

veam

PowerLock and SnapLock High Current Power Connectors Catalog



ITT

ENGINEERED FOR LIFE

ITT Veam

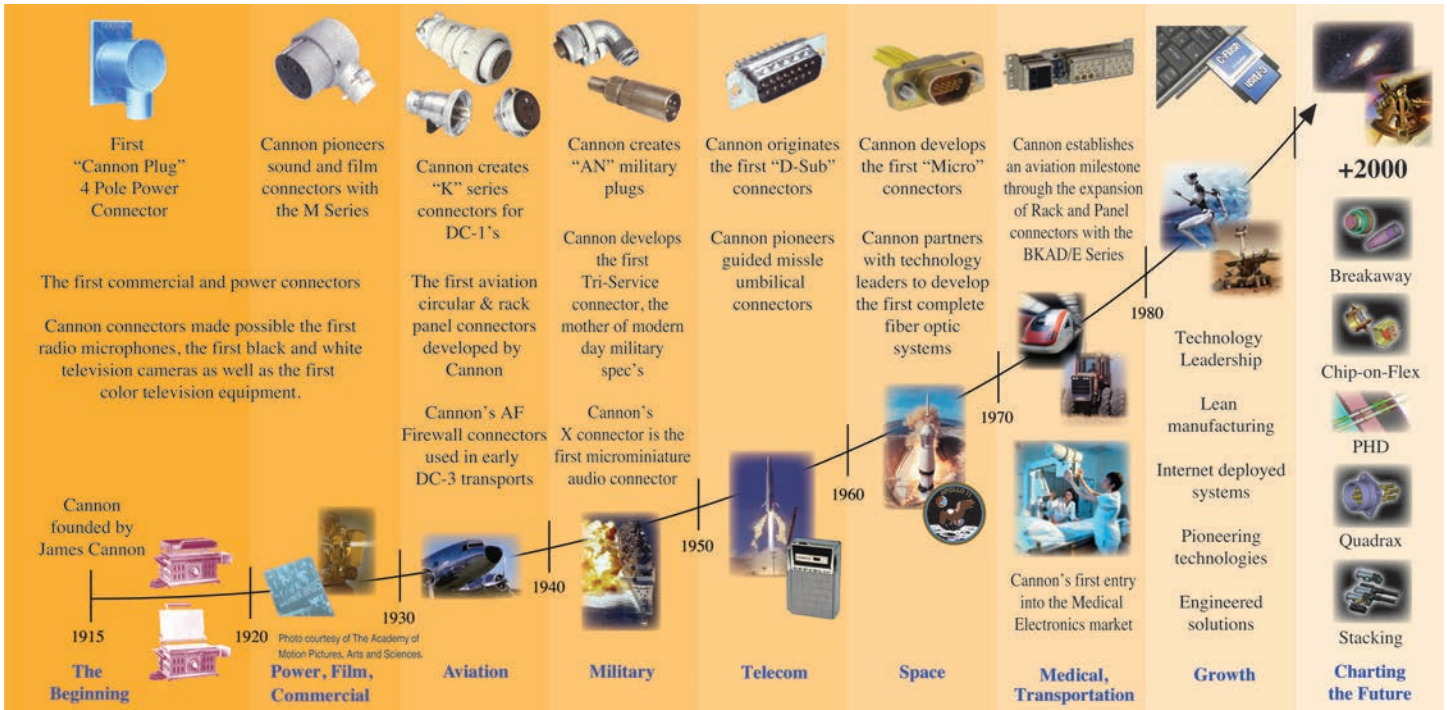
Innovation and Technology Leadership throughout History

Defining and Championing Innovation

Showcasing a portfolio of creativity, ITT's "Engineered For Life" execution embraces products which have become ubiquitous in a broad collection of markets including: Aerospace and Defense, Transport and Industrial, Medical Technologies and Oil and Gas

ITT's rich interconnect history embraces contributions to both technological breakthroughs and social movements. With one of the industry's broadest product offerings, ITT's interconnect products have supported:

- Every Free World space mission, bringing the universe to our doorstep.
- Motion picture, radio, and television equipment, serving laughter and entertainment to millions.
- Commercial and military communications systems, linking the voices of the world.
- Computerized tools, reshaping the information highway.
- Aircraft, rapid transit, and automobiles, mobilizing our expanding society.
- Oil and natural gas production, powering the world's economies.
- Agricultural equipment, attacking the roots of world hunger.



