



MERITEC[®]

Innovative Interconnect Solutions

JOY SIGNAL
TECHNOLOGY
A Meritec Company



CONNECTORS
UNLIMITED
A Meritec Company

MOLD-TECH
MOLDING IDEAS
A Meritec Company

Company Overview



- Headquartered in Painesville, Ohio
- Supplying to the ATE & Instrumentation, Mil/Aero, Medical, and Industrial markets
- 200,000 sq. ft. – Factory & Office
- Design Centers in Ohio and California with 200 patents
- Core Competencies: Molding, Stamping, Plating, Tool & Die Building, High Speed Signal Processing
- Main Products: High Speed Connectors, Custom Cable Assemblies, Flat Flex Cable, Coaxial Interconnect

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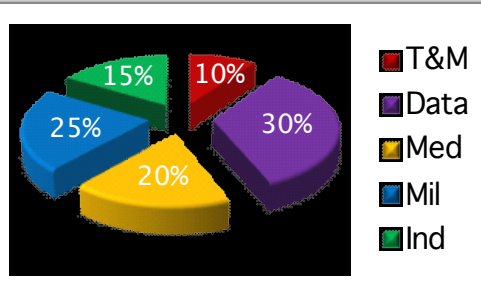
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Business breakdown

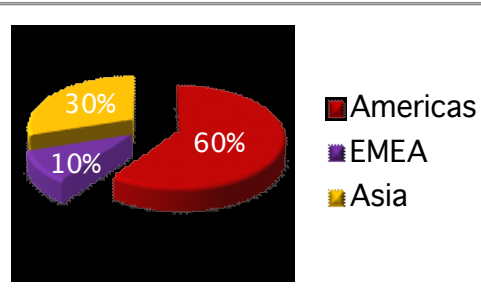
Industries

- ATE & Measurement
- Datacomm
- Medical
- Mil/Aero
- Industrial



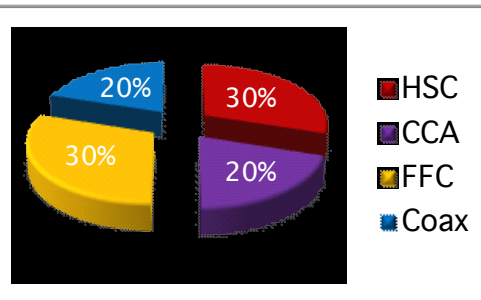
Region

- Americas
- Europe/MidEast/Africa (EMEA)
- Asia

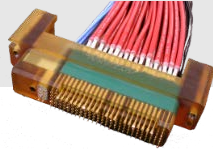

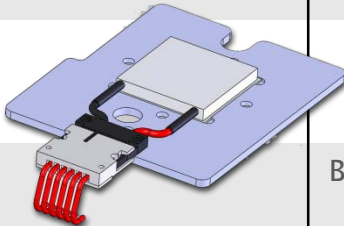

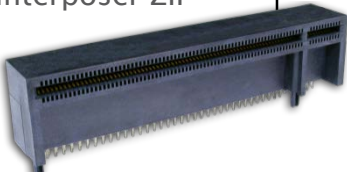


Products

- High Speed Connectors
- Custom Cable Assemblies
- Flat Flex Cables
- Coaxial Interconnects



Products breakdown

ATE/ Instrumentation	Datacomm	Medical	Mil/Aero	Industrial
	SFP+	MRI Thermolectric Device	10Gbs HERCULES	10 Gbs HERCULES
	QSFP+	CT Scanner DAS Assy		SFP+
Custom 20 Gbs High Density Interconnect	DDR/CX4/Infiniband	Cardio Connector Assy		QSFP+
Served, Ribbon & Braided Coax	2mmHM Connectors, and Assemblies		10Gbs HERMES	Custom Factory Automation Interconnect
Single Signal Interconnect (SSI)	Custom Cabling		Bulkhead Connectors	Gaming Connector Interface
RF Connectors and Assemblies	Sockets	MSI – high speed ribbon	10Gbs VPX plus	Custom Power Connectors
ZIF Connectors	Card Edge Connectors	2mmHM Connectors and Cable Assy	2mmHM Connectors and Cable Assy	FFC for Display Interconnect
Interposer ZIF	PCI and PCIe	Flat Flex Cabling	Board Mount Connectors	
				

