro)	Windows 10 Pro for Workstations Windows 7 Professional (available through downgrade rights from Windows 10 Pro)
<b>Operating system compatible</b>	Windows® Server 2016 Linux	Windows® Server 2016 Linux
<b>Operating system notes</b>	Certified for Red Hat® Enterprise Linux Certified for SUSE Enterprise Desktop Certified for SUSE Enterprise Server	Certified for Red Hat® Enterprise Linux Certified for SUSE Enterprise Desktop Certified for SUSE Enterprise Server
<b>Memory modules</b>		
8 GB (1 module(s) 8 GB) DDR4, registered, ECC, 2,666 MHz, UDIMM		
16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,666 MHz, UDIMM		
32 GB (1 module(s) 32 GB) DDR4, registered, ECC, 2,666 MHz, UDIMM		
64 GB (1 module(s) 64 GB) DDR4, registered, ECC, 2,666 MHz		
<b>Graphics</b>		
Ultra-high-end 3D: NVIDIA® Quadro® GV100, 32 GB, PCIe x16, 4 x DisplayPort		
Ultra-high-end 3D: NVIDIA® Quadro® P6000, 24 GB, PCIe x16, 1x Dual Link DVI-D, 4 x DisplayPort		
Ultra-high-end 3D: NVIDIA® Quadro® P5000, 16 GB, PCIe x16, 1x Dual Link DVI-D, 4 x DisplayPort		
High-end 3D: AMD Radeon™ Pro WX 7100 , 8 GB, PCIe x16, 4 x DisplayPort		
High-end 3D: NVIDIA® Quadro® P4000, 8 GB, PCIe x16, 4 x DisplayPort		
Midrange 3D: NVIDIA® Quadro® P2000, 5 GB, PCIe x16, 4 x DisplayPort		
Midrange 3D: AMD Radeon™ Pro WX 5100, 8 GB, 320 stream processors, PCIe x16, 4 x DisplayPort		
Entry 3D: NVIDIA® Quadro® P1000, 4 GB, PCIe x16, 4x miniDP		
Entry 3D: AMD Radeon™ Pro WX 3100, 4 GB, 320 stream processors, PCIe x16, 1x DisplayPort, 2x miniDP		
Entry 3D: NVIDIA® Quadro® P600, 2 GB, PCIe x16, 4x miniDP		
Entry 3D: AMD Radeon™ Pro WX 2100, 2 GB, 320 stream processors, PCIe x16, 1x DisplayPort, 2x miniDP		
Entry 3D: NVIDIA® Quadro® P620, 2 GB, PCIe x16, 4x miniDP		
Entry 3D: NVIDIA® Quadro® P400 , 2 GB, PCIe x16, 3x miniDP		
Remote Graphics: CELSIUS RemoteAccess Quad Card, PCIe x1, 4x miniDP, PCoIP		
Remote Graphics: CELSIUS RemoteAccess Dual Card, PCIe x1, 2x miniDP, PCoIP		
<b>Personal Supercomputing</b>	Coprocessor: NVIDIA® Tesla® M60, 16 GB, 4096 cores, PCIe x16	

