

WHEN TECHNOLOGY CONNECTS, SO DOES HUMANITY.

TE CONNECTIVITY
2021 COMPANY OVERVIEW

EVERY CONNECTION COUNTS



OUR PURPOSE

WE CREATE A SAFER, SUSTAINABLE, PRODUCTIVE AND CONNECTED FUTURE.



**ADVANCING THE
FUTURE OF
TRANSPORTATION**



**MAKING
FACTORIES & HOMES
SMARTER**



**ENABLING GLOBAL
COMMUNICATION
NETWORKS**



**REVOLUTIONIZING
MEDICAL
TECHNOLOGY**

INDUSTRIAL TECHNOLOGY LEADERSHIP

FAST COMPANY



TE CONNECTIVITY

Derwent
Top 100
Global
Innovator
2020



FORTUNE
WORLD'S MOST
ADMIRED
COMPANIES 2020

15K+

PATENTS
granted or pending

\$610M+

INVESTED in engineering,
research & development

7500+

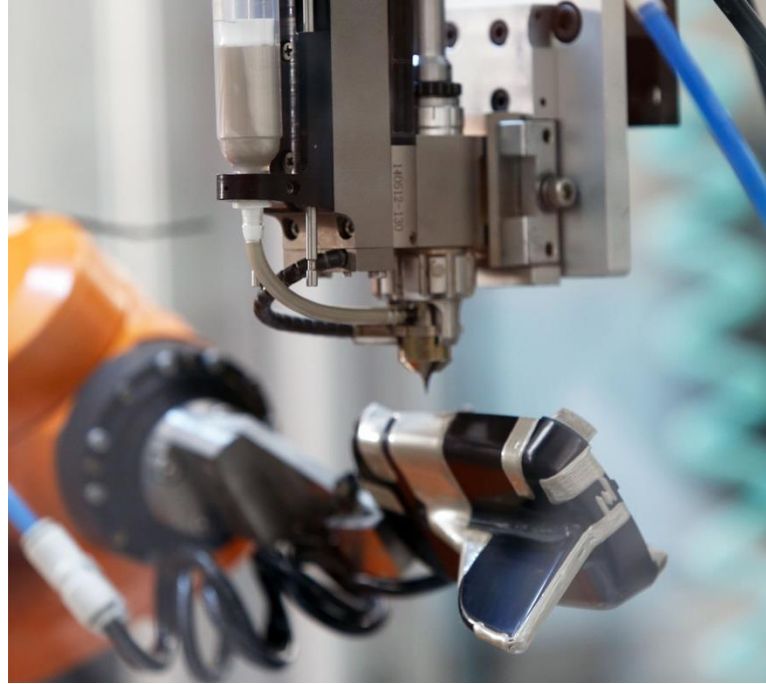
ENGINEERS
globally

Approximately

20%

of sales from
new products

We Unleash the Potential of Every Connection



**THE TE OPERATING ADVANTAGE
(TEOA) PROVIDES VALUE TO
CUSTOMERS BY OPTIMIZING:**



QUALITY



SERVICE



DELIVERY



**CUSTOMER
SUPPORT**

With Great Power Comes Great Sustainability



\$5.6M

GLOBAL
CHARITABLE
GIVING FY19

38K+

GLOBAL EMPLOYEE
VOLUNTEER
HOURS FY19

\$2.4B

LOCAL ECONOMIC
IMPACT FROM
SUPPLY CHAIN FY19



Member of
**Dow Jones
Sustainability Indices**

Powered by the S&P Global CSA

**GREENHOUSE
GAS INTENSITY**
FY19 VS FY10



**ENERGY
USE INTENSITY**
FY19 VS FY10



WATER USAGE
FY19 VS FY10



Unleash Our Global Talent



HRC BEST PLACES TO WORK
FOR LGBTQ EQUALITY IN US
AND MEXICO



TOP EMPLOYERS INSTITUTE -
BEST EMPLOYERS IN GERMANY

We are committed to a safe, diverse and inclusive work environment where creativity, collaboration and innovation flourish.

