ENROUTE™

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EDITORIAL

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Dear Readers,

This edition of ENROUTE focuses on another important theme "Technology in Logistics & SCM".

As we all are aware that technology has totally changed the way each industry performs today. Right from computers, electronics, and telecommunications, logistic businesses use every mode of communication in order to keep abreast of the latest business trends. Logistics businesses totally depend on technology to maintain high efficiency standards and ensure good service to customers.

In this edition, we would explore emerging technologies and applications which will forever change the industries of logistics, supply chain, and transportation forever.

Please drop your valuable feedback at enroute@tcil.com

Write to us

We invite our readers who are experts in their domain areas to send us contributory articles.

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TCI Publication on Logistics and SCM

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PROLOGUE

Role of Technology in Logistics & SCM

The logistics, manufacturing, supply chain, and transportation industries are going through a time of rapid and unprecedented transformation. The future of these industries is paved with innovation and technology. It was not long ago that ideas like 3D printing, the Internet of Things (IoT), drone delivery, and augmented reality were things of science fiction. Today, merchants and service providers within these industries are cautiously adopting these technologies to provide faster, cheaper, more reliable and sustainable business practices.

In 2016, the Logistics and Transportation Industry has witnessed some interesting transformation and trends. The ever increasing demands, new consumption patterns, digital age of commerce and global trade treaties has impacted warehousing and transportation formats. The "first mile" facilities are expanding with e-Commerce boom and the "last mile" facilities are becoming highly localized to support quick deliveries to consumers.

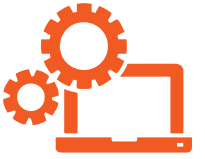
And in year 2017 as well, Technology Will Be Required to Compete. The technology will continue to push the envelope industrywide, and all players will be forced to adapt or be left behind.

The future of logistics is paved with innovation and technology. Let's take a look at some of the emerging trends that will affect the future of logistics.

3D Printing

GIS

AGVS



IT

DRP

RFID

TMS

Driverless Transport

Drone

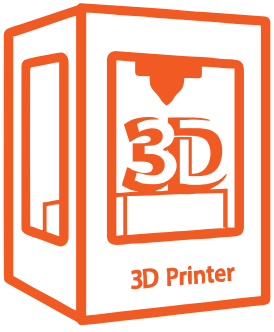
Big Data

Demonetization

IoT

Augmented Reality

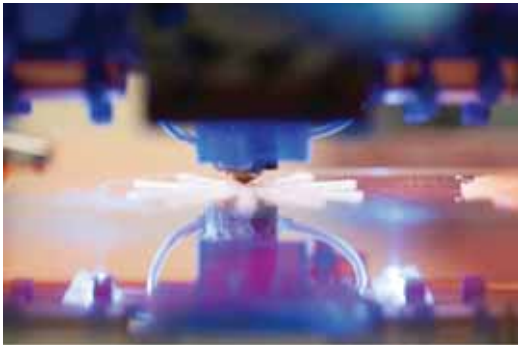
Analytics & Machine Learning



3D Printing

3D Printing

3D printing technology has emerged as one of the most disruptive innovations to impact the logistics industry and the global supply chain. Whether revolutionary or evolutionary, 3D printing technology is recognized as an important trend that will significantly impact supply chains.



Did you Know?

- It has been estimated that in 2012 up to 30% of finished products already involve some kind of 3D printing. By 2016, this is expected to rise to 50% and by 2020 potentially up to 80%.
- Gartner forecasts 3D printer shipments will more than double every year between 2016 and 2018. Overall, end-user spending on 3D printers is expected to increase from USD 1.6 billion in 2015 to about USD 13.4 billion in 2018.
- McKinsey predicts 3D printing will generate an economic impact of USD 230 billion to USD 550 billion per year by 2025, the vast majority originating from consumer uses and direct manufacturing applications.

Role in Logistics & SCM

Economists have labelled additive manufacturing (a.k.a. 3D printing) the 3rd industrial revolution. Following are the key areas in supply chain and logistics likely to be impacted by 3D printing technology:

- **Rationalization of inventory and logistics:** Logistics will adjust to print on demand, eliminating the need to carry inventory
- **Resource efficiency:** Material saving during production and ability to utilize recycled materials
- **Customer demand will be met more quickly:** Reduction in manufacturing lead time and strategic near-shore manufacturing facility
- **Customization:** Tailoring individualized offers to each customer, involvement of client in design, and providing ability to test prototypes
- **Global Logistics:** Reduction in cost of international logistics by reducing overseas manufacturing thus decreasing quantity of air and ocean freight and brokerage cost

The supply chain traditional model is founded on traditional constraints of the industry, efficiencies of mass production, the need for low cost, high-volume assembly workers, and so on. But 3D printing bypasses those constraints.

From that point of view, the traditional model stops making sense—It is no longer financially efficient to send products zipping across the globe when manufacturing can be done almost anywhere at the same cost or lower. However, disruptive technologies come with challenges.

Following are challenges for 3D printing:

- **IP Issues –** Authors of digital design templates could be targeted by hackers and incur copyright infringement.
- **Security Concerns –** For example, when printing harmful objects such as a knife, gun etc., which party would be held responsible?
- **Liability –** For example, who is to blame if a 3D product fails: the company printing and selling it, the material supplier, the printing machine manufacturer, or the designer?
- **Mass Production –** It cannot compete with the speed of traditional manufacturing process.