ITT Veam

ITT is a focused multi-industrial company that designs and manufactures highly engineered critical components and customized technology solutions. Our customers depend on us to solve their most critical problems, and we focus on partnering with them to find solutions to their unique challenges.

ITT's Connector business is a world leader in the design and manufacture of highly engineered connector solutions. We operate on a global basis serving customers in the aerospace and defense, medical, oil & gas, transportation and industrial end markets.

From the invention of the Cannon "plug", the rack-and-panel and D-subminiature to the latest fiber-optic, composite and miniaturized connectors, ITT has been synonymous with innovation, reliability and quality for 100 years.

Today our powerful brands, Cannon, VEAM and BIW Connector Systems deliver solutions that enable the transfer data, signal and power in an increasingly connected world.

Whether delivering critical specs to aircraft pilots, streaming data through communication satellites or giving expectant mothers a first look at their unborn child, our Cannon brand connects the world's most important information to those who need it.

BIW Connectors Systems power the oil and gas pumps in wells on frozen tundra, in sun-bleached deserts and at the bottom of oceans, keeping workers and environments safe and global economies running 24-hours a day.

And in an increasingly global economy, getting from Point A to Point B on time and on budget is more important than ever; VEAM connectors protect the world's products and people in transit so they can get to where they're going safely and reliably.

Our Processes

When you specify an ITT connector, you can rely on a product designed, developed, and manufactured to the highest quality and reliability standards. This tradition of excellence is based on ITT's Corporate culture of operating its businesses under the principles of Six Sigma. At ITT, Six Sigma is not just a quality philosophy but a complete corporate culture that drives the entire business. Our Value Based Management and Value Based Product Development systems are two cornerstones that allow for the development of both leadership and product engineering principles, ensuring the correct industry leading products are developed to the accepted market driven lead times.

Six Sigma Manufacturing

ITT's Connector business operates centres of manufacturing excellence across the world with key sites in Europe, United States and Mexico located close to the markets they serve. Our facilities are world class and accommodate full vertical integration utilizing the latest manufacturing technologies including: automated and robotic machining centers, Super Market manufacturing cells, Kanban pull systems, and automated electrical, mechanical, and optical test and inspection equipment. The combination of our manufacturing strength and our advanced manufacturing facilities allows us to offer products at market driven prices.

The Custom Difference

As the industry leader in harsh environment interconnect applications, our world class engineering teams will work directly with our customers to design and develop cost effective solutions for their applications. In many cases we may modify one of our standard designs to ensure a highly reliable solution where timing is critical. Yet, in those cases where a complete custom interconnect solution is required,

we will work with our customer's Engineers to design an interconnect solution which will be cost effective yet highly reliable. As professional consultants, our Engineering teams will provide a thorough systems and mechanical analysis of any proposed solution. These analyses provide our customers with sophisticated electrical signal and mechanical characterizations to determine the best solution for their application.

RoHS Compliance Information

ITT has implemented a strict parts control plan for all ITT electronics plants worldwide that allows the ITT connector product portfolios to meet the requirements of European Union Directive, better known as the Reduction of Hazardous Substances initiative. As appropriate, specific ITT's products may be ordered with an R prefix number which insures our customers will receive RoHS compliant parts for their commercial electronics applications and equipment. Since most RoHS hazardous substances center around specific metal plating and lead solder coatings, our products for RoHS compliance are available in the following plating finishes: electroless nickel, stainless steel, Anodize over aluminum and Gold plating. It should be noted that gold plating would be recommended as the replacement for tin-lead solder when ordering board mount connectors.