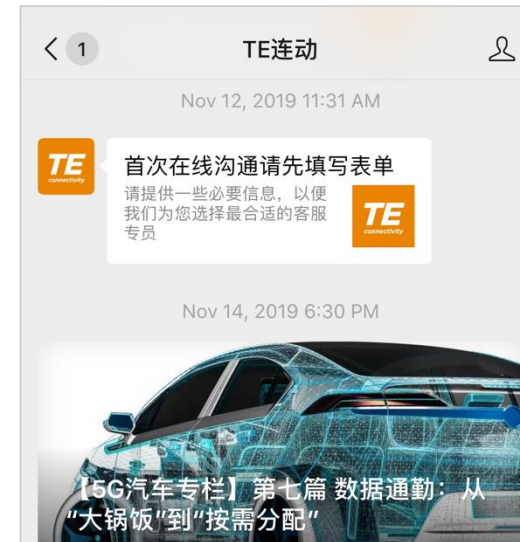
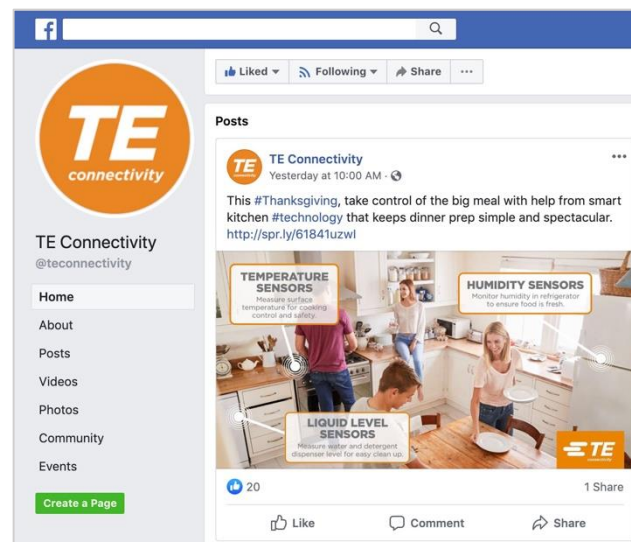
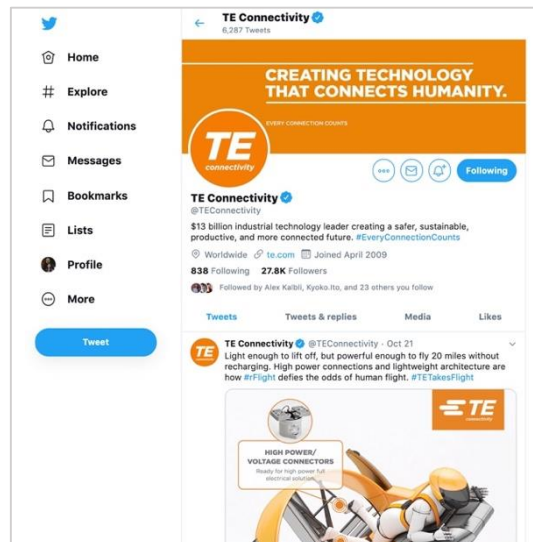
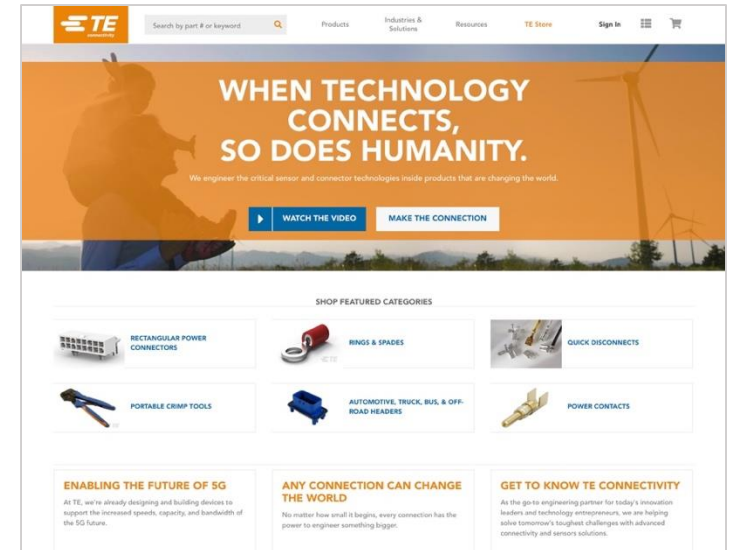
OUR CORE VALUES

INTEGRITY
ACCOUNTABILITY
TEAMWORK
INNOVATION

Connect With Us



Learn more
www.te.com



TE Connectivity Data and Devices

Focused Portfolio for a Dynamic Market

EVERY CONNECTION COUNTS



Market Trends | High Speed

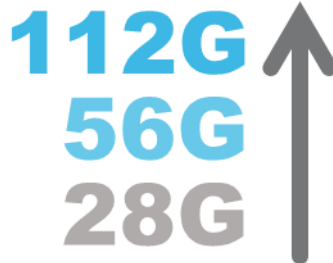
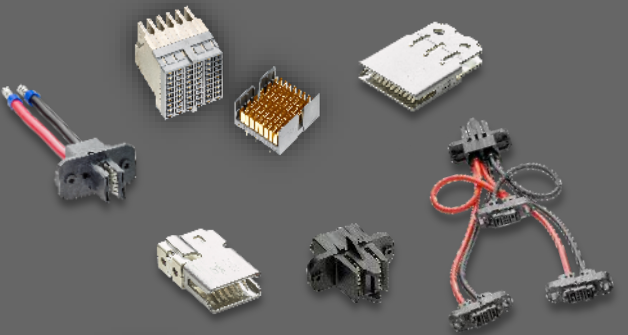