GIS

Today, logistics and routing is an integrated activity involving multiple modes and trans-shipment at intermodal facilities. The use of the latest routing and logistics tools that can help plan, allocate, and track vehicles and shipments in space and time is necessary to meet customer requirements for supply chain management and just-in-time delivery. The logistics industry has responded to this challenge, leading to the widespread use of information and communication technology. With the growing use of Global Positioning System (GPS) and automated vehicle location (AVL) technologies, the attraction of a computer-based mapping technology such as geographic information systems (GIS) has increased. GIS integrate spatial and attribute data to create a powerful database and mapping system; they are designed to work with location-based systems, and are therefore, an attractive choice for logistic providers.

Key benefits provided by the system are –

- Provide map based visualization of the routes, driver home locations, etc.
- Integrated view of truck locations captured through GPS (AVL feeds)
- Defined approach to identify and prioritize the drivers at highest risk, that may be unlikely to reach home on a defined date
- Complex geo-spatial analysis to identify the suitable candidates for swap
- Analysis and calculation of the cost associated with different strategies
- What-if analysis of the different possibilities based on swap candidates and swap locations
- Spatial analysis to identify the quickest available repower possibility
- Help Fleet Managers in ensuring timely delivery through relay of the load using series of drivers

Case Study

How a Consumer Goods Corporation restructuring through GIS Analysis?

One of the largest Consumer goods corporation, provide an additional example of in-depth and complex GIS analysis. In 1997, it began an effort to re-structure its North American supply chain network. With 58 facilities operating around the world and 300 brands, restructuring the supply chain was a significant undertaking. It developed a GIS application that allowed for analysis and manipulation of data produced by a product sourcing model. The strategy team easily manipulated various supply chain parameters to identify spatial relationships based on changing inputs. This GIS application supported strategy decisions that resulted in a reduction in the number of North American plants by 20%, thus saving an estimated $200 million in pre-tax costs.

On the other hand, there are as well some disadvantages that might be experienced because of using the GIS technology. And some of those are drawbacks are the following:

- GIS technology might be considered as expensive software.
- It as well requires enormous data inputs amount that are needed to be practical for some other tasks and so the more data that is to put in.
- Since the earth is round and so there would be geographic error that will increase as you get in a larger scale.
- GIS layers might lead to some costly mistakes once the property agents are to interpret the GIS map or the design of the engineer around the utility lines of the GIS.
- There might be failures in initiating or initiating additional effort in order to fully implement the GIS but there might be large benefits to anticipate as well.

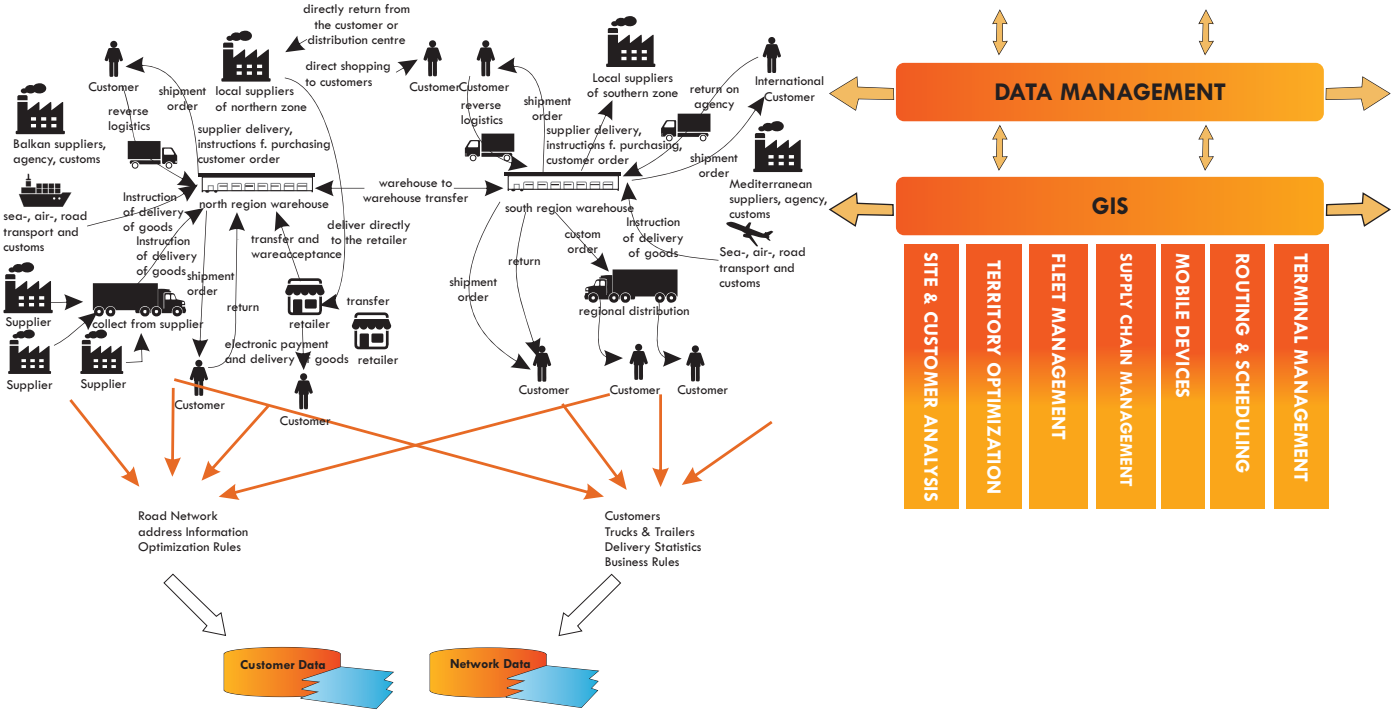
THE USING AREAS OF THE GIS IN LOGISTICS and THEIR CONTRIBUTION POTENTIALS TO DECISIONS