The Snaplock connector series is a miniature power cable hook up system offering high current capability while maintaining minimal physical dimensions.

Snaplock offers a commercially viable option to historical hard wiring techniques. In addition, Snaplock offers improved safety characteristics through utilization of insulated bodies, sealing mechanisms, locking mechanisms and protected current carrying elements.

Snaplock connectors are available in a range of colors for simple identification of individual lines.

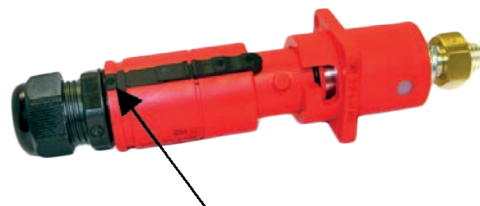
The contact elements are based on our proven Louvre band technology which ensures low contact resistance thus minimizing power loss, low physical insertion forces with a self wiping action, and high number of mating cycles. The male contact elements are protected by a non-conductive tip which makes physical contact with the current carrying element impossible.



The contacts are held in the insulators via a clip retention system. This allows for fast, simple assembly and good retention of the contact sets, especially where vibration is an environmental concern.

Contact termination to the cable conductor is by standard compression crimp or set-screw fixing and for panel mounting a threaded M12 post. Connectors for panel mounting and cable mounting are available. All connectors are IP65 sealed when mated through utilization of integral sealing rings and cable gland strain relief.

The speed of connection and disconnection offers great savings in equipment down time, servicing and maintenance procedures. The security of the connection is maintained by a simple but very effective locking mechanism which can be utilized as a temporary or semi-permanent lock.



Slide forward using a screw driver to provide a semi-permanent lock

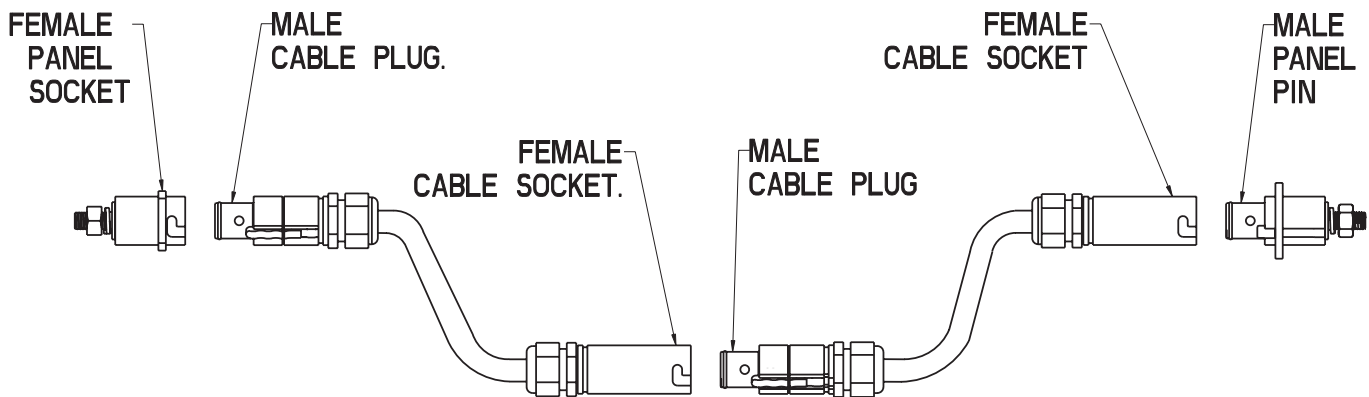
The spring loaded slide lock feature shown above locks into bayonet groove on the mating half, and can be disengaged by sliding back using ones thumb. This lock feature can be made semi-permanent by sliding the retainer forward.