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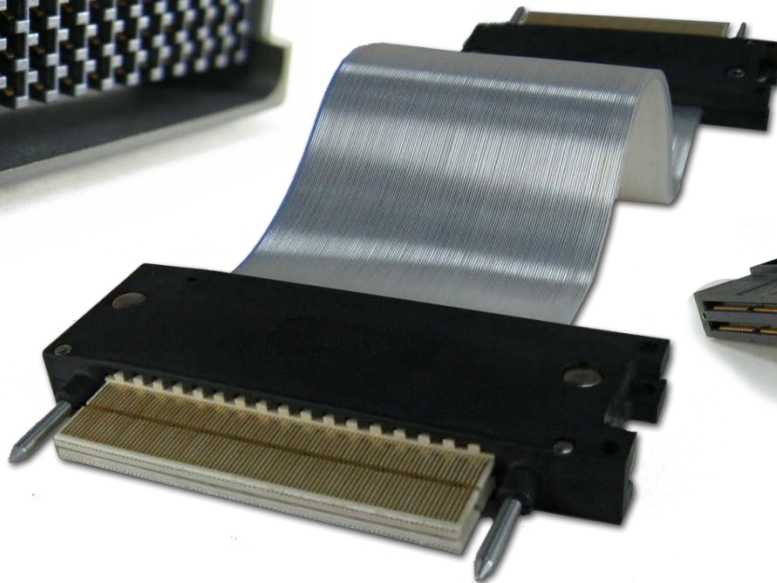
ATE & Instrumentation

10%



Automatic Test Equipment (ATE) Market

- High Pin Count
- High Bandwidth
- High Density
- Zero Insertion Force (ZIF)
 - Pneumatic & Mechanical Actuation
- Low Insertion Force (LIF)



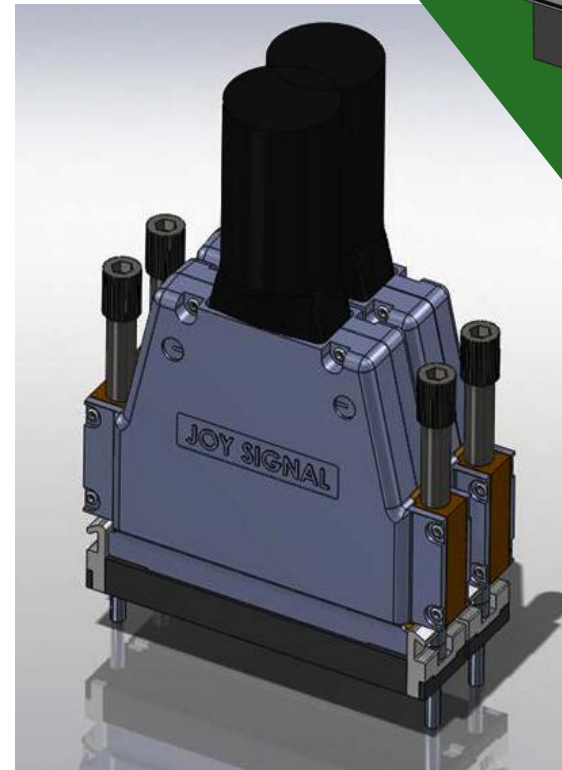
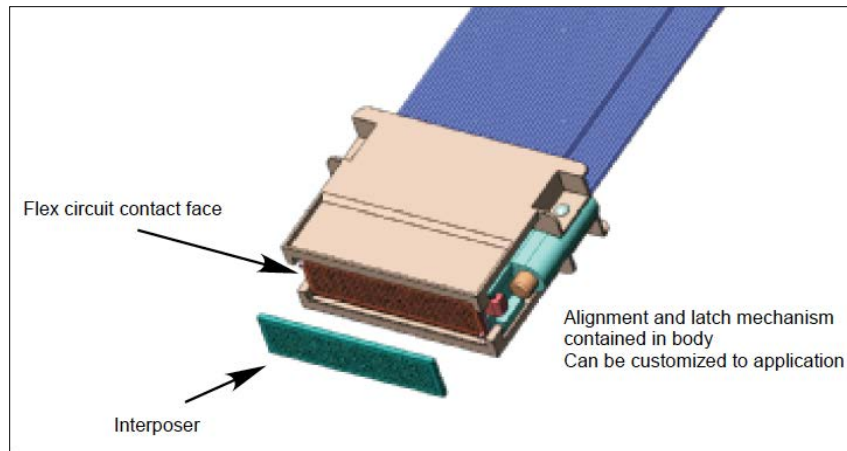
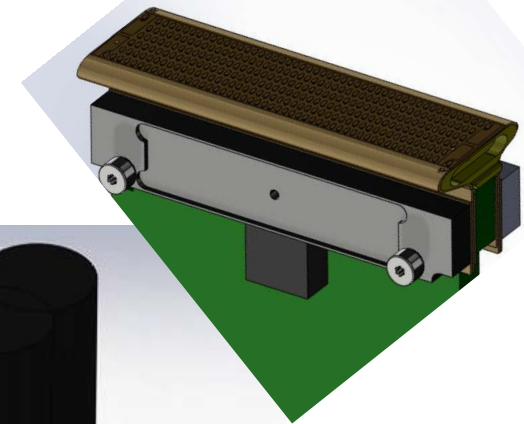
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Chip Test & Emulation