There are a lot of areas using the GIS in transportation and logistics:

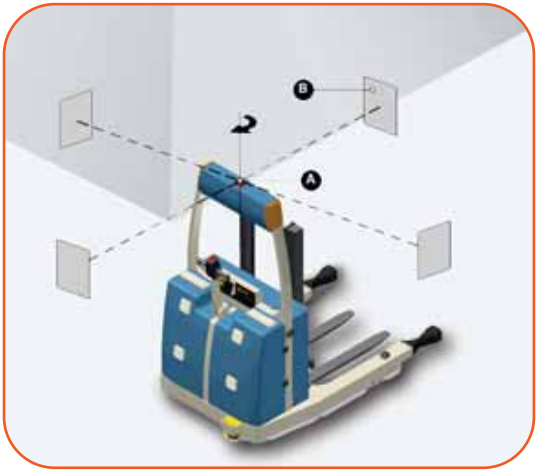
- ✓ commodity flow analysis
- ✓ the planning and/or optimization of the locations of branches
- ✓ customers and suppliers
- ✓ the planning of tariff zones and delivery areas

With the help of spatial information, workflows can be improved and costs can be decreased.

In the figure below, some processes of logistic companies in that the GIS are used are shown. In business processes, especially in the processes of logistic companies, the integration of spatial information has a key role in relation to a good planning and detailed analysis. As a conclusion, this integration enables to optimize the relevant processes and make them more transparent.



Source: Adapted from Beykoz Meslek Yüksekokulu, Geleceğin Mesleği, Geleceğin Sektörü; LOJİSTİK (Beykoz Vocational School of Logistics; LOGISTICS: The future job, The future sector), http://www.beykoz.edu.tr/tr/lojistik, accessed 4 May 2012 and ESRI; Transport und Logistik. http://www.esri.de/industries/transport/index.html, accessed 11 April 2012



Automated Guided Vehicle System

Increasing popularity of AGVs is based on the unequivocal adaptability of the technology by removing any hassle of adjusting physical barriers. Using such an autonomous system provides benefits of vehicles that make routing decisions based on real-time feedback of environment conditions along with the ease of navigational adjustments.

And wherever standardized transports are carried out within the logistics environment, processes can be optimized using Automated Guided Vehicles (AGVs) without affecting flexibility and space utilization with a fixed conveying system. Additionally, users will benefit from reduced operating costs with simultaneously increased efficiency and safety.

Vehicle Types

Towing Vehicle

AGVS Pallet Truck

AGVS Hybrid Vehicles

Why consider AGVs vs other material handling equipment?

AGVs have a strong history as a flexible and redundant horizontal transportation solution. With recent enhancements, AGVs provide a strategic solution for automating warehousing versus conventional fork trucks.

Strengths

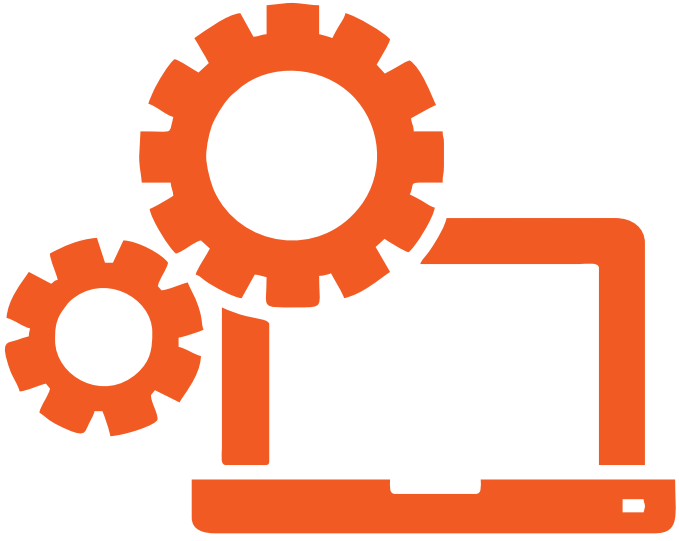
- Space - Provide reliable horizontal transportation without impeding other traffic
- Economical - Long distance delivery without fixed assets such as conveyor
- Agile - Intelligently completes complex multi-point moves
- Flexible - Capable of interfacing to a variety of stands, automation, manufacturing operations
- Dynamic - Easy path modifications in changing environments
- Redundancy - Natural redundancy built in due to multiple AGVs on same guide path

Benefits

- AGV's require a minimal amount of human interaction. Therefore, businesses have the opportunity to save a significant amount in labour costs.
- AGV's are able to work continuously 24/7, 365 days a year. (Disregarding downtime for repairs and reprogramming).
- They are a great alternative for outdoor transportation and cold storage areas, as well as any situation where forklift operators would be uncomfortable for long periods of time.
- AGV's can be fitted to a number of safety devices. These include; object detection, anti-collision and stopping devices, cameras, laser sensors, bumpers and warning lights, which all work to dramatically reduce collisions and warehouse accidents.
- They result in the reduction of plant noise and exhaust fumes.
- Human error is minimised which reduces injuries and accidents in the workplace.
- They can be set up in a very small aisle width, as small as 2 meters space from pallet to pallet.

