



# Supply Chain Solutions

[www.ttiasia.com](http://www.ttiasia.com)



**The Global Specialist in Electronic Component Distribution**



# Supply Chain Solutions

TTI is the World's Largest Specialist Distributor of Passive, Discrete, Connector & Electromechanical Components

**Supply Chain Solutions with TTI generates the conditions for you to increase your company value by:**

- Improving the availability of goods
- Reducing the total cost of ownership
- Increasing flexibility
- Minimising risk
- Consolidating the supplier base
- Optimising inventory



# Why TTI?

Founded in 1971, TTI steadily has grown to become the world's largest specialist distributor for Passive, Discrete, Connector and Electromechanical components. TTI ASIA is head-quartered in Singapore, with three dedicated ISO 9001:2008 certified warehouses located in Hong Kong, Shanghai and Singapore. TTI is well positioned to support Greater China and South Asia, with over 400 staff covering 24 locations in 12 countries.

## Product Knowledgeable Experts

TTI has a team of specialists with more product experience and knowledge than any other distributor. All TTI employees participate in company-wide training programs, plus every one of our sales branches has a team of product managers on-site to provide the extra support that customers need. Through the years these exceptional specialists have become, and remained, the most knowledgeable in the electronic component industry.

## Broader and Deeper Inventories

TTI maintains extensive inventories by stocking more than 500,000 parts with over 80% available for immediate delivery. That's more interconnect, passive, electro-mechanical, and discrete parts than from any other source. We remain committed to breadth and depth of inventory, ensuring availability of C and D class parts as well as commodity parts.

## Leading Edge Technology Products

The manufacturers TTI partners with, are the companies that lead the industry in new component technologies. For customers, this means that TTI enlists the help of the manufacturers who can help solve any design challenge. Our product groups also focus on new product introductions to ensure we have the very latest and most technologically-advanced products readily available from stock.

## Value Added Logistic Services

From technical application advice to customized logistical solutions; TTI can add value throughout the supply chain by reducing acquisition costs, improving material flow through forecast analysis, provide safety stock and reduce receipt handling through consolidated shipments. These are just some areas that TTI can review with your company to streamline your internal supply chain and help reduce hidden material costs.

## Global Distribution Centers

TTI has more than 1.3 million square feet of automated warehousing in North America, Europe, and Asia. All are linked into a global warehouse management system that provides superior customer service and overall business efficiencies. Wherever you are in the world, TTI can support you.

## Quality and Reliability

TTI has a passion for excellence, and after 40 years experience our on-time delivery and quality levels are the best in class. TTI implemented Total Quality Management in 1989 and have been ISO registered since 1993, we were the first distributor to have all of our global warehouse locations ISO registered and have since upgraded to ISO9001:2008. TTI has one global documentation system that ensures that every TTI branch and warehouse in the world follow the same processes. Year after year, customers rate our quality and management practices to be among the very best in the industry. This is especially important when the products are the typical high mix, low value parts on which we have built our reputation.

# THE SPECIALIST

Authorized Distributor of These Manufacturers and Their Brands



## Maximise Profits and Speed Time to Market with Supply Chain Solutions and TTI

Whether your goal is to improve the efficiency of your existing supply chain program or reduce operating costs, our proprietary inventory management system and supply chain experts will show you how to reduce inventory while actually improving the availability of components.



### Purchasing

- Increased flexibility and reduced lead times
- Improved productivity and quality through automated transactions
- Increased time for strategic efforts and cost reductions
- Reduced purchasing cycle times and fewer suppliers to manage

### Supply Chain

- Reduced inventory and increased quality
- Increased time for planning and strategic efforts
- Reduced cycle times and fewer suppliers to manage
- Improved on-time delivery

### Quality and Risk

- Reduced interfaces and process steps
- Improved quality and predictability of materials
- Mitigate line-down risk
- Lower cost of quality and improved bottom line

### Finance

- Lowest Total Cost of Ownership Solution
- Reduced inventory cost
- Reduced transactional cost
- Freed up capital and improved bottom line

## WHY TTI

### For Over 40 Years TTI Has Been Ensuring Our Customers Continuity of Supply

Passive, discrete, connector and electromechanical components represent the heavy lifting of inventory management since they are 75% of the typical BoM component count, 85% of PCB placements and typically, only 7% -10% of total spend.