- Ruggedized
- Controlled Impedance
- Tight SKEW for large timing cables assemblies
- High Density/Pin Count
- Ability to integrate many protocols into a Flex/Interposer based interconnect.
- Custom pinouts available
- Various cable offerings available to meet specific requirements per application

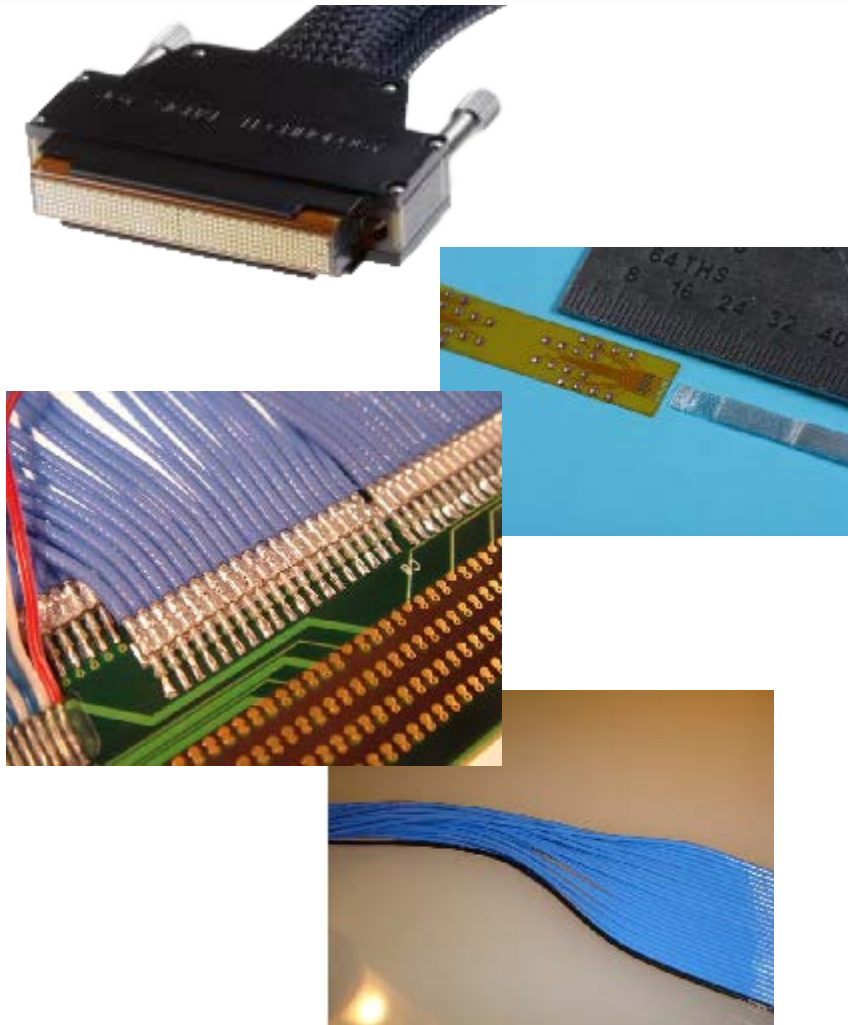


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Ribbon Coax, Flex Circuits



Features and Benefits

- Interposers make compliant connection
- Ribbonized coax reduces labor cost
- Flex circuit or PCB routes signals to interposer pad array
- Coax signal gauge from 26 to 40