Cloud & Hyper Converged

- Workload migration from Enterprise to Cloud
- New applications and use cases e.g. AI, VR/AR

TE Response

- Strong partnership
- Short lead time
- Innovative solutions

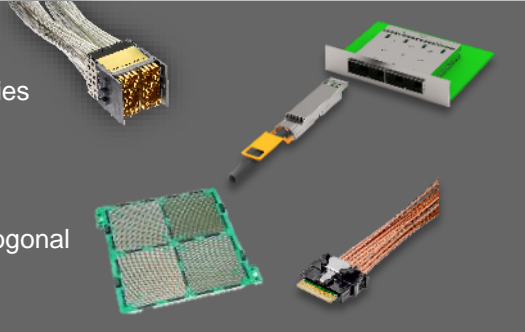


High Speed

- 28G → 56G → 112G

TE Response

- 400G Input/output and Cable Assemblies
- Sockets
- Internal Cables / Assemblies
- Cabled Backplane
- 112G Backplane and Direct Plug Orthogonal
- 112G Over the Board



5G

- High-data rate, low latency and massive connectivity (M2M)

TE Response

- Strong partnership
- RF solutions (Coax Board-to-Board, Antenna)
- High speed backplane
- Tower cable solutions

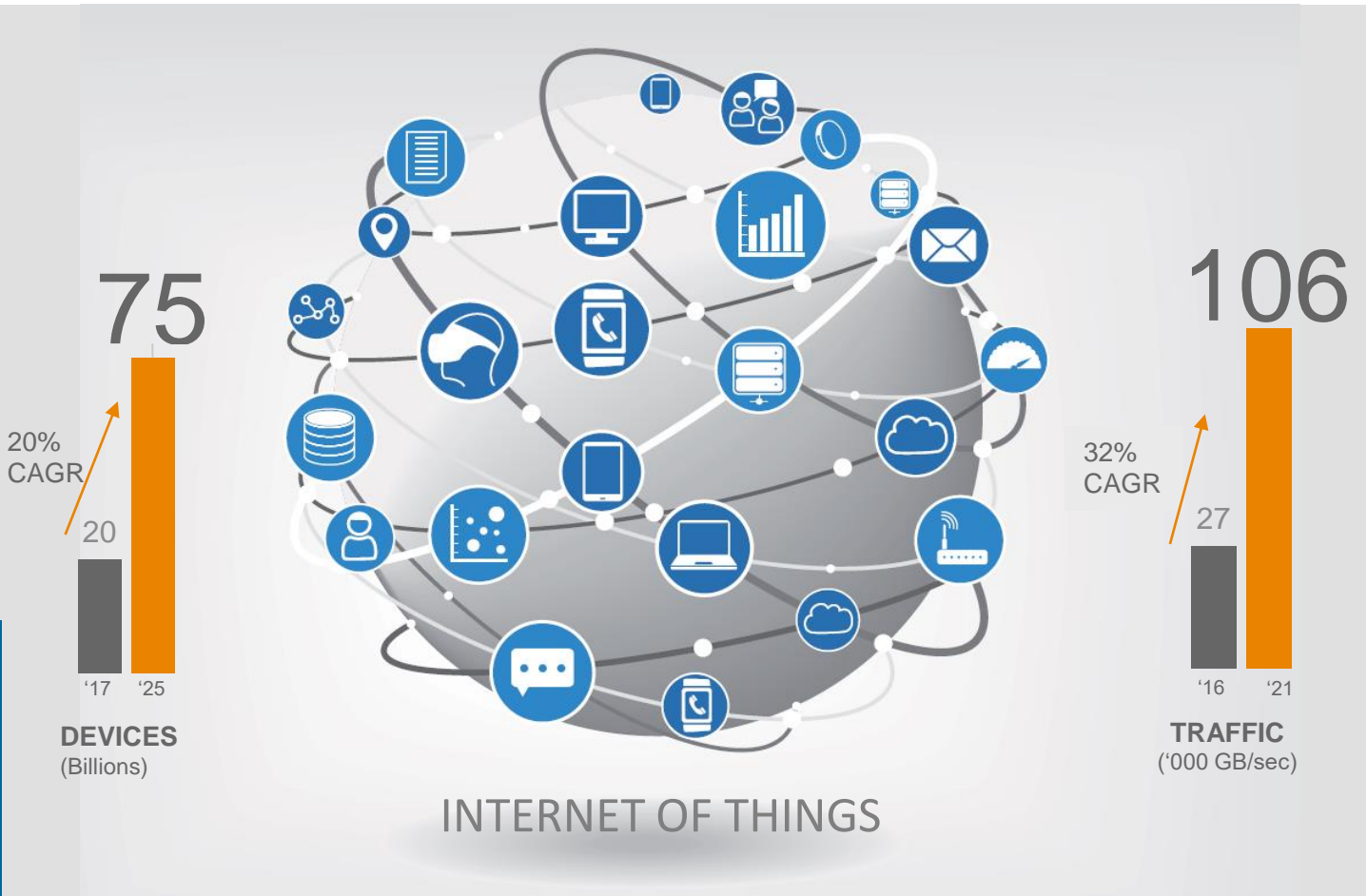


Market Trends | Internet of Things

75B+
connected devices by 2025

200M GB
data generated by city of 1M per day

82%
of all Internet Protocol traffic will be video





Rapidly moving towards a hyperconnected world

Why TE Connectivity (TE) Data and Devices?

A Broad Portfolio to Support Your Connectivity Needs

Partnerships that Empower Innovation:

Collaborating with customers and peers, and pioneering new technologies: TE helps shape the connector future.

Solutions for High Performance:

Our products can support the market trends of high-speed, energy-efficiency, and miniaturization in data communications and consumer products.

Faster, Flexible Service:

TE's manufacturing, value-add services and investments are focused on delivering quality and efficiency for consistent, high quality products to address ever-faster design cycles.

End-to-End Connectivity:

TE offers a broad range of products which can be used across data communications and consumer applications, providing extensive options for customers & the opportunity to consolidate their supplier base.

Sustainable Partnership:

TE's engineering and manufacturing expertise combined with our global footprint spanning multiple industries allow us to deliver one of the largest connectivity and sensor product portfolios.

Solutions for Business/Retail Equipment & Consumer Devices

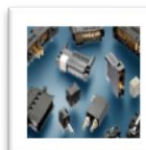
Wire-to-Board

TE offers an extremely broad array of products to address wire-to-board requirements.