At TTI we have always believed that distribution's essential service is to make as much inventory available to our customers as possible. TTI is committed to stocking a broad and deep range of passive, discrete, connector and electromechanical components.

**TTI has more passive, discrete, connector and electromechanical (IP&E) components immediately available to you than from any other source.**

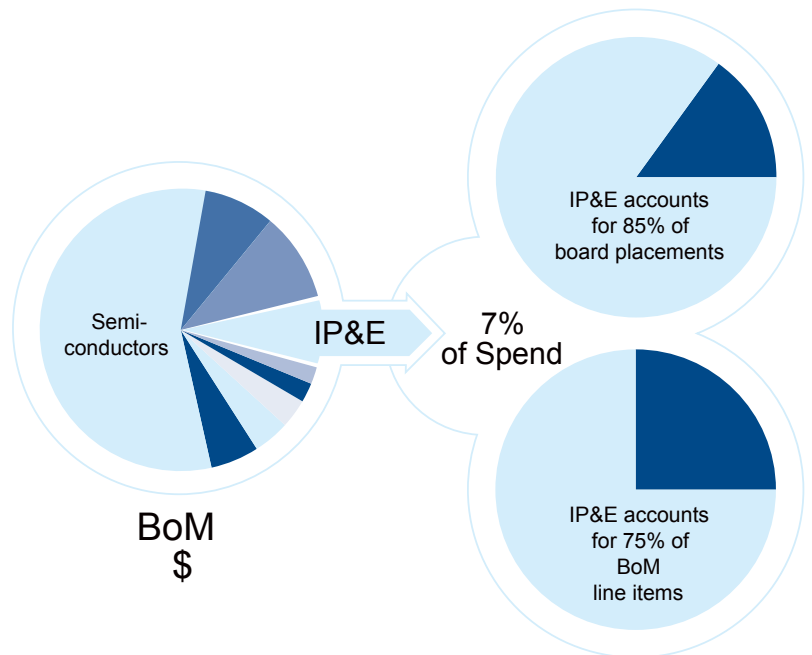
Our systems have been developed and tailored for over 40 years to meet the special requirements of passive, discrete, connector and electromechanical components. This enables TTI to minimise processing cost and maximise continuity of supply, giving you the lowest Total Cost of Ownership (TCO) and peace of mind.

TTI's supply chain solutions are integrated into our mainstream business through Advanced Inventory Management (AIM) – our proprietary system that is the heart of TTI's world-class inventory management system. AIM has been specifically designed to facilitate the management of thousands of low cost components, ensuring data processing accuracy, increase product availability to our customers and eliminate non-value add transactions.

RATIO OF  
BILL OF MATERIALS

### Total Spend

60%	Semiconductors
9%	Printed Circuit Boards
8%	Power/Adapters
5%	Metal/Plastics
4%	Backplanes
3%	Cable Assemblies
2%	Frequency Control
2%	Hardware, Packaging, Documentation, Labels



## Seven Reasons Why Companies Partner with TTI

### Advanced Inventory Management (AIM) Platform

TTI's proprietary system designed exclusively for managing passive, discrete, connector & electromechanical products.

### Premier Line Card and Specialisation

Partnerships with premier manufacturers allow TTI to provide the BoM coverage necessary to deploy comprehensive supply chain solutions. Our unique specialisation provides you with significantly better product knowledge to support manufacturing from design to production.

### Supply Chain Optimisation

Whether your environment is high volume, low mix (HVLM) or low volume, high mix (LVHM), TTI has the skills and the tools to help you accomplish your objectives – economic order quantity and reorder point analysis, consumption to forecast analysis, materials acquisition cost calculator and much more.

### Dedicated Supply Chain Professionals

Our supply chain managers are experienced materials management professionals. They will work with you and your local TTI branch, to develop a program that achieves the least total cost of ownership and the greatest amount of flexibility – let us do the heavy lifting.