**Hard disk drives (internal)**

SSD PCIe, 1000 GB U.2, 2.5-inch, business critical

SSD PCIe, 500 GB U.2, 2.5-inch, business critical

SSD PCIe, 1024 GB M.2 NVMe Highend module

SSD PCIe, 512 GB M.2 NVMe Highend module

SSD PCIe, 256 GB M.2 NVMe Highend module

SSD PCIe, 2x 1024 GB M.2 NVMe Highend card

SSD PCIe, 2x 512 GB M.2 NVMe Highend card

SSD PCIe, 2x 256 GB M.2 NVMe Highend card

SSD PCIe, 1x1024 GB M.2 NVMe Highend card

SSD PCIe, 1x 512 GB M.2 NVMe Highend card

SSD PCIe, 1x 256 GB M.2 NVMe Highend card

SSD PCIe, 1024 GB M.2 NVMe module

SSD PCIe, 512 GB M.2 NVMe module

SSD PCIe, 256 GB M.2 NVMe module

SSD PCIe, 2x 1024 GB M.2 NVMe card

SSD PCIe, 2x 512 GB M.2 NVMe card

SSD PCIe, 2x 256 GB M.2 NVMe card

SSD PCIe, 1x 1024 GB M.2 NVMe card

SSD PCIe, 1x 512 GB M.2 NVMe card

SSD PCIe, 1x 256 GB M.2 NVMe card

SSD SATA III, 960 GB High Endurance, 3DWPD, 2.5-inch

SSD SATA III, 960 GB High Endurance, 1DWDP, 2.5-inch

SSD SATA III, 480 GB High Endurance, 3DWPD, 2.5-inch

SSD SATA III, 480 GB High Endurance, 1DWDP, 2.5-inch

SSD SATA III, 240 GB High Endurance, 3DWPD, 2.5-inch

SSD SATA III, 240 GB High Endurance, 1DWDP, 2.5-inch

SSD SATA III, 1024 GB, 2.5-inch

SSD SATA III, 512 GB, 2.5-inch

SSD SATA III, 256 GB, 2.5-inch

SSD SATA III, 512 GB, 2.5-inch, SED

SSD SATA III, 256 GB, 2.5-inch, SED

HDD SAS, 10,000 rpm, 1800 GB, 2.5-inch

HDD SAS, 10,000 rpm, 1200 GB, 2.5-inch

HDD SAS, 10,000 rpm, 900 GB, 2.5-inch

HDD SAS, 10,000 rpm, 600 GB, 2.5-inch

HDD SATA III, 7,200 rpm, 6,000 GB, 3.5-inch, business critical

HDD SATA III, 7,200 rpm, 4,000 GB, 3.5-inch, business critical

HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch, business critical

HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch, business critical

HDD SATA III, 7,200 rpm, 2,000 GB, 2.5-inch, business critical

HDD SATA III, 7,200 rpm, 1,000 GB, 2.5-inch, business critical

HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch

HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch

HDD SATA III, 7,200 rpm, 500 GB, 3.5-inch

**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)



**Interfaces**

Audio: in	1
Audio: out	1
Internal speakers	1
USB 2.0 total	9
USB 3.1 Gen1 (USB 3.0) total	4
USB 3.1 Gen2 total	optional via add on card
USB front	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
USB rear	6
USB internal	3, thereof 1 type A
Ethernet (RJ-45)	2
eSATA	1 (optional)
Interface Module notes	Anytime USB charge functionality

**Input device / components**

	Optical USB wheel mouse
Input devices (optional)	Keyboard Optical USB tilt wheel mouse Optical USB wheel mouse

**Drive bays**

Drive bays total	12
2.5-inch internal bays	8
3.5-inch internal bays	4
3.5-inch external bays	2
5.25-inch external bays	1
Drive bay notes	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
M.2-2280	1 x on mainboard (for PCIe SSD modules)

**Slots**

PCI-Express 3.0 x8	2 x (200 mm) Full height (1x PCIe 3.0x8 per processor)
PCI-Express 3.0 x16	4 x (340 mm / 13.39 inch) Full height (2x PCIe 3.0x16 per processor)
PCI (32-bit / 33 MHz)	1 x (312 mm / 12.29 inch) Full height
PCI-Express 3.0 x8 (internal)	1 x (170 mm / 6.69 inch) Full height (available with 2nd CPU)

**Graphics brand name**

Graphics notes	NVIDIA® Quadro® P6000, P5000 and P4000 support SLI
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**Electrical values**

Power consumption note	500 W depending on configuration	650 W depending on configuration
Rated voltage range	100 V - 240 V	100 V - 240 V
Rated frequency range	50 Hz - 60 Hz	50 Hz - 60 Hz
Operating voltage range	90 V - 264 V	90 V - 264 V
Operating line frequency range	47 Hz - 63 Hz	47 Hz - 63 Hz
Max. output of single power supply	1000 W up to 90% efficiency	1300 W up to 90% efficiency for an input voltage above 115 V
Power factor correction/active power	active	active
Power supply output	2 graphics power rails (8pin connector / 18.5A@12V)	1000 W for an input voltage below 115 V 3 graphics power rails (8pin connector / 18.5A@12V)

**Noise for standard configuration (HDD, ODD)**

Related Processors for noise	Intel® Xeon® Gold processor 6128	Intel® Xeon® Gold processor 6128
Standard noise emission	8x4 GB, HDD, ODD, Windows According to ISO 7779:2010, ECMA-74	8x4 GB, HDD, ODD, Windows According to ISO 7779:2010, ECMA-74

**Noise for standard configuration (HDD, ODD)**

Standard noise notes / description	A-weighted sound power level L <sub>wad</sub> (in B) / Workplace related A-weighted sound pressure level L <sub>pAm</sub> (in dB(A))	A-weighted sound power level L <sub>wad</sub> (in B) / Workplace related A-weighted sound pressure level L <sub>pAm</sub> (in dB(A))
Standard noise operation mode: CPU 50% load	4.0 B / 24 dB(A) Bystander position	4.0 B / 24 dB(A) Bystander position
Standard noise operation mode: CPU 90% load	4.0 B / 24 dB(A) Bystander position	4.0 B / 24 dB(A) Bystander position
Standard noise operation mode: HDD load	4.0 B / 24 dB(A) Bystander position	4.0 B / 24 dB(A) Bystander position
Standard noise operation mode: Idle mode	4.0 B / 23 dB(A) Bystander position	4.0 B / 23 dB(A) Bystander position
Standard noise operation mode: ODD load	4.5 B / 28 dB(A) Bystander position	4.5 B / 28 dB(A) Bystander position
Standard noise operation mode: Office applications 2.0	4.0 B / 23 dB(A) Bystander position	4.0 B / 23 dB(A) Bystander position