Power

From internal and semi-internal to external power interconnects, TE can keep your power flowing.



Board-to-Board

TE's free height surface-mount connectors address today's industry requirements for high density packaging.



Spring Fingers

TE's miniaturized solutions help reduce and control the effect of EMI in most complex systems.



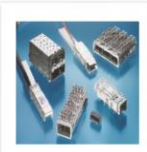
Board Level Shielding

Broad offering of standard and custom shielding in various geometries and materials to help isolate and control EMI noise.



Input/Output (I/O)

From RJ45 to USB connectors, TE can deliver I/O solutions for reliable connectivity with the rest of the business network.



Card & Socket Connectors

From IC sockets to SD cards, TE can make it easy to get connected and process, share or store data.



Connectors

TE has high-density, small centerline spacing solutions, plus related contacts and accessories.



Antennas

Standard and custom high-performance antennas to address most wireless protocols.



Micro Coax

TE offers off-the-shelf PCB receptacles and mating cable assemblies, as well as custom micro coax cable assemblies



Industries & Solutions

INNOVATIVE CONNECTIVITY SOLUTIONS THAT HELP CUSTOMERS DELIVER PERFORMANCE BEYOND DATA CENTER AND CONSUMER DEVICES



AEROSPACE
& DEFENSE



LIGHTING



AUTOMATION
& CONTROL



AUTO
INFOTAINMENT



POWER
DISTRIBUTION



HVAC



SAFETY &
SECURITY



INTELLIGENT
BUILDINGS



MATERIAL
HANDLING



TEST &
MEASUREMENT

Solutions Beyond Data Center and Consumer Devices

Building Safety & Security

Achieve real-time, mobile monitoring capability across multiple locations and facilities



Instrumentation & Measurement

Speed and accuracy of data collection for research, development, test and evaluation



Industrial Controls

Focus on production equipment utilization and uptime with integrated diagnostic capabilities



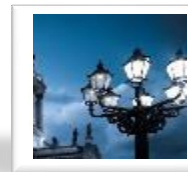
Elevators & Escalators

Improved safety and capacity management



Lighting

Increased interest in energy efficiency and can provide the ability to control dimming and color