### Multiple Interfaces

TTI supports all the major supply chain transactions of ANSI X.12 and EDIFACT including invoicing, forecast sharing, PO change acknowledgements and advanced shipping notification. We also work with flat files and customer proprietary data export.

### Powered by a Single, Global Computer System and Distribution

TTI has more than 1.2 million square feet of automated warehousing in Asia, North America and Europe. All are linked into our global warehouse management system to ensure superior customer service and overall business efficiencies. Wherever you are in the world, TTI can support you.

### Unsurpassed Quality and Reliability

TTI was the first distributor to have all global warehouse locations ISO registered and are currently rated ISO9001:2008 in Asia, ISO9001:2008 and AS9100B in North America and TTI Europe to EN9100 and EN9120:2009. Year after year, customers rate our quality and management practices among the very best in the industry.



## Supply Chain Solutions

Our professional materials and supply chain teams follow a documented, best-practice process that ensures your program is developed, implemented and monitored on an ongoing basis to meet your total-cost objectives and ensure continuity of supply.

Supply Chain Solutions are not just a tool but a thinking process and we know that the most important factor for corporate value is the people working in companies throughout the supply chain. Our people-oriented approach in consulting provides you with the right supply chain solutions to meet your goals.

Supply Chain Solutions at TTI allows us to increase your corporate value

### Consulting

Analysis of parts and processes

Collaborative and people-oriented

### Project management

Reliable with drive and commitment

Quick reaction time

### Controlling

Proactive controlling of processes, inventory and risk

Innovative thought process

### Execution

Efficient and effective processes

Dynamic inventory reservation

## Supply Chain Solutions – Five Steps

### 5. Controlling Assessment

### 4. Implementation Assessment

### 3. Concept Assessment

### 2. Diagnostic Assessment

### 1. Analysis Assessment

## Analysis

Our process starts with an on-site examination. This provides us with a real understanding of your goals, requirements and key processes. This information is essential for the diagnostic assessment.

## Diagnostic

The Diagnostic assessment facilitates rapid and methodical identification of core problems without excessively hindering the people engaged in operative processes. Our approach helps to involve employees in the process as soon as possible.

## Concept

The concept assessment is used for joint planning future processes. The final outcome is determined by the results of the diagnostic assessment. An evaluation of possible outcomes and the effects will be considered included throughout the change process.

## Implementation

The implementation assessment determines and specifies the details of the implementation plan. Goals from the concept assessment are expressed as specific measures and actions within a joint project plan.

## Controlling

The continuous controlling assessment supports the evaluation of the current situation.

Based on defined Key Performance Indicators (KPIs), variances can be discovered and the continuous improvement process will be pushed to Supply Chain Solutions



## Ready... AIM... Reduce Costs

### Increase Turns and Mitigate Risk with Solutions Based in Best Practices

TTI's supply chain solutions allow you to better utilise valuable floor space, cut inventory carrying costs, reduce transportation costs and effectively eliminate the burden of purchase order reschedules.

The goal of supply chain programs is to improve your ROI by increasing inventory asset turnover and reducing manufacturing lead time while mitigating the risk of being line-down. At TTI we understand that it is all about having exactly what you need, exactly when you need it. We are focused on satisfying your supply chain needs.