DID You KNOW?

- Mac Barett – "The Father of the AGV" Mac Barrett was credited in 1954 for creating the world's first AGV.
- The name of his invention was the "Guide – O- Matic" as pictured in the image to the right.

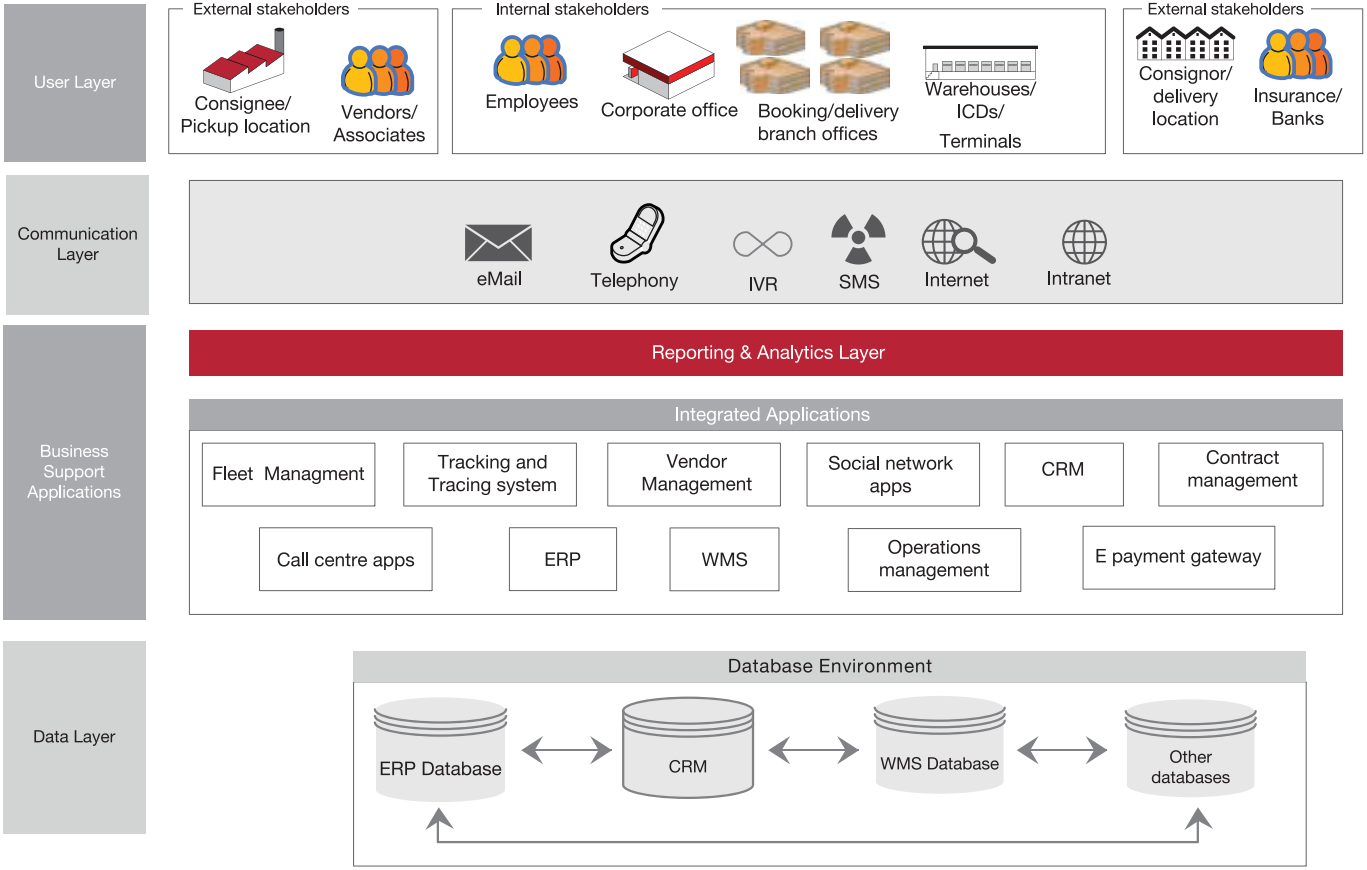


Information Technology (IT)

IT plays multiple roles in the Indian logistics sector. However, its primary objective is to enforce and cleanse internal hygiene and manage operations with increased efficiency. IT also plays conventional roles such as increasing productivity and standardization of information management. Other key benefits of IT include:

- Increasing customer account management, relationship and accessibility
- Integration of off-road and on-road movement of consignment and vehicle
- Real-time tracking and tracing of consignment and vehicles off-road and on-road
- Standardisation of processes and improving process efficiency
- Reducing labour costs and handling fuel and sales management costs
- Increasing transparency and accountability within the organisation
- Quick response and access of information

