

TTM Technologies, Inc. is a leading global manufacturer of technology solutions including mission systems, radio frequency (“RF”) components and RF microwave/microelectronic assemblies and quick-turn and technologically advanced printed circuit boards (“PCB”s). TTM stands for time-to-market, representing how TTM’s time-critical, one-stop manufacturing services enable customers to shorten the time required to develop new products and bring them to market. Additional information can be found at www.ttm.com

Headquarters	Santa Ana, CA, United States
Founded	1998 - Publically Listed: NASDAQ TTM
Talented Employees	16,000+ Employees, 1,700+ Engineers and Technology Professionals
Total Facilities	22 Factories in Operation Worldwide

Operations

2 Sectors, 5 Business Units

Aerospace & Defense Sector

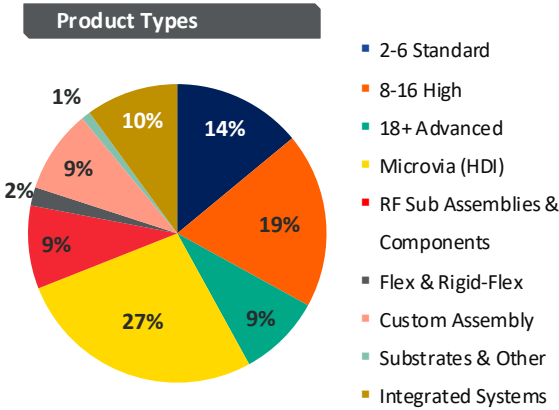
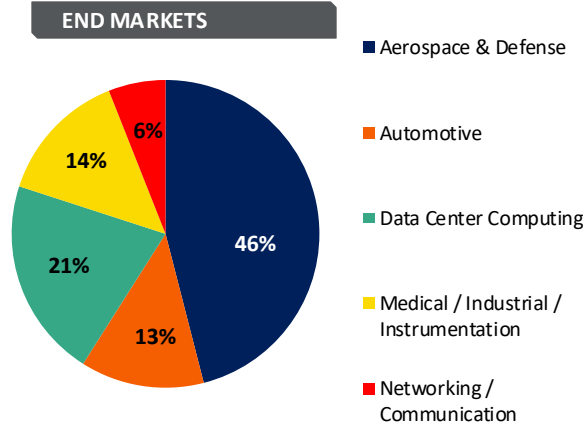
- Integrated Electronics (“IE”)
- Interconnect Solutions (“IS”)

Commercial Sector

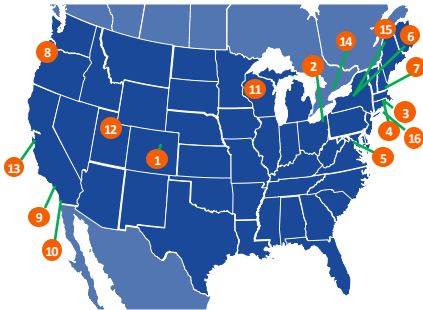
- Automotive & Medical, Industrial & Instrumentation (“AMI&I”)
- Communications and Computing (“C&C”)
- RF & Specialty Components (“RF&S”)

TTM’s Market Diversification

FY2024 net sales of US\$2.44B



Global Footprint



North America Operations

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|-------------------------|------------------------|----------------------|
| 1 Denver – DEN | 7 Salem – SAL | 13 San Jose – SJ |
| 2 North Jackson – NJ | 8 Forest Grove – FG | 14 Toronto – TOR |
| 3 Stafford – ST | 9 Santa Ana – SA | 15 Syracuse – SYR-W |
| 4 Stafford Springs – SS | 10 San Diego – SD | 16 Farmingdale – FRM |
| 5 Sterling – STE | 11 Chippewa Falls – CF | |
| 6 Syracuse – SYR | 12 Logan – LG | |