### Configuration Tool

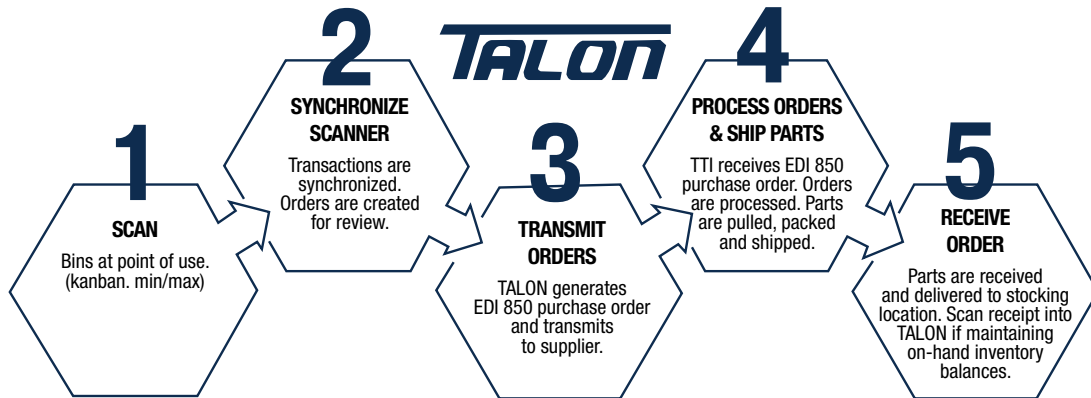
The configuration tool creates an individual setup of your supply chain program. There are several options for planning and forecasting. Inventory can be held at TTI or at customer's site on a consigned basis. Information within the supply chain execution can be automated and the process can be supported by several value added services.

	Tools			
<b>Inventory Management</b>	Consignment	MRP		
<b>Minimum Stocks</b>	L-Parts	All-Parts	None	
<b>Safety Stocks</b>	Fix	Dynamic	None	
<b>Planning</b>	Net Demand	Gross Demand	EAU	Extrapolation
<b>Transmit Planning</b>	EDIFACT	XML	Flatfile	None
<b>Trigger</b>	Kanban	Auto	ROP	Order
<b>Transmit Trigger</b>	EDIFACT	XML	Flatfile	TTITurns
<b>Confirmation</b>	EDIFACT	XML	Express	None
<b>Labelling</b>	Standard	Special	None	
<b>Shipment</b>	Daily	1x/ Week	2x/ Week	
<b>Dispatch Advise</b>	EDIFACT	EXCEL	Express	None
<b>Receiving</b>	Customer	TTI-inplant	Rackjobbing	

## A Full Range of Options

### Talon® End-to-End Solution

TALON is our comprehensive, web-based, auto-replenishment stockroom and eCommerce solution. It's designed to support lean manufacturing concepts and reduce your cost of acquisition and inventory management. This virtual management tool automates the order placement process and manages inventory.



### MRP

MRP is TTI's forecasting tool that allows the customer to send a weekly forecast file to TTI. The inventory will be reserved upon the forecast quantity and the lead time of component. Automatic release of procurement instruction through the mapping of customer specified requirement and supply status.

### Bonded Inventory

This is a inventory reservation at fix quantity for customer in our warehouse. The reserved quantity is agreed with customer which base on estimated annual usage or actual run-rate, customer need to consume the stock before the agreed time period.



## Forecast Management

TTI's forecast management program is a proven, best practice and the foundation of our supply chain solutions. This closed loop inventory reservation program begins with the sharing of your forecasted requirements and closes the loop with replenishment signals directly to our component suppliers and product shipment to you.

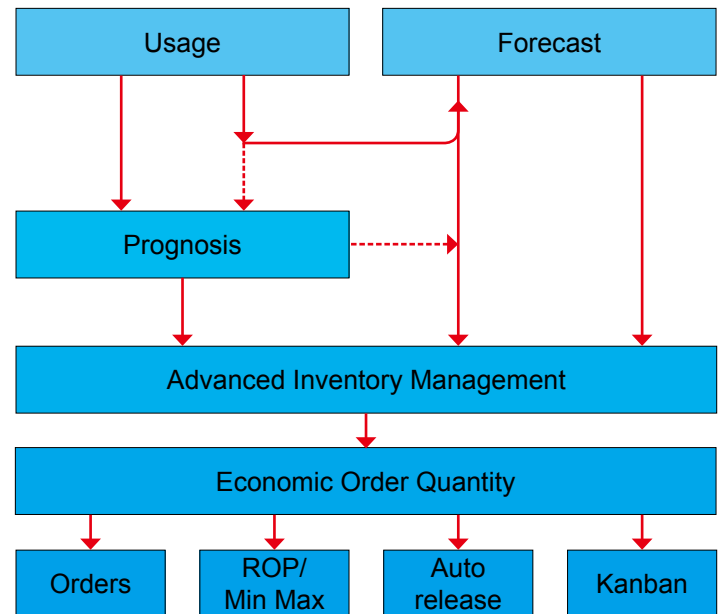
Your component demand is integrated into TTI's proprietary Advanced Inventory Management (AIM) platform. The appropriate component quantity and schedule is then pipelined and an inventory reserve created to support unplanned spikes in your demand. Our flexible reservation system, designed by materials managers, enables us to apply trend factors and offer additional prognosis tools in order to optimise your program.