SnapLock Ordering Guide



	SNLM	P	C50	25L	GN
Body Style	SNPM SNPF SNPFL SNLM SNLF	Panel Male - M12 post fixing Panel Female - M12 post fixing Panel Female with Cable Fixing			
Contact Gender	P S	Male Contact (pin) Female Contact (skt)			
Contact Size	C70 C50 C35 C25 S70 S50 S35 S25 TP	Crimp 70mm ² Copper Cable Crimp 50mm ² Copper Cable Crimp 35mm ² Copper Cable Crimp 25mm ² Copper Cable Set-Screw 70mm ² Copper Cable Set-Screw 50mm ² Copper Cable Set-Screw 35mm ² Copper Cable Set-Screw 25mm ² Copper Cable Threaded Post (Panel Mount)			
Gland Nut	25S 25L	Gland nut 10-14mm Ø Gland nut 13-18mm Ø	SNLM, SNLF& SNPFL only (not for contact size S50 and S70)		
Body Color	R BK GN BL BN GY W Y	Red Black Green Blue Brown Grey White Yellow			

*C50, C70, S50 and S70 contacts can only be used with gland nut 25L



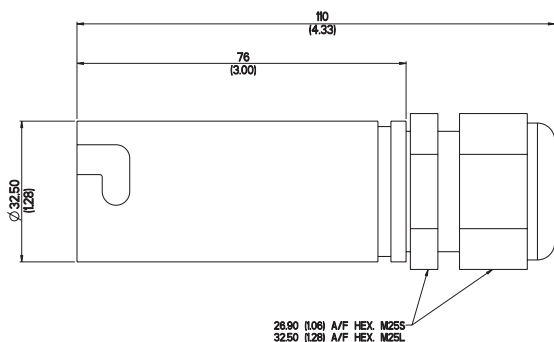
WARNING

IMPORTANT SAFETY INFORMATION

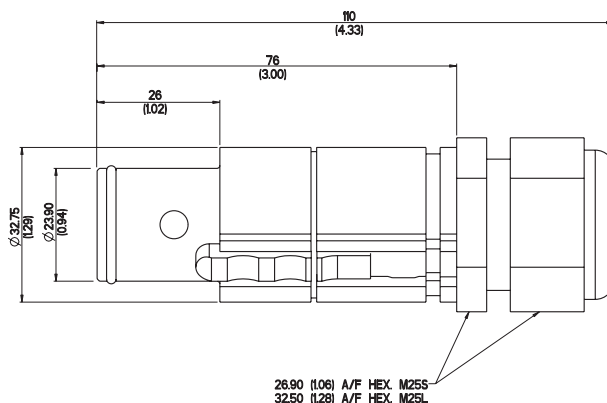
Standard PowerLock and SnapLock contacts are copper based. They should not be used for direct termination onto aluminum cables as galvanic corrosion and overheating can occur.

Electrical	
Number of Contacts	Single Pole
Current Rating	250 amp continuous
Operating Voltage	1000V AC / 1500V DC
Test Voltage	4500V AC
Dielectric Strength	4500V AC
Electrical Protection	IP2X on male connector
Contact Resistance	<0.1 mOhm
Mechanical	
Contact Material	Brass (Set-screw) or Copper (Crimp), Silver Plated
Housing Material	PBT High Temperature Thermoplastic
Locking	Bayonet with slide lock
Vibration	10-2000Hz/15g
Mating Cycles	500
Contact Type	Set Screw or Crimp and threaded post
Contact to Housing retention	C clip
Cable Retention	Cable gland nut
Environmental	
Operating Temperature	-30°C to +125°C (-22°F to +257°C)
Ingress Protection	IP65 when mated
Flammability	UL94-V0

Cable Connectors



Female Cable Plug Socket
Order code- SNLF-S-XXX-XXX-XX



Male Cable Plug Pin
Order code- SNLM-P-XXX-XXX-XX

Cable connectors are available with contacts to fit a range of cables with centre conductors from, 25mm² to 70 mm²
Contacts can be specified for either crimping to cable or for set-screw fixing.

Gland nuts are offered in 2 sizes to suit cable overall diameters from 10mm to 18mm.