- Customized for each opportunity
- High Signal Density
- High Pin Count
- Lower Cost per Signal
- Signal Integrity–bandwidth to 3GHz or higher
- Tight Skew Possible

Application:

- EDA Data Cables
- ATE Test Head internal
- MED Scope applications

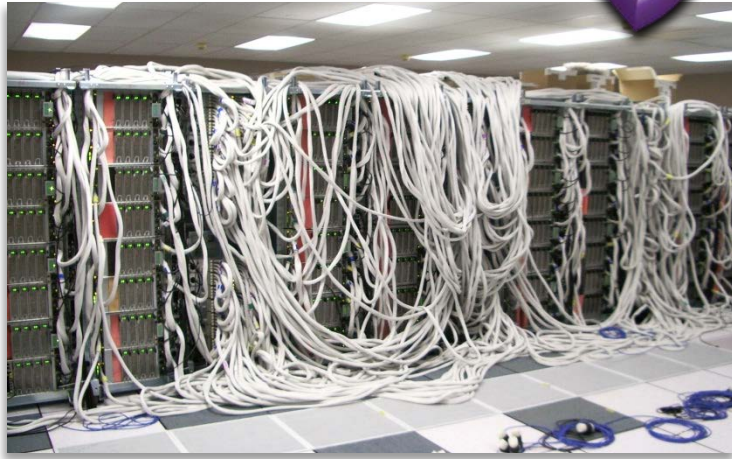
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Datacomm

30%

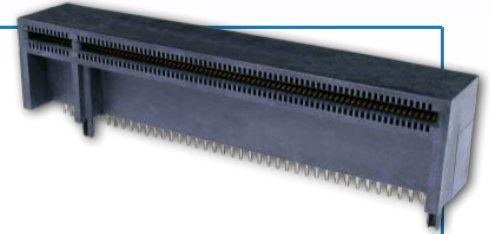


Before

Solution



Ribbonized Twin Ax



After



- CX4 cable available
- QSFP+ also available
- Custom Latching Mechanisms

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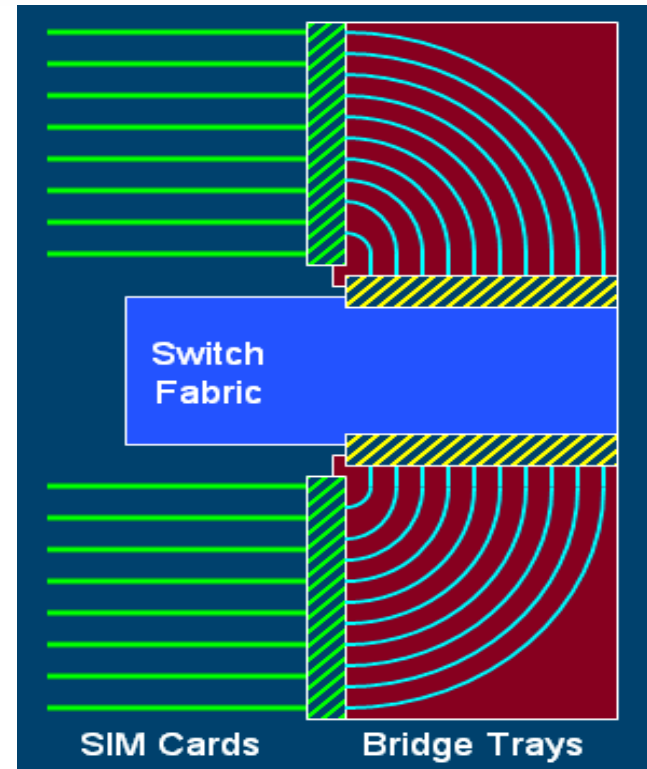
Datacomm