Asia Pacific Operations

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| 17 Zhongshan – ZS | 20 Dongguan – DMC |
| 18 Guangzhou – GZ | 21 Suzhou – SUZ |
| 19 Huiyang – HY | 22 Penang – PNG |

Note: As of May, 2025

Diversified PCB Technologies and Solution Offerings

Automotive - mmWave radar up to 110GHz - Precision etch and registration technology - Thermal solutions with coins, inlays and up to 12oz Cu - High voltage solutions for 1,500V+ including long term reliability / CAF - Advanced HDI - Low loss materials - IATF16949	Medical & Industrial - Device Under Test PCBs ("DUT") - Burn In Boards ("BIB") - Buried Resistance ("BR") & Buried Capacitor ("BC") - Advanced HDI - Complex Rigid-Flex	AI, Data Center, High-Performance Computing 56Gbps 400G / 112Gbps 800G - Ultra-low loss / Low-loss materials - Multiple Lamination PCB - Stacked Microvia / Advanced HDI Technology - Asymmetrical N+M Technology - Advanced Signal Integrity Performance - PCIe Gen 5 / 6 technology - Stepped Finger Technology	Networking Infrastructure / Telecom 112Gbps 800G / 224Gbps 1.6T - High Layer, 40+ - Extreme Low Loss + Materials >30:1 High Aspect Ratio Plating - Precision Backdrilling for reduced / stubless channels - Asymmetrical N+M Technology - Advanced Signal Integrity Performance - Insertion Loss Testing up to 67GHz	Aerospace & Defense - Design to Spec & Build to Print product offerings - Full complement of software platforms – HFSS, Thermal, Solidworks, Allegro, and xPedition, Altium - HDI & uHDI PCB's – 75um lines & spacing - Substrates – 15um lines and spacing - Complex RF with mixed dielectrics - Flex & Rigid flex - Microwave, Low loss and ultra low loss material offerings - Custom build or build to print components and sub-assemblies to end-market mission-critical systems
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Complete Portfolio of Diversified Technologies and Solution Offerings

Printed Circuit Boards - Conventional PCB - Over-Sized PCB - Asymmetrical N+M PCB - Advanced HDI PCB - Flex / Rigid-Flex PCB - RF and Microwave PCB - Substrates - Sintered Paste Interconnect Solutions - Thermal Management - Ceramics	RF and Specialty Components - Xinger® - RF Components - Resistive Components - mmWave Filters - Circulators - Thermal Management Solutions - High-Density, Multilayer LTCC Power & Resistive Solutions	RF and Microwave - Integrated Microwave Assemblies and Line Replaceable Units - Complex RF Subsystems - Wideband Converters and Receivers	Microelectronics - High-Performance, Radiation-Hardened and Space-Qualified Microelectronics - Power Management, Amplifiers and Motor Control Products - High Temperature Products - Custom Hybrids and Multi-Chip Module ("MCM") Design, Fab, and Test	Engineered Systems - Integrated Radar Systems - All-Mode IFF Interrogators - Integrated Sensor and Man-Portable Systems - Mode 5 Operational Autonomous Surveillance ("MSOAS") System - Wired & Wireless Secure Digital Intercom Systems
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Advanced Technologies & Specialty Assembly

Organic Substrate - Build-up Substrate / interposer technology for RF and digital designs in ABF, CoreEZ® and alternative build-up materials - High-Performance, Radiation-Hardened product - High density 17 / 17 micron L / S - No raw material lead time	Advanced Ceramic Components - High-Density, Multilayer Low Temperature Co-fired ceramics ("LTCC") Solutions - Precision Thick-Film Substrates and Resistive Products - High-Frequency Etched Thick-Film Substrates - High-Power Resistive Components	HyperBGA® - Industry leading high density RF substrate - High-Performance Chip Package - High density <25 micron L / S - No raw material lead time	Specialty Assembly - Backplane Assembly ("BPA"), Flex, RF, Heatsink & Chassis Integration - Oversize panels up to 36" x 54" - Press fit (compliant pin), Surface Mount Technology ("SMT") & Through hole	3D Printing - Prototyping and manufacturing solutions - DragonFly Pro Systems - Dedicated team of 3D Engineers
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Digital Solutions – Engineering & Manufacturing Capabilities