**Dimensions / Weight / Environmental**

Dimensions (W x D x H)	186 x 618 x 430 mm 7.32 x 24.3 x 16.9 inch
Operating position	Vertical / horizontal
Weight	approx. 20 kg
Weight (lbs)	approx. 44.8 lbs
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	CELSIUS R970power
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) Energy Star® 6.1 (dedicated regions, depending on configuration) EPEAT® Silver (dedicated regions) (planned)	
China	CCC (planned) TPM 2.0 for China (optional)	
Compliance notes	Product Name maybe followed by suffixes	
Compliance link	<a href="https://sp.ts.fujitsu.com/sites/certificates">https://sp.ts.fujitsu.com/sites/certificates</a>	

**Additional Software**

Additional software (preinstalled)	Workplace Protect (secure authentication solution) McAfee Multi Access Security (anti-virus and internet security software; 60 days trial version) Microsoft Office (buy license to activate the pre-installed 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

**Security**

Physical Security	Kensington Lock support Eye for padlock Intrusion switch Integrated cabinet lock (optional)	Kensington Lock support Eye for padlock Intrusion switch Integrated cabinet lock (optional)
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<b>Security</b>		
<b>System and BIOS Security</b>	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	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
<b>User Security</b>	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)	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)
<b>Workplace Embedded Tools</b>	Auto BIOS Update via Fujitsu Server Auto BIOS Update via customer server (optional) Easy PC Protection (optional) Easy Restore (optional)	Auto BIOS Update via Fujitsu Server Auto BIOS Update via customer server (optional) Easy PC Protection (optional) Easy Restore (optional)
<b>Manageability</b>		
<b>Manageability technology</b>	iAMT 11.6 (depending on processor) DeskUpdate Driver management PXE 2.1 Boot code Wake up from S5 (off mode) WoL (Wake on LAN)	
<b>Manageability software</b>	DeskView Client DeskView Instant BIOS Management	
<b>DeskView components</b>	Inventory Management BIOS Management Driver Management Security Management Alarm Management	
<b>Supported standards</b>	WMI (Windows Management Instrumentation) PXE (Preboot Execution Environment) DMI (Desktop Management Interface) SMBIOS (System Management BIOS) WBEM (Web Based Enterprise Management) CIM (Common Information Model)	
<b>Manageability link</b>	<a href="http://www.fujitsu.com/fts/manageability">http://www.fujitsu.com/fts/manageability</a>	
<b>Miscellaneous</b>		
	Rack mountable (5U)	Rack mountable (5U)
<b>Spare part availability</b>	5 years	5 years
<b>Packaging information</b>		
<b>Max. quantity / pallet</b>	11	11
<b>Packaging notes</b>	printed user documentation is bleached in chlorine free process	printed user documentation is bleached in chlorine free process
<b>Warranty</b>		
<b>Warranty period</b>	3 years (depending on country)	
<b>Warranty type</b>	Bring-In / Onsite Service (for countries within region EMEA, for all other countries depending on local regulations)	
<b>Warranty Terms &amp; Conditions</b>	<a href="http://support.ts.fujitsu.com/warranty">http://support.ts.fujitsu.com/warranty</a>	
<b>Product Related Services - the perfect extension</b>		
<b>Recommended Service</b>	- 9x5, Onsite Response Time: Next Business Day	
<b>Spare Parts availability</b>	5 years after end of product life	
<b>Service Weblink</b>	<a href="http://www.fujitsu.com/fts/services/support">http://www.fujitsu.com/fts/services/support</a>	

## Recommended Accessories

**Display P27-8 TS Pro**

If you're a pixel, color and performance-hungry professional using demanding applications, the FUJITSU P27-8 TS Pro Display is the perfect choice. The display provides outstanding picture performance thanks to cutting-edge panel technology and 3.7 Mio pixels. It also boasts unique and innovative features such as our patent-applied Presence Sensor technology and USB support during standby.

Order Code:  
S26361-K1594-V160

**Display B34-9 UE**

The FUJITSU Display B34-9 UE is an ultrawide curved display with 3440 x 1440 resolution with a thin bezel housing. The monitor has a 1900R curvature and a wide viewing angle that delivers consistent picture quality, DisplayView™ Click manageability software and a range of connectivity options ideal for medium- and large-sized businesses.

Order Code:  
S26361-K1642-V140

**Blue LED Mouse GL9000**

Blue LED Mouse GL9000 comes in a slim design with proven Fujitsu engineering quality. The state-of-the-art blue LED sensor enables ultra precise switchable resolution at 1,000, 1,500 and 2,000 dpi. Blue LED Mouse GL9000 makes your life easier because it's tailor-made for right handed users. It just feels great in your hand.

Order Code:  
S26381-K438-L100

**Keyboard KB900**

The KB900 is a very flat keyboard with extra low keys and spill-resistant protection. The elegant design and top-quality construction makes the KB900 the ideal input device for any PC or Notebook user. If you accidentally spill some water or coffee onto the keyboard, this special construction helps the liquid to flow away.

S26381-K560-L4\*\* (\*\*:  
Country specific variation)



## 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/](http://www.fujitsu.com/global/products/computing/)

#### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

### 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/fts/CELSIUS](http://www.fujitsu.com/fts/CELSIUS)

### 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>



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