### Online Reporting Through TTI ezReview:

- Easy online access to your required reservation parts and highlighted potential shortages
- Capability to export to Excel format and e-mail for review
- Inventory reservation report that includes additional available to sell inventory
- Recent shipment history with waybill number
- Current manufacturer's lead time

### Forecast Management Benefits:

- Eliminate non-value add activities in the materials management process
- Reduced material acquisition cost
- Increased flexibility to support changing customer demand
- Increased assurance of supply and improved on-time delivery



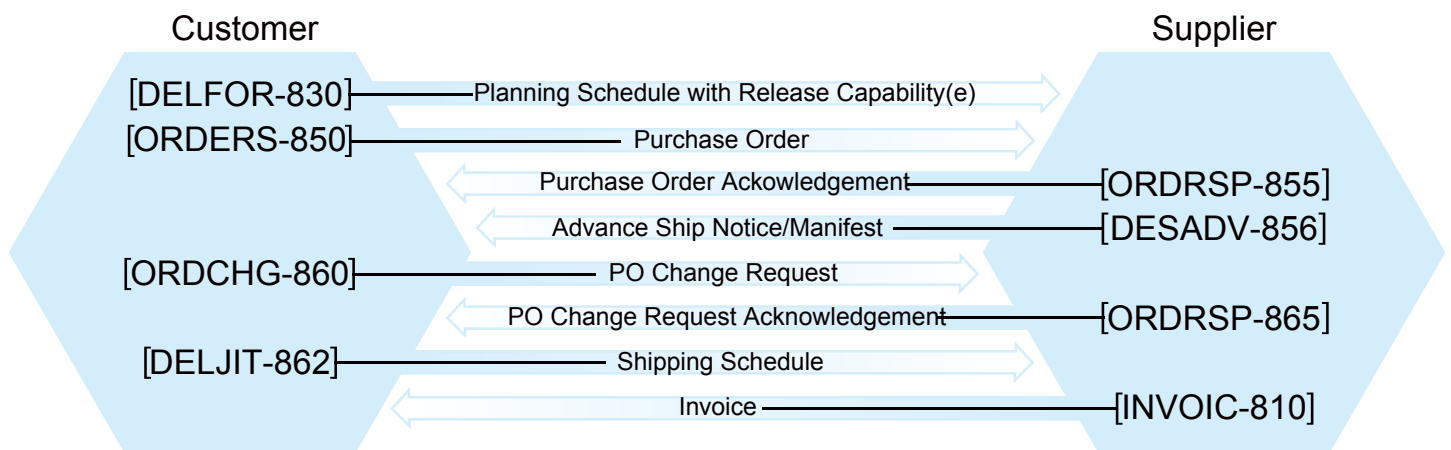
## EDI & File Sharing

The sharing of supply chain transactions in a computer-to-computer environment saves time, increases accuracy and improves the overall efficiency of communications. TTI supports the industry's widest range of electronic communication methods, the two most common are Electronic Data Interchange (EDI) and Electronic File Sharing (efile).

### EDI

EDI is the computer-to-computer interchange of strictly formatted documents between trading partners. TTI supports a wide range of the most commonly used transactions including forecast sharing, purchase orders, advanced shipment notification and invoicing. The benefits of EDI include the elimination of paper documents, reduced risk of human error, increased productivity and faster response times.