HVAC – Cooling & Rotary

Expectation of Cloud based systems to help drive Ethernet and wireless connectivity at the equipment level



Industrial Power Distribution

Drive for smarter power and increased efficiency in most harsh conditions



Material Handling

Conservation of both space and power, while sharing large amounts of information



Auto Infotainment

Focused on high-quality consumer port applications, board-to-board connections, wireless, and vehicle-to-vehicle communication

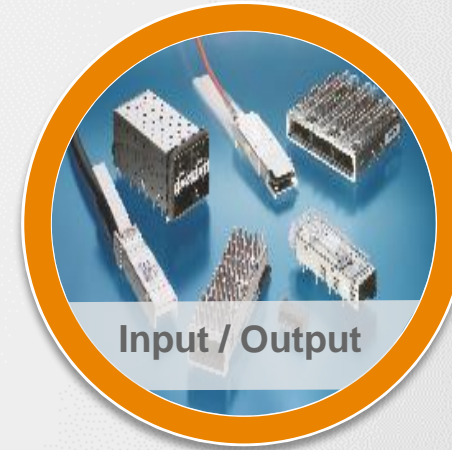


Aerospace, Defense & Marine

Faster data to address the most stringent quality and performance standards



Data and Devices Product Portfolio



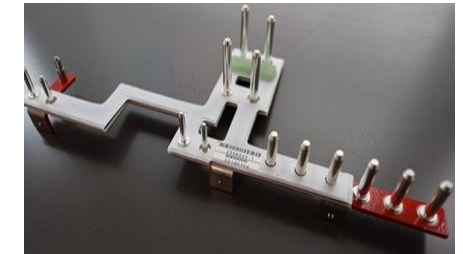
TE is Leading Innovation

Busbar Connectors



- Solutions for power delivery in server, switch, wireless, industrial control and modular power supplies. Commonly used in rack-mounted equipment with busbar architecture.
- Benefits: Reliable, Low resistance, Robust
- Applications: IT Tray, Cubby Shelf, Battery Backup Unit (BBU) and Power Shelf

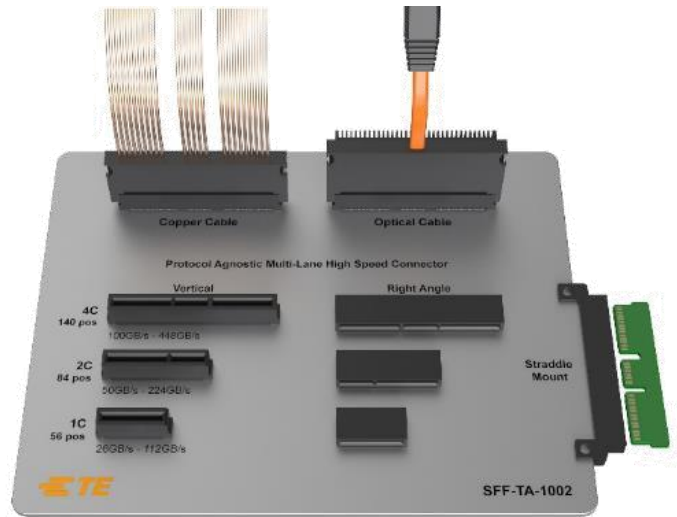
Busbar Assembly



- Solutions for 12V and 48V+ Requirements.
- Benefits: Reliable and Robust Power delivery
- Offerings: Board mount, Flexible braided wire, Pin and socket and cables available for versatility and customization.

TE is Leading Innovation

Sliver Interconnects for SFF-TA-1002



- The Sliver connector was incorporated into the new industry standard SFF-TAA-1002 specification which was adopted in reference applications by OCP, EDSFF and Gen-Z.
- Chosen for performance, density, flexibility and robustness
- Offerings: mid-board connectors, card edge connectors and cable assemblies

Thermal Bridge



- TE's innovative thermal bridge technology can provide up to 2x better thermal resistance over traditional thermal technologies used in liquid cooling, cold plate or restricted airflow applications.
- Better reliability and durability
- Improved application serviceability
- We offer SFP+, QSFP-DD and QSFP28 plus customized solutions for other I/O form factors

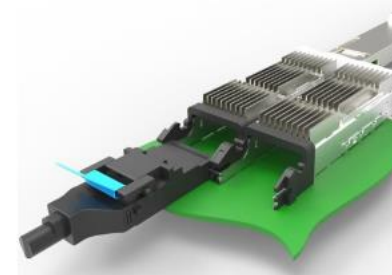
TE is Leading Innovation

112G per lane I/O Solutions



- We are at the forefront of developing 112G per lane solutions for 800G and lower aggregate port bandwidths. Our products deliver high performance and meet specifications set by multi-source agreements (MSA) groups.
- Thermal management is becoming challenging across most high speed I/O connectors. TE has a wide portfolio of cage designs and mounts to fit various forced air and liquid cooling architectures dissipating 25W+ powers.
- Offerings: OSFP, QSFP-DD, QSFP, SFP, SFP-DD, CDFP.