30%

Cable Backplanes

Providing Performance & Flexibility

- Bridge Tray Assemblies Provide Wire Management & Modularity for Ease of Assembly
- Power Interconnect can be Isolated for Signal Performance
- I/O could include QSFP+, CXP, CPAK, CFP



QSFP+



SFP+

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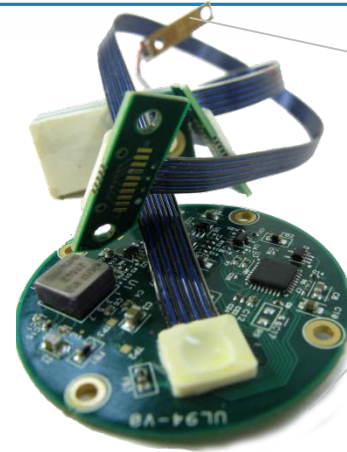
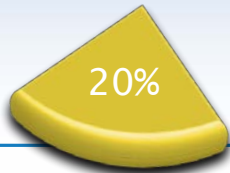
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Thermally Conductive Materials



- Thermally conductive/electrically isolating
- Injection molded $k=10$ W/mK resin
- High precision molding ± 10 microns
- Cost effective solution compared to ceramics

Medical



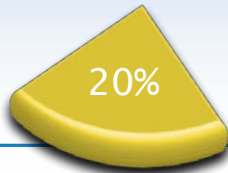
- Miniaturized Cable/Connector Solutions for non-invasive surgery instrumentation, thus allowing miniature packaging options
- Custom Cable Solutions allowing today's sensor technology to interface with data collection and processing



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Medical

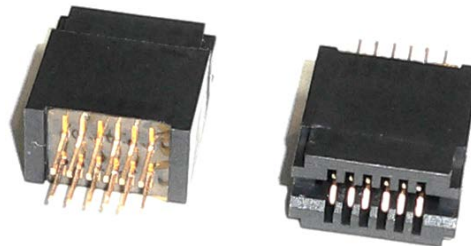


Connector Products

- Unique conductive plastic outershell
- Significant reduction of microphonic noise
- “Black Beauty” Series



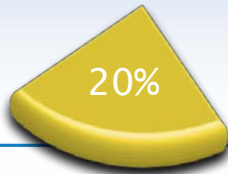
Obsolete Connectors



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Medical



Insert Molded Static Dissipating

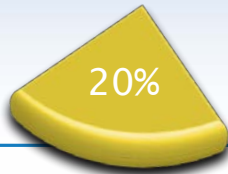


- High-temperature compatible
- 10^8 ohms surface resistance
- Permanently dissipating

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Medical



Protective Static Dissipating Solutions



- Component protection for shipping and manufacturing

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Industrial

15%

- High mating cycles
- Custom keying and latching features
- High Bandwidth
- Rugged
- Packaging applicable to harsh environments
- Up to 20 Gb/s



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Industrial



Structural Conductive Plastic Solutions



Fillers

- Carbon Fiber
- Stainless Steel
- Nickel

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Mil / Aero

25%

- Ruggedized
- High Bandwidth
- High Density/Pin Count
- Ability to integrate many protocols into a mil/aero qualified interface
- Custom pinouts available
- Various cable offerings available to meet specific requirements per application



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 **MERITEC**[®]
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Global Locations