Signal Integrity - Ansys SiWave - Polar S9000-XFE	RF and mmWave Modeling Ansys HFSS	Power Distribution Ansys Icepak	PCB Design - Allegro (Cadence) - xPedition (Mentor) - Altium Designer	Thermal / Mechanical - SolidWorks Flow Simulation - SolidWorks Premium
Rigid / HDI PCB Fab. - HDI & Microvia DCAs - Heavy Cu / BPAs (58") - Advanced Interconnect - Ultra-HDI	Organic Substrate - Build-up Substrates - Interposer technology ABF & Alt. Materials - High Density (15u) - HyperBGA® & CoreEZ®	Flex / Rigid-Flex Fab. - Types 3, 4 +Bookbinder - Up to 51" Lengths (std) - High-Speed & High-Temp - Composite Encapsulated	RF / Microwave - Fab & Assembly - Cavities, Foams - Large Form Factor - Solution Development (up to 110 GHz)	Metal & Integration - Metal Fabrication - Integrated Chassis - Conformal Coating - ESS - Thermal & Vibe

Custom Assembly Capabilities & Services

BPA & Specialized PCBA - Press Fit - SMT - Through Hole - Large Format - High Mix - Low to Medium Volume - Conformal Coating	Flex & Rigid-Flex Assembly - Press Fit - SMT - Through Hole - High Speed - High Temp - Passive / Active	Custom Metal & Machining - Multi Axis Machining - Horizontal & Vertical - Turret Press - Water Jet - Brake Press - Deburr	Chassis Integration & ESS Testing - Electro-Mechanical - Sub-system Assembly - COTS Systems (VPX) - Liquid Cooled Systems - ESS Testing
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Advanced Analytical Capabilities & Services

Electrical Signal Integrity • Test frequency up to 110 GHz • 2D and 3D SI simulation for PCB and RF performance • Dk / Df measurement on raw laminate materials and PCB • VNA (up to 110GHz) • TDR (20GHz and 50GHz) • Probe station down to 0.5 mm pitch Delta-L 4.0 • PLTS advanced analysis • HFSS 2018 and 2022 R1 • Polar S9000-XFE & InSolver™	Optical Signal Integrity • Optical insertion loss measurement • Multi-mode and single-mode light sources and test fibers • Wavelengths: 850nm (VCSEL Laser), 1310nm (DFB Laser), 650nm (Red) • Optical beam near-field pattern (NFP) analysis (InGaAs camera) • Ray Trace simulation – Ansys Zemax OpticStudio • Optics and Photonics Simulation Software – Ansys Lumerical	Failure Analysis Non-Destructive analysis • Pinpoint CAF, Micro-short / open at elevated temperature and humidity • Isolate short / open by both impedance and radar signal • Locate delamination and voids by acoustic scan • Emission Microscope • TDR (20GHz and 50GHz) • Short detector (ESAMBER) • Confocal Scanning Acoustic Microscopy ("CSAM") • FTIR with IR microscope Destructive analysis • Nano-meter scale thin layer analysis • Nano-meter scale MV separation & ICD analysis • IMC characterization • Focus Ion beaming ("FIB") with SEM&EDS • Vacuum chamber • Leica EM TXP Target Surfacing System • Ionic Milling (Leica EM TIC 3X)
Surface Analysis • Roughness and Profile • Electro-chemical surface analysis • Warpage with reflow profile (Thermo AXP 1.0)	Reliability • 1000V-CAF • CITC, HAST & OM thermal stress • Comparative Track Index to 1200V • Partial discharge up to 5.0 kV	 100+ Patents