Over the board (OTB) solutions



(Picture is of 56G solution. 112G is in development.)



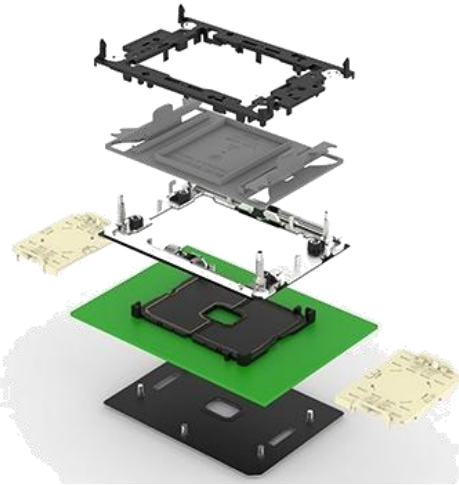
- Cabled solutions adoption between I/O panel mount connectors have been increasing to counter lossy PCB traces and costly retimers. TE is developing these cabled solutions for most lead I/O form factors.
- Offerings: Up to 16DP and 32DP low profile near-ASIC connectors which can provide flexibility and performance.
- Key value proposition: high DP near-ASIC, low profile to fit under most heat sink applications, 112G per lane capability, flexibility to help connect single or ganged connectors...many more.



Samples for these products are starting to become available!

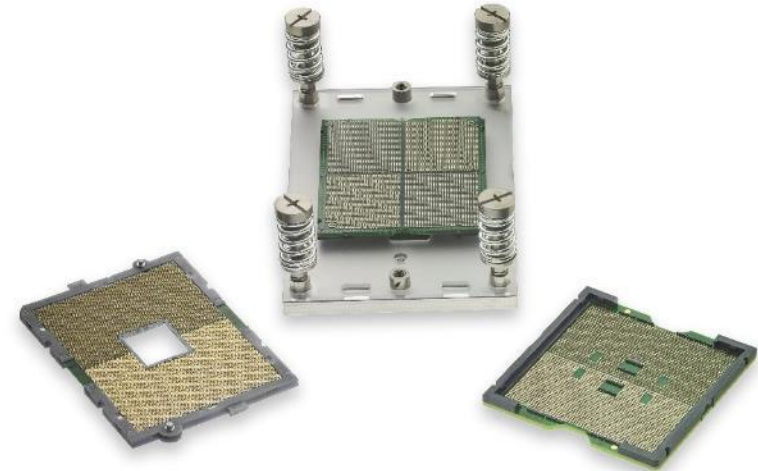
TE Is Leading Innovation

LGA 4189 (Socket P4)



- LGA 4189 sockets support Intel next-generation central processing units (CPUs) for higher performance and better system scaling.
- LGA 4189 sockets are designed for Intel's next-generation processors, which can support PCIe Gen 4 and four- or eight-multi-processor system architectures

Customization Socket



- Innovative, customized socket and hardware solutions for computing, networking and AI purpose ICs.
- A large one-piece socket up to 10K pin count and 112 Gbps speed.

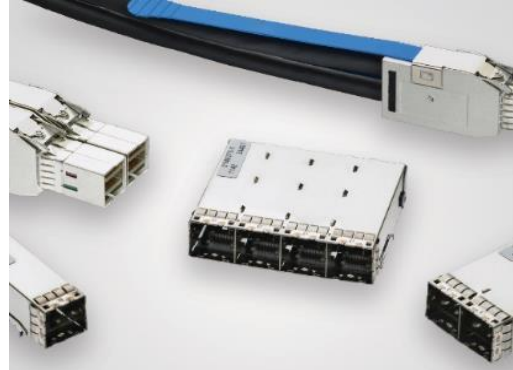
Leading the Way in Compute & Networking Solutions

Sliver Internal Cabled Interconnects



- Slim interface supports wide variety of protocols
- Rated up to 112G PAM4 and 56G NRZ
- Sliver products comply with SFF-TA-1002 specification

Mini-SAS HD Connectors and Cable Assemblies



- Industry-proven solution to address SFF-8086, 8087, and 8088 standards
- Supports SAS 2.0, SAS 2.1, SAS 3 and PCIe applications
- Rated up to 6 Gbps and 12 Gbps