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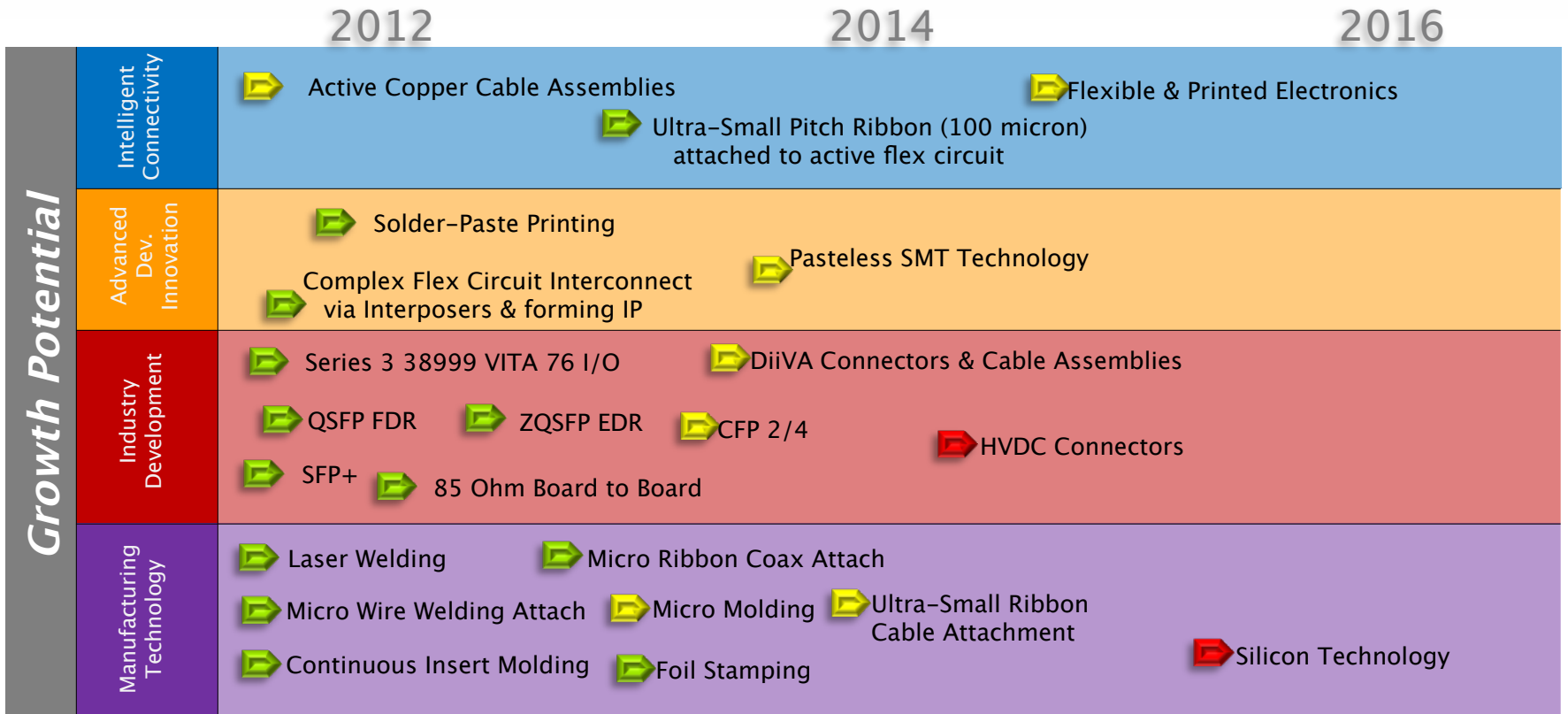
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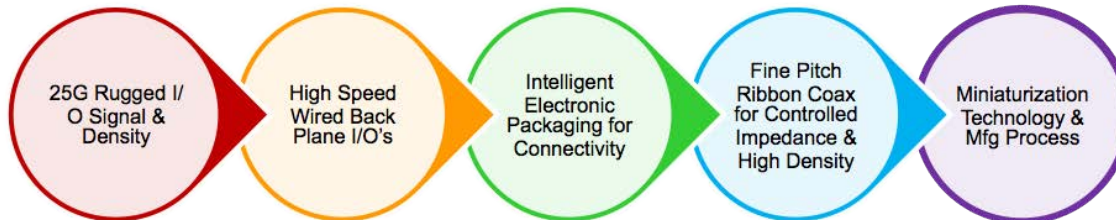
Technology Road Map