### EDI Transaction Set Examples



### Electronic File Sharing

For customers currently not using EDI for computer-to-computer communication, TTI also supports a broad range of efile sharing options that provide many of the same benefits without limitation. Using this communication method, customers transmit their key business documents, demand requirements, purchase orders, etc., via e-mail attachment or by providing access to their secure web portal. At TTI, we convert these Excel and text files and electronically integrate them into our Advanced Inventory Management (AIM) platform for processing.

### 'TTiTurns' – The TTI App

Customers who prefer materials control and replenishment through a kanban pull system can benefit from TTI's iPhone App 'TTiTurns'.

Through scanning the 2D bar code labels, shipment from reserved inventory can be triggered automatically.



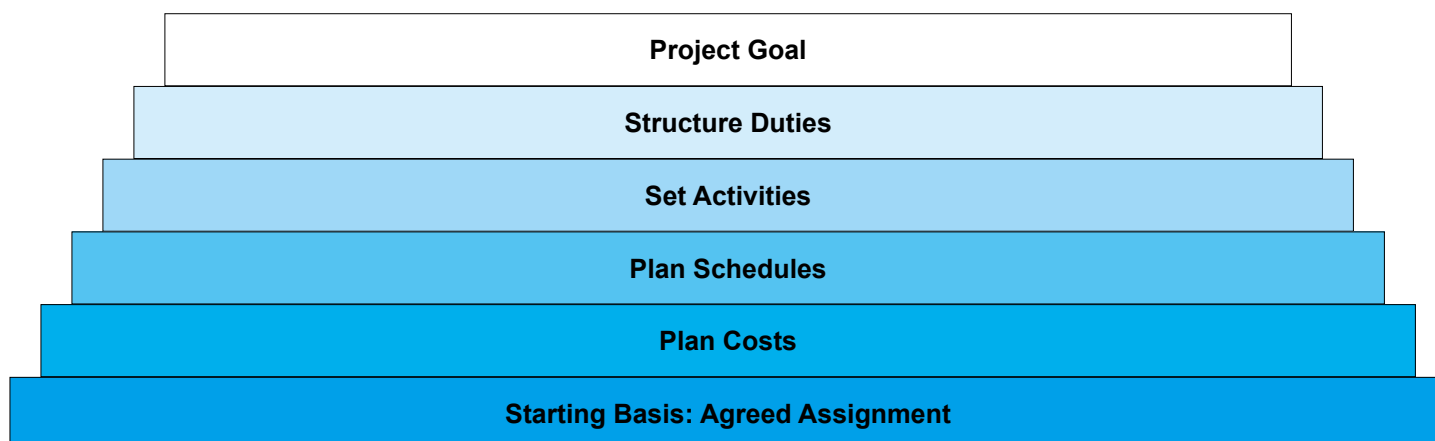
## Controlling Tools

Our challenge is to achieve all project goals and objectives whilst understanding the potential constraints. With drive, commitment and focus, TTI's intelligent project management team, including project reports and controlling, always ensures success.

By closely monitoring your Key Performance Indicators (KPIs) and portfolio provides us with new possibilities for improvement. By analysing the related processes, we gain a quick understanding as to how to solve the next challenge. Continuous improvement is always a top priority here at TTI.



## Project Management



## Performance Management

TTI's performance management tools quantify key cost drivers in the material acquisition process and identify opportunities to reduce total cost of ownership:

### Economic Order Quantity and Reorder Point Analysis:

- Minimise your order management and inventory holding costs
- Determine optimum shipment quantities
- Calculate min/max and reorder point quantities
- Utilise available data

### Total Acquisition Cost Analysis:

- Identify key cost drivers in the order management process
- Quantify the cost savings between your current process and potential benefits of a proposed solution
- Reduce non-value add activity

### Consumption to Forecast Analysis:

- Measures actual consumption compared to required reservation by part
- Identifies key trends in demand
- Tracks change in manufacturers' lead time

### Inventory Analysis:

- Helps to understand the product mix
- Enables proactive risk-management
- Analysis on structure of demand
- Determines best inventory management strategies





There's a TTI location near you.



**The World's Leading Distributor**  
of Interconnect, Passive, Electromechanical  
and Discrete Components



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There's a TTI location near you.

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