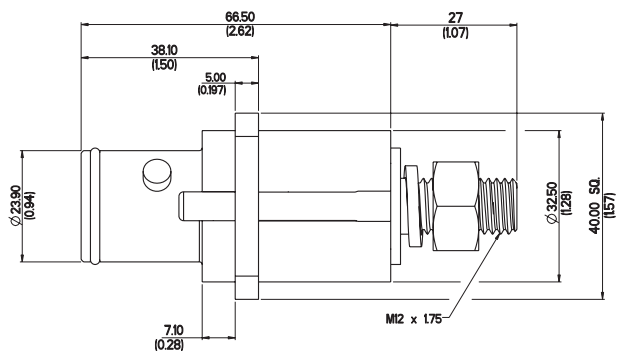
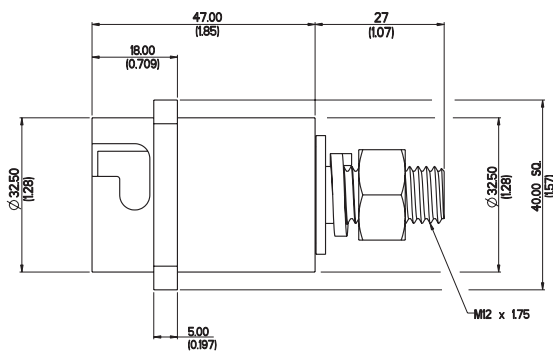
SnapLock Panel Connectors



The standard panel connectors are mounted through 4 holes in the flange. The rear of the connector has an M12 threaded post fitted with a nut and lock washer, to take a cable fitted with a standard cable lug. Male and female connectors are available in a range of colors, and all panel connectors are fitted with a gasket.

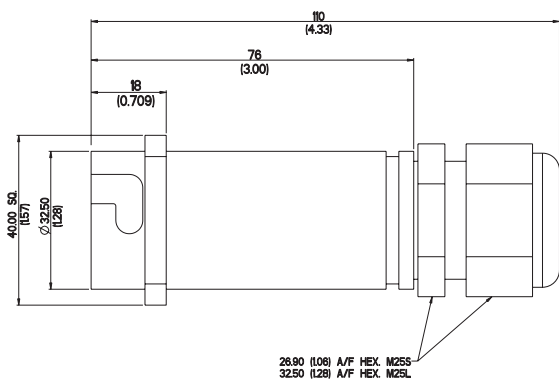
The male connector is fitted with a sliding latch to prevent accidental disconnection. This latch can be locked in place to make this a more permanent lock.

The panel female connector can also be supplied with a cable gland nut fitting, this version uses a crimped or set-screw contact, the contact size needs to be specified with this item.