Meritec: The Next Five Years

-  Technology known, on track
-  Technology identified, outside partner
-  Technology solution needed



TECHNOLOGY FOCUS AREAS



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2012 Innovative Vendor Award



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CONNECTORS UNLIMITED RECEIVES INNOVATION AWARD FROM GE HEALTHCARE

Painesville, Ohio – May 13, 2012 – Painesville Ohio-based Connectors Unlimited was recently honored by GE Healthcare with the 2012 Appreciation Award for Outstanding Performance and Dedication in the Area of Innovation.

The award was presented at the GE Healthcare Supplier Day on April 24th, at the Sheraton Hotel in Brookfield, Wisconsin.

Connectors Unlimited won one of ten awards presented at the event, which was attended by more than 500 people representing over 270 global suppliers from 20 different countries. The award recognized the innovative, collaborative approach that Connectors Unlimited has taken over the years to deliver cost-saving solutions for GE Healthcare needs.

According to Mr. Ralph Strosin, General Manager, Global Sourcing at GE Healthcare, "Connectors Unlimited has been a GE partner for over a decade. Their consultative approach to helping GE Healthcare solve design and engineering issues by creating innovative, cost-effective solutions has been a tremendous asset to our organization."

"We're honored to received GE Healthcare's Supplier Innovation award. GE Healthcare is a premier customer for Connectors Unlimited and we're proud to be partnered with the organization," commented Marty Ignasiak, President of Connectors Unlimited.

This is the first time that Connectors Unlimited has been honored at this annual event. In addition, Connectors Unlimited was awarded the privilege to present one of the educational breakout sessions at the GE Healthcare Supplier Day event.

Martin C. Ignasiak (at right) honored with the General Electric Innovative Vendor Award.

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Engineering Capabilities

Cosmos Finite Element Analysis	SolidWorks & CadKey	Oculus Software	Rapid Prototyping SLA	Other Capabilities
<p>Utilized as a method to reduce weight and material costs, improve durability & manufacturability, and compare design alternatives to best meet specific customer requirements.</p>  <p>Ability to measure durability, static and dynamic response, motion of assembly, heat transfer, fluid dynamics, and plastics injection molding flow.</p>	   	<p>Measurable High Frequency Testing to 20 GHz, using Tektronix Oscilloscope and Simulations to >20 Gbs, using atSpeed Technologies' Oculus Software and CST Microwave Studio 3D Electrical Simulation Software</p> 	<p>In House Rapid Prototyping, SLA builds.</p>  	<p>Esprit Software</p> <p>Test Criteria :</p> <ul style="list-style-type: none"> Skew Attenuation Rise-time Degradation Crosstalk Insulation Resistance Dielectric Breakdown Capacitance VSWR TDR S Parameters Current Ratings Frequency Response Impedance

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Operational Capabilities

Molding { Insert
Injection
Over Molding



10 to 190 Ton Capability

Stamping { Modular Dies
4 Post Dies



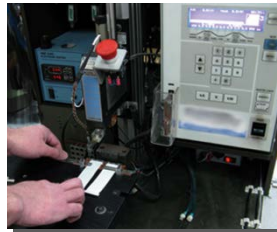
Modular Die Capability

Plating { Overall
Selective
Gold
Nickel
Tin

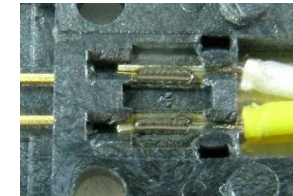
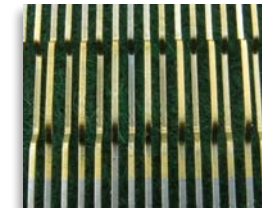
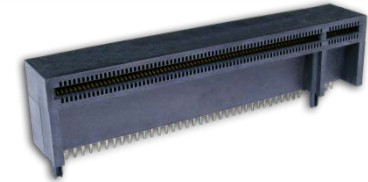