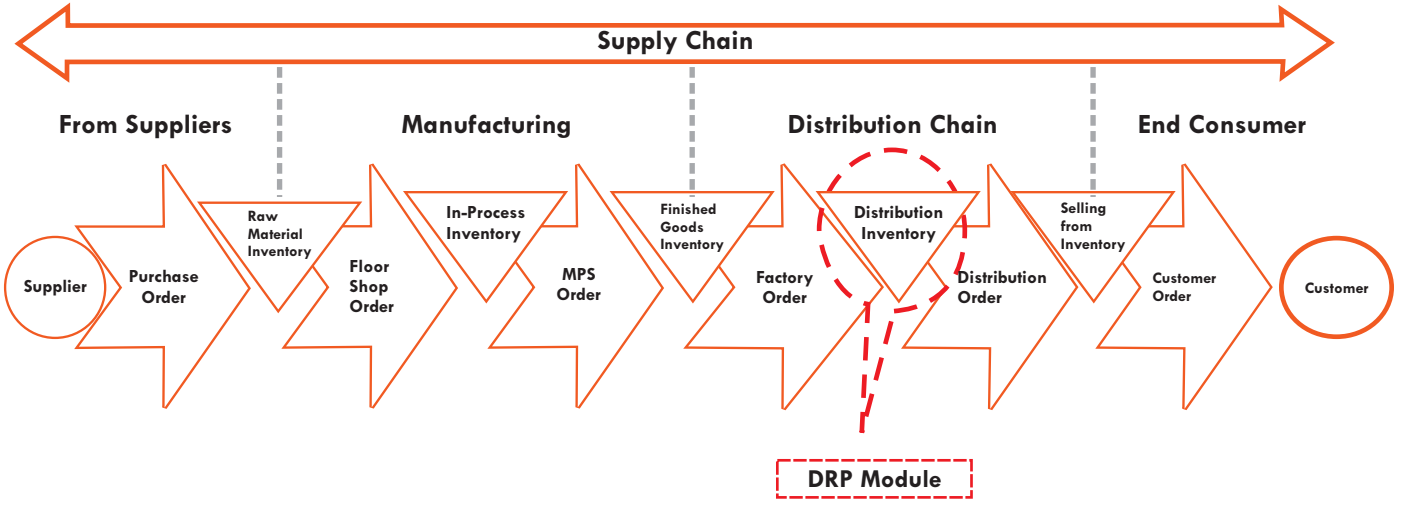
Indicative IT target operating model for cargo transportation and logistics companies



Distribution Requirement planning (DRP)

It is another IT tool and also, a sophisticated planning approach that takes into consideration multiple distribution stages and the characteristics of the distribution system. The finished goods inventory requirement is determined by DRP considering the customer demand at multiple distribution centers located in different markets.

Where DRP fits in the Supply Chain ?



Source: *http://logisticssupplychainforum.blogspot.in/2009/07/demand-management-distribution.html*

Advantages of implementing DRP in Logistics and SCM

- DRP connects current inventory and forecasts of field demand to manufacturing's MPS and MRP.
- DRP can anticipate future requirements in the field.
- Match material supply to demand, match inventory to customer service requirements.
- Increase the speed the firm can react to the marketplace
- Provide savings by better aggregation of transportation and dispatching

RFID

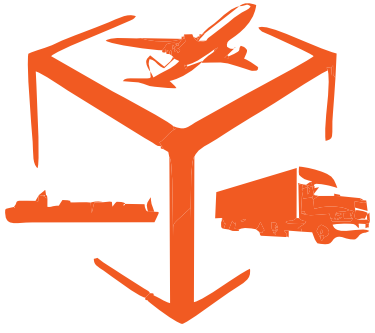
Tracking and tracing vehicles, consignments, containers and other equipment at all locations i.e, on or off road is very important for transportation and logistics companies. The people who use their services have also started demanding real time tracking of the movement of their consignments. The radio frequency identification devices (RFID) address this need. For timely delivery of consignments, RFID along with vehicle tracking systems track the location of vehicles. These RFID readers and tracking devices can be integrated with ERP and WMS as required.

RFID has significant impact on logistics and supply chain of many sectors

- ✓ RFID helps Indian exporters to global retailers get better and more visibility into movement of their goods within the supply chain and thus become more competitive.
- ✓ Improve the ability of manufacturers to better manage the inventory levels.
- ✓ Improve the complex distribution system for the Defense operation.
- ✓ Improve the complex tracking and distribution operations of the Indian Postal services.
- ✓ Improve the tracking, logistics and planning operations of Indian Railways, state public transport agencies.
- ✓ Implement automatic toll collection on vast network of highways.

Case study of RFID Technology

Before	After
Assembly-line workers running low on parts would have to pick up a phone and call the replenishment department to get more parts and then wait for parts.	A multinational automaker puts RFID tags on each parts bin. Warehouse operators now know in seconds, when supplies run low, and automatically deliver parts as needed to workers on the assembly line.



Transportation Management Systems

TMS products serve as the logistics management hub in a collaborative network of shippers, carriers and customers. Common TMS software modules include route planning and optimization, load optimization, execution, freight audit and payment, yard management, advanced shipping, order visibility and carrier management.

The expanded use of a transportation management system directly benefits shippers in many ways. ***According to Supply Chain 24/7, up to 35 percent of today's shippers are actively using a TMS, and 39 percent of shippers have current plans to move towards the adoption of a TMS within the coming year.***

Did you Know?

Around 69 % of all shoppers are expected to be fully utilizing a TMS by the end of 2017, if not the end of 2016. So, shippers who have yet to think about transportation management system benefits need to know exactly what benefits exist. ***(Source:** Supply Chain 24/7)*

The business value of a fully deployed TMS should achieve the following goals in Logistics:

- Reduce costs through better route planning, load optimization, carrier mix and mode selection.
- Improve accountability with visibility into the transportation chain.
- Provide greater flexibility to make changes in delivery plans.
- Complete key supply chain execution requirements.