Cabled STRADA Whisper Backplane Connectors

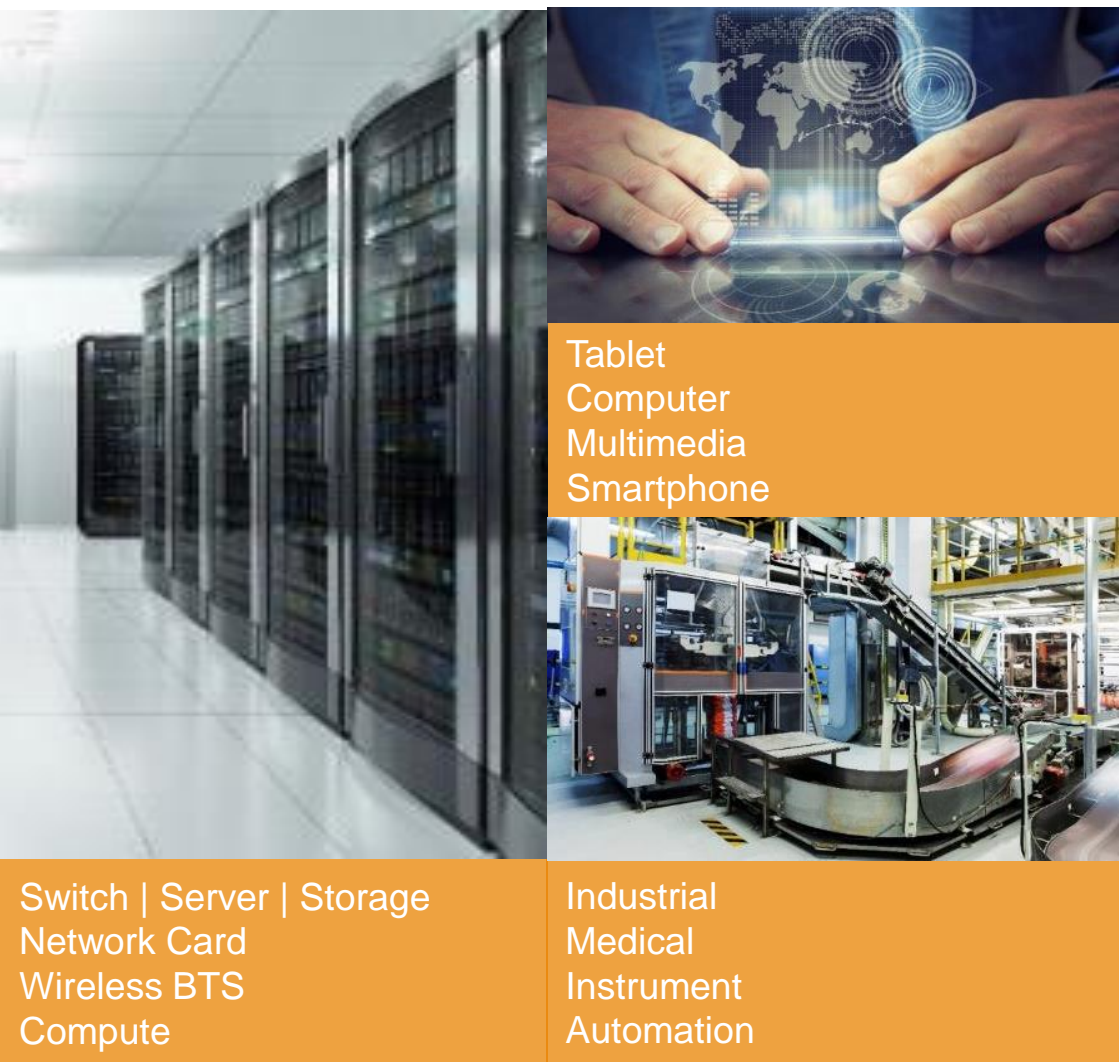


- Flexible solution to help run longer channels
- Support 112G PAM4 and 56G NRZ
- Excellent EMI performance
- Cable receptacle also available



TE is a leader in innovative connectivity solutions for high speed computing and networking applications. Our products can provide speed and connection dependability needed to efficiently handle ever-increasing amounts of data.