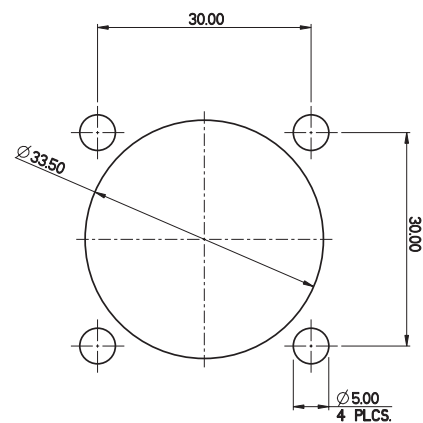


Female Panel Socket
Order code- SNPF-S-TP-XX

Male Panel Pin
Order code- SNPM-P-TP-XX



Female Panel Socket with cable fixing
Order code- SNPFL-S-XXX-XXX-XX



Panel Cut out for all versions

Crimp Tool	
Crimp Tool C130	000V74174
Crimp Tool with Case	274-7634-000
Crimp Tool with PowerLock Dies and Case (Dies include - C50, C70, C95, C120, C150, C185, C240 and C300)	320-7732-000
Crimp Tool with Snaplock Dies and Case (Dies include - C25, C35, C50, and C70)	320-7731-000
Crimp Die Tooling	
Crimp Die C25 (30220)	995-7654-025
Crimp Die C35 (30221)	995-7654-035
Crimp Die C50 (30222)	995-7654-050
Crimp Die C70 (30223)	995-7654-070
Crimp Die C95 (30224)	995-7654-095
Crimp Die C120 (30235)	995-7654-120
Crimp Die C150 (30236)	995-7654-150
Crimp Die C185 (30237)	995-7654-185
Crimp Die C240 (30227)	995-7654-240
Crimp Die C240new (30228)	995-7655-240
Crimp Die C300 (30229)	995-7654-300
Other Tooling Options	
PowerLock connector Release Key L0023N,	AN389900010
Snaplock contact insertion / male removal tool kit	500066100
Snaplock female contact removal tool	500066003
Snaplock Male Contact insertion/removal tool	500066002

MATERIAL CONTENT AND PHYSICAL FORM

Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups.

- a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.
- b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials. Contact materials vary with type of connector and also application and are usually manufactured from either: Copper, copper alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

FIRE CHARACTERISTICS AND ELECTRIC SHOCK HAZARD

There is no fire hazard when the connector is correctly wired and used within the specified parameters. Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionization and burning. Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local overheating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the product Data Sheet/Catalog are exceeded and can cause breakdown of insulation and hence electric shock. If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires and leakage currents through carbonization of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

HANDLING

Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers. Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/use and rejected if found to be damaged.

DISPOSAL

Incineration of certain materials may release noxious or even toxic fumes.

APPLICATION

Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30 V ac or 42.5 V dc are potentially hazardous and care should be taken to ensure that such voltages cannot be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf, or any other undesired conducting particles. Circuit resistance and continuity check should be made to make certain that there are no high resistance joints or spurious conducting paths. Always use the correct application tools as specified in the Data Sheet/Catalog. Do not permit untrained personnel to wire, assemble or tamper with connectors. For operation voltage please see appropriate national regulations.

IMPORTANT GENERAL INFORMATION

(i) Air and creepage paths/Operating voltage. The admissible operating voltages depend on the individual applications and the valid national and other applicable safety regulations. For this reason the air and creepage path data are only reference values. Observe reduction of air and creepage paths due to PC board and/or harnessing.

(ii) Temperature

All information given are temperature limits. The operation temperature depends on the individual application. (iii) Other important information Cannon continuously endeavors to improve their products. Therefore, Cannon products may deviate from the description, technical data and shape as shown in this catalog and data sheets. ITT Interconnect Solutions, a Division of ITT Inc. manufactures the highest quality products available in the marketplace; however these products are intended to be used in accordance with the specifications in this publication. Any use or application that deviates from the stated operating specifications is not recommended and may be unsafe. No information and data contained in this publication shall be construed to create any liability on the part of Cannon. Any new issue of this publication shall automatically invalidate and supersede any and all previous issues.

Product Warranty

A limited warranty applies to Cannon products. In general, except for obligations assumed by Cannon under this warranty, Cannon shall not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether or not based on express or implied warranty, contract, negligence or strict liability arising in connection with the design, manufacture, sale, use or repair of the products. Product availability, prices and delivery dates are exclusively subject to our respective order confirmation form; the same applies to orders based on development samples delivered. Please refer to www.ittcannon.com (General Terms of Sale) for the complete text of Cannon's applicable Terms and Conditions, including Warranty. This publication is not to be construed as an offer. It is intended merely as an invitation to make an offer. By this publication, Cannon does not assume responsibility or any liability for any patent infringements or other rights of third parties which may result from its use. Reprinting this publication is generally permitted, indicating the source. However, Cannon's prior consent must be obtained in all cases. "Engineered for life" is a registered trademark of ITT INC. All other trademarks or registered trademarks are property of their respective owners. All dates subject to change without notice. Commodities in this catalog may be controlled for export by the International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR) when specifically designed modified, or configured for articles controlled by the United States Government.

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Connect with the experts

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Why ITT

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