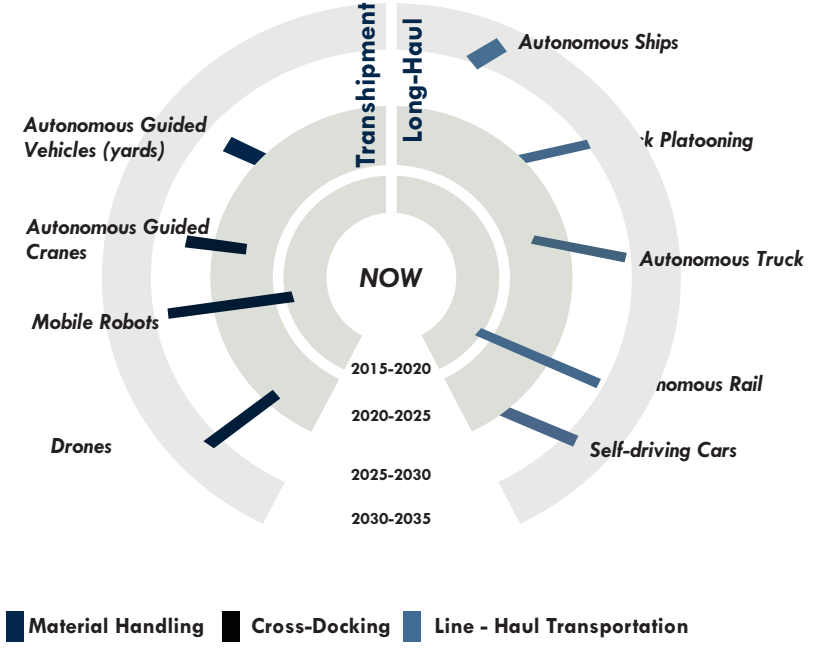
Autonomous Vehicles

Digital Freight Matching versus Driverless Trucks

Autonomous trucks do not require drivers. They are not susceptible to drowsy driving, and they are not subject to electronic logging mandate. They do not require a paycheck, background checks or clearinghouse drug and alcohol testing. Self-driving trucks might seem like a far-fetched idea, but it became a reality in 2016, and more companies are continuing the push toward this sustainable solution to the driver shortage. Regulations are increasing, and watchdog groups can cause irreparable harm with a simple social media post. However, self-driving trucks have the power to eliminate these problems.

Autonomous Logistics in Upstream Management

Autonomous logistics could extend beyond warehouses to outside logistics with functions suck as cross-docking, transhipment, and long-haul transport becoming fully automated and intelligent.



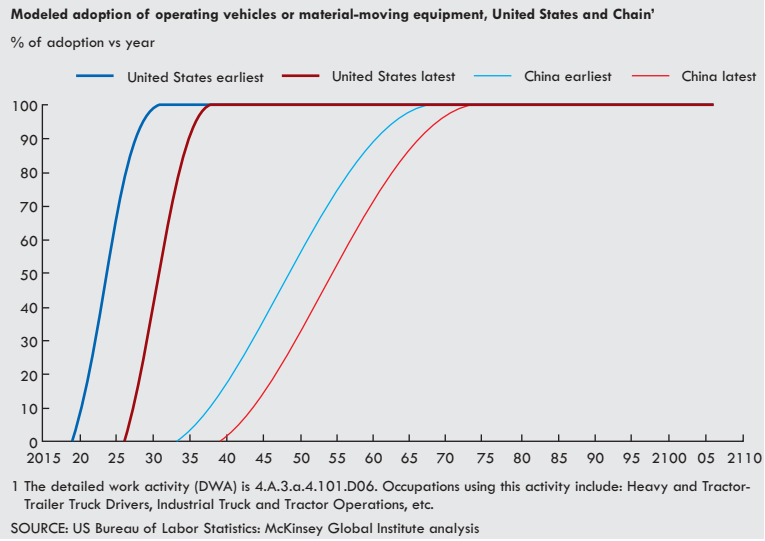
Technology	Companies
Autonomous Guided Vehicles	Kiva, Kuka, Savant Automation. Inc.. JBT Corporation
Autonomous Cranes	Konecranes, Potain Tower Cranes
Mobile Robots	Fetch Robotics, Aethon Blue Frog Robotics
Drones	seneFly
Autonomous Ships	Rolls-Royce, ABB marine, Fincantieri
Truck Platooning	Daimler, Iveco, Navistar, Paccar
Autonomous Trucks	Daimler, Iveco, Navistar, Paccar
Self-driving Cars	BMW, Daimler, Ford, Toyota, Hyundai

Legend - Bar represents horizon for technology commercialization and maturity

Source: *Frost & Sullivan*

Did you Know?

A recent McKinsey Report, indicates self-driving trucks will take over approximately 100 percent of trucking jobs in the future. This graph shows how quickly the surge begin and rise in 2017.



1 The detailed work activity (DWA) is 4.A.3.a.4.101.D06. Occupations using this activity include: Heavy and Tractor-Trailer Truck Drivers, Industrial Truck and Tractor Operations, etc.