Data and Devices | Input / Output (I/O)



External High Speed I/O



Internal High Speed I/O



Modular Jacks



AMPLIMITE D-Sub
Connectors



Mini PCIe & SATA



USB & Multimedia
I/O



HDD / SSD



CHAMP Docking
Connectors



Memory Card Connectors








A/V Jacks



Data and Devices | Cable & Cable Assemblies

	
<p>Data Center Hyperscale Networking Compute</p>	<p>Smartphone Computer Multimedia</p>  <p>Wireless BTS Instrument Automation</p>

<p>Power Solutions</p> 	<p>High Speed Cable Assemblies</p> 	<p>Low Speed Cable Assemblies</p> 
<p>Rugged Field Installable</p> 	<p>Consumer HDTV, VR, USB</p> 	

Data and Devices | Power



Switch | Server
Storage
Network Card
Wireless BTS

Industrial
Medical
Instrument
Automation

Power Supply
Interconnect



Busbar Power
Distribution



Wire-to-Board Power



Backplane Power




Data and Devices | Board-to-Board




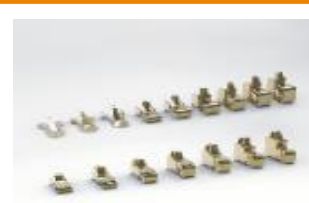




Switch | Server
Storage
Network Card
Wireless BTS

Industrial
Medical
Instrument
Automation

STRADA Whisper Connectors 	High Speed 	Mezzanine 
Card Edge 	Low Speed 	STRADA Whisper Cable Assembly 



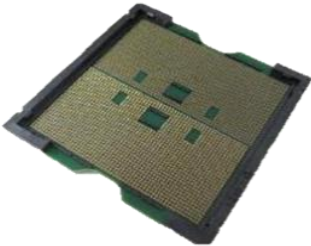

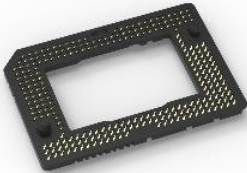
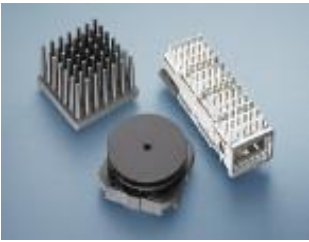
Data and Devices | Internal Interconnect

	 <p>Tablet Computer Multimedia Smartphone</p> 
<p>Business Retail Equipment Broader Consumer Electronic</p>	<p>Industrial Medical Business/ Retail Equipment</p>

<p>Flex & Display</p> 	<p>Spring Fingers</p> 	<p>Discrete Wire</p> 
<p>Ribbon Cable</p> 	<p>Power & Battery</p> 	<p>Compressive BTB</p> 

Data and Devices | Sockets



DIP/SIP Socket	x86 Sockets & Hardware	Non-x86 Sockets & Hardware
		
Memory Sockets	DMD Sockets	Heat Sinks
		

Data and Devices | RF, Antenna & Shielding



Active Antenna Systems
Small Cells
Gateways/ APs
Test & Measurement



IoT and M2M
Point-of-Sale
Handhelds & Wearables
Entertainment



Security
Smart Meters, Smart Lighting,
Smart Buildings

<p>5G Massive MIMO & Small Cell Solutions</p> 	<p>Embedded Antennas</p> 	<p>External Antennas</p> 
<p>5G Board-to-Board/Filter Coax Connectors</p> 	<p>High Frequency Cables & Connectors</p> 	<p>Micro Coax Cables & Connectors</p> 
<p>Board Level Shielding</p> 		<p>Antenna Integration Support</p> 

Application Sell Sheets

- [Servers](#)
- [Switching & Routers](#)
- [Storage](#)
- [Remote Radio Units \(RRU\)](#)
- [Baseband Units \(BBU\) and Optical Transport](#)
- [Data Center White Paper](#)
- [Commercial and Consumer Drones](#)
- [Small Home Appliances](#)
- [Home Security Systems](#)
- [Hubs and Devices](#)
- [Home Entertainment](#)
- [Intelligent Buildings \(Commercial\)](#)
- [Test & Measurement](#)
- [DLP Projector](#)
- [POS Machine](#)
- [Rugged Phone](#)

- [Mobile](#)
- [Wearables](#)
- [Game Systems and Devices](#)
- [Printers & Copiers \(BRE\)](#)
- [Virtual Reality](#)
- [Auto Infotainment & Nav Systems \(DND\)](#)
- [Sub- Application Functions](#)
- [Cameras](#)
- [Building Safety Systems](#)
- [Industrial Control Systems](#)
- [Medical Equipment](#)
- [Embedded Computing](#)
- [Military Handheld and Wearable Devices](#)



Virtual Sample Kits

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- [Cooling and Rotary Solutions](#)
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- [Wireless Solutions](#)
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- [Pluggable I/O Solutions](#)



**ANY
CONNECTION
CAN CHANGE
THE WORLD**

EVERY CONNECTION COUNTS