Flexible Quick Turn

High Speed Termination { Resistance Weld
Laser Weld
Induction Solder
Hotbar Solder



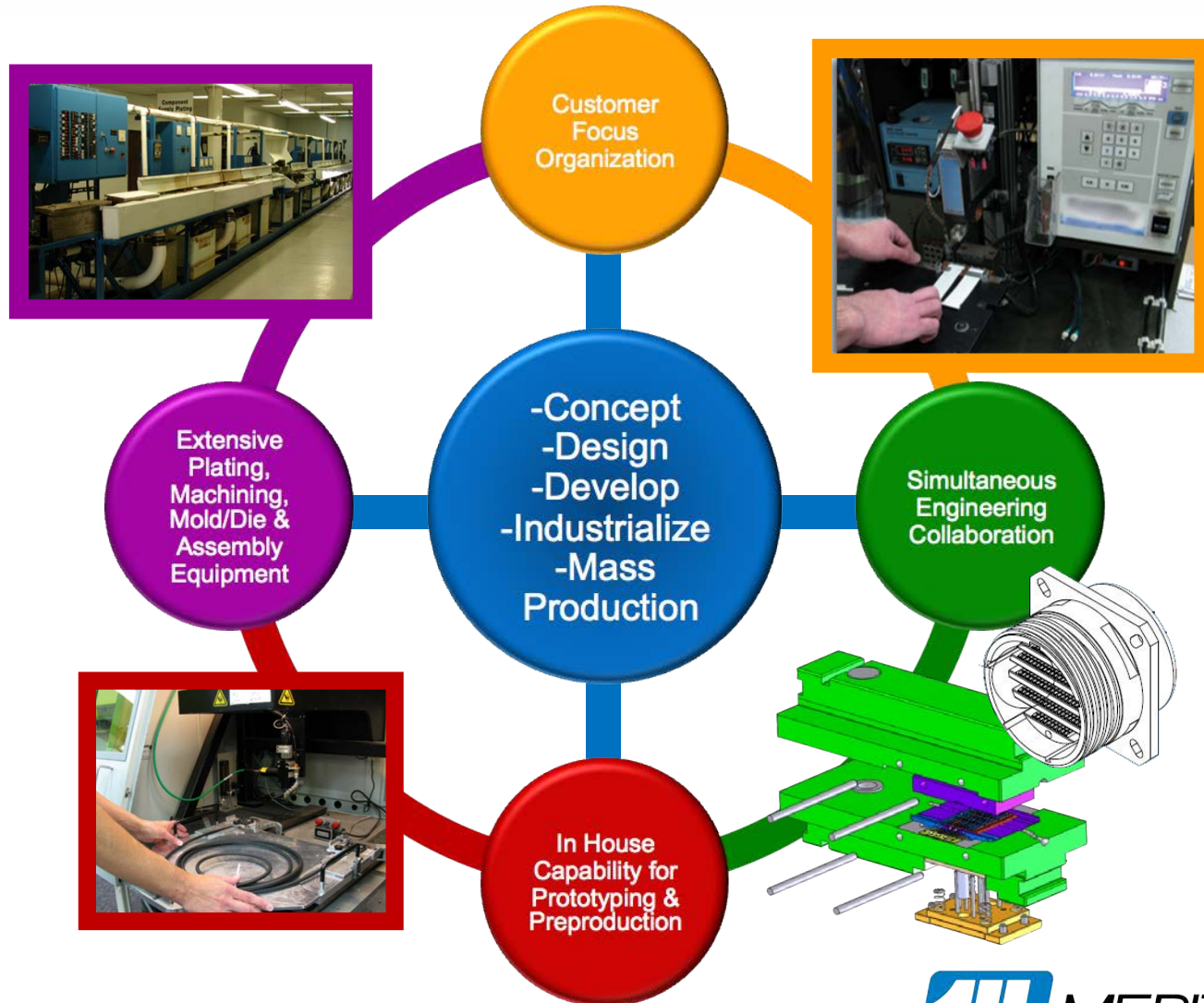
Resistance Welding



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Vertical **Integration**



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Thank You

“A problem well defined is a problem half solved” — Anonymous

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