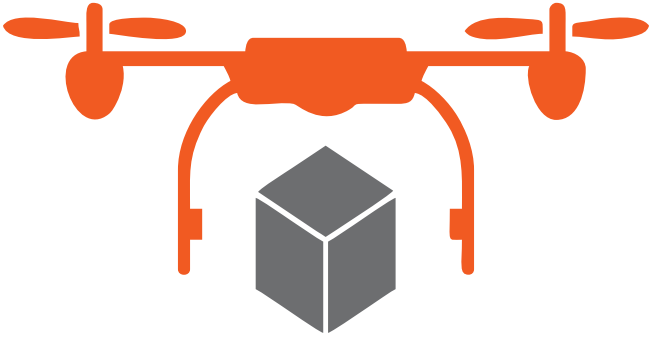
SOURCE: US Bureau of Labor Statistics: McKinsey Global Institute analysis

A few key benefits from autonomous driving outlined by experts are:

- Improved Safety through a reduction in driver error.
- Lower Environmental Impact through having fewer vehicles on the road and more efficient fuel consumption.
- Higher Efficiency through speeding up traffic flows, and by allowing freight trucks to travel 24/7 without requiring driver rest time.

Also, the core areas that self-driving technology will impact in Logistics are:

- Warehousing Operations, through technologies like autonomous loading, auto pallet movers, and assisted order picking.
- Line Haul Transportation, through technologies like assisted highway trucking, and convoys with one live driver in a truck in front with oversight over a convoy of autonomous vehicles behind it.
- Last-mile Delivery, which the report calls both “the least predictable part of the entire journey” and “the most visionary application of self-driving vehicles in logistics.” Advances in autonomous driving promise to transform and improve last-mile delivery through technologies such as parcel station loading, shared cars, and (get this) self-driving parcels.



Drone Deliveries

Drone Deliveries are all geared to Hit the Market

Drone Technology (or Unmanned Aerial Vehicle) is changing the way we perceive logistics in more ways than one. One of the most disruptive technologies of the current times, drones are not only attracting huge investments across the World, but also taking the attention of governments.

As stated by The Association for Unmanned Vehicle Systems International (AUVSI), it is said that within the next ten years the drone industry will have close to $100 billion economic impact. Whether we are ready for them or not, drones will start to be integrated into numerous industries and will serve many uses in transport and logistics sector too.

Pros and cons of using drones for deliveries: The benefits and disadvantages of using drones for delivering goods are mostly the same as using airplanes for transporting cargo.

The Pro is Speed, Flexibility and Ease of Delivery –

- You can traverse very difficult terrain (mountains, jungle, etc) with relative ease and take a much shorter route in many cases.
- You're not restricted to the way the transportation infrastructure was laid out (e.g., old rail lines, highways)
- You can very precisely deliver your package with a helicopter-like drone due to it's VTOL (Vertical take-off capabilities) capabilities. Unlike a plane, train or ship you do not have a set of fixed start and end locations.
- You don't need a "costly" human pilot (for most of the process)

The Con is Cost, Payload Size and Distance –

- The cost to transport a drone, per pound/volume is much higher than many other solutions due the intensive energy requirements. By contrast, ship and rail transport is incredibly cheap.
- If a drone is going to be used in a residential setting, it's unlikely that it'll deliver your refrigerator. Most drone payloads will be below 10-15lbs (5-7.5kg) until we have a major breakthrough in battery technology.
- Drones suffer from the same problems as rockets- the more you lift, or the further you want to go, the more energy you need, aka The Tyranny of the Rocket Equation.
- Drones that are dirigibles have an opposite set of pros and cons- they're cheap, can carry heavier payloads and travel further. But they go much slower. For now, the advancements are quite thrilling. It will be interesting to see what future has in store for us!

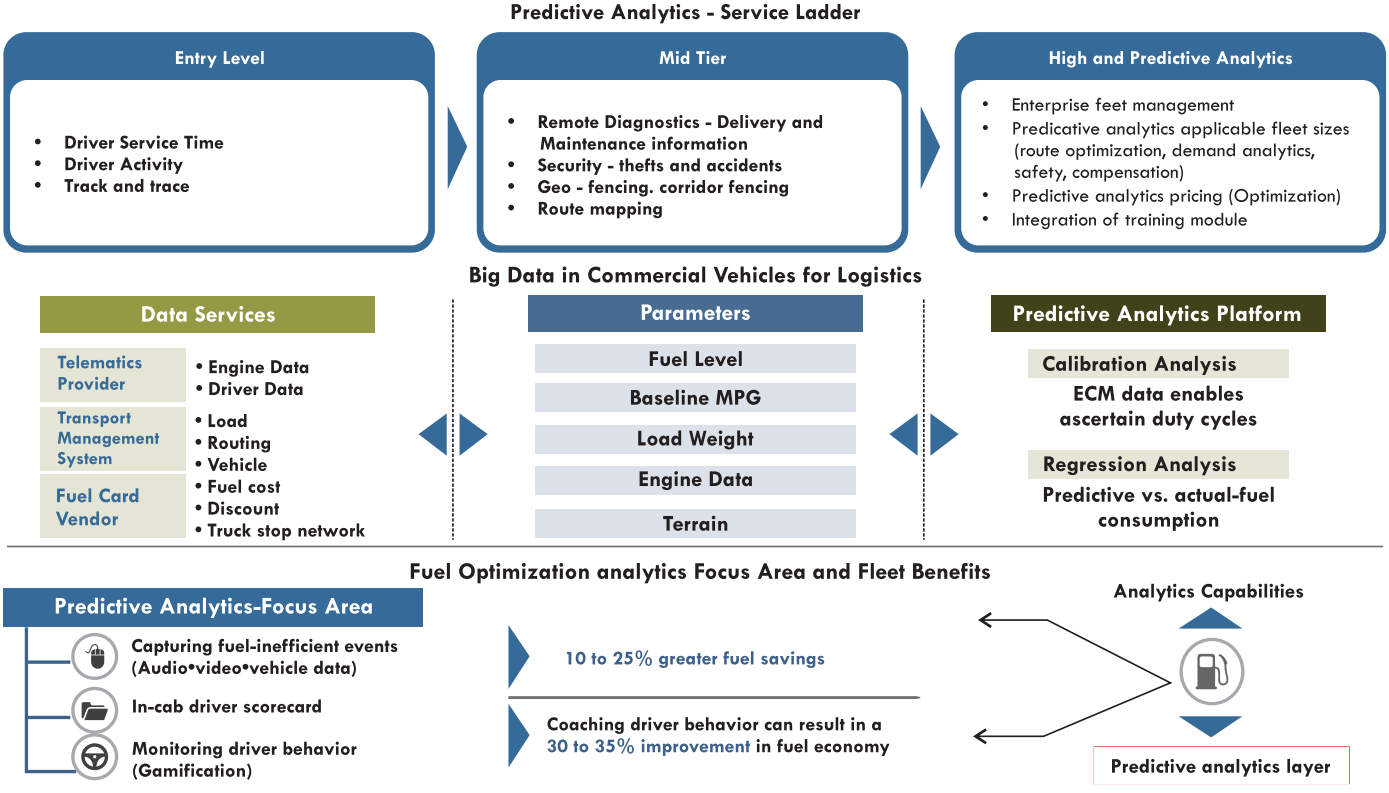
Big Data

BIG DATA, BETTER DECISIONS

The World Economic Forum study predicts that in the next five years, we will see 50 billion Internet-connected devices and that the data from these devices will translate into better business decisions. Data accumulating today already consists of everything clickable, from Facebook and Twitter to e-mails, e-commerce "buy" buttons and everything in between. The McKinsey Global Institute identifies several key areas where big-data efficiencies are possible, including marketing, operations and supply chains.

Current Application of Big Data in Logistics: Fuel Cost Optimization

Predictive optimization layers clubbed with detailed data received from ECM's and EOCM's will generate valuable information that will allow fleets to fine tune operations and lower fuel consumption enabling 25% savings.



Source: *Frost & Sullivan*

Demonetization

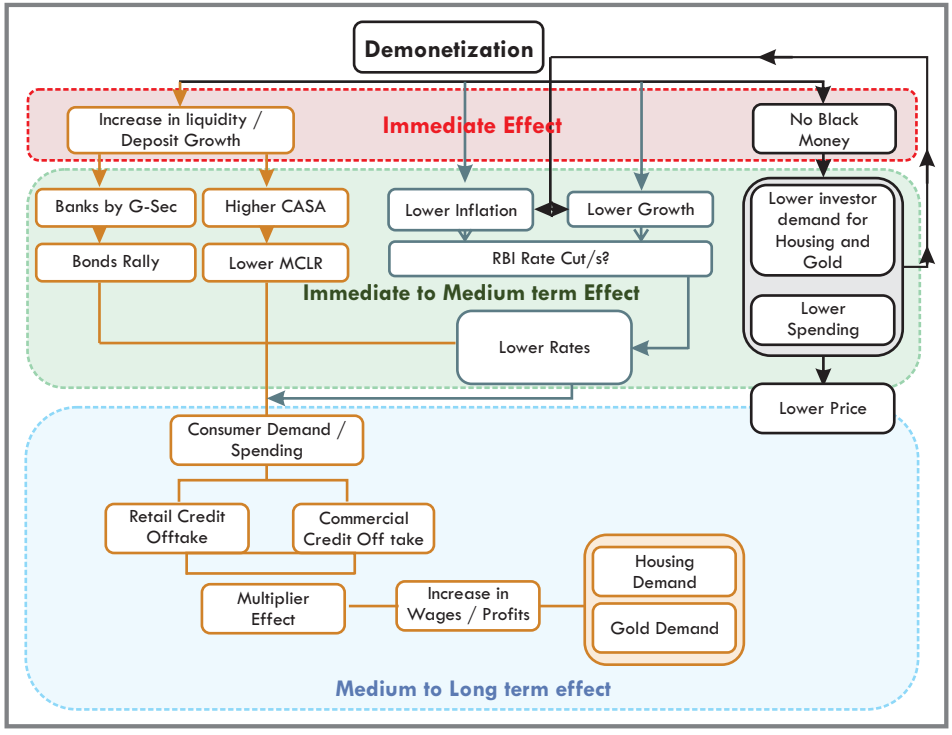
Demonetization

The demonetization move has pushed the economy to a cashless one, it is apparent that there will be a paradigm shift from COD to card payments and online transactions. The decision to go cashless has been a boon for the logistics sector.

Here are some reasons why online payment will pose an advantage in the long-run for the logistics industry:

- Despite industries earning heavily through the COD model that boosts their sales, it is responsible for the obstruction of cash flows
- The risk of thefts and misplacement of cash proves to be a major blow for organizations.
- Online truck booking negates such risks to the company as the online payment from client is received directly at the organization's bank account.

The report by Forrester Research that indicates a surge in online payments in the near future due to the current cash crunch offers a kick to the future growth prospects of the logistics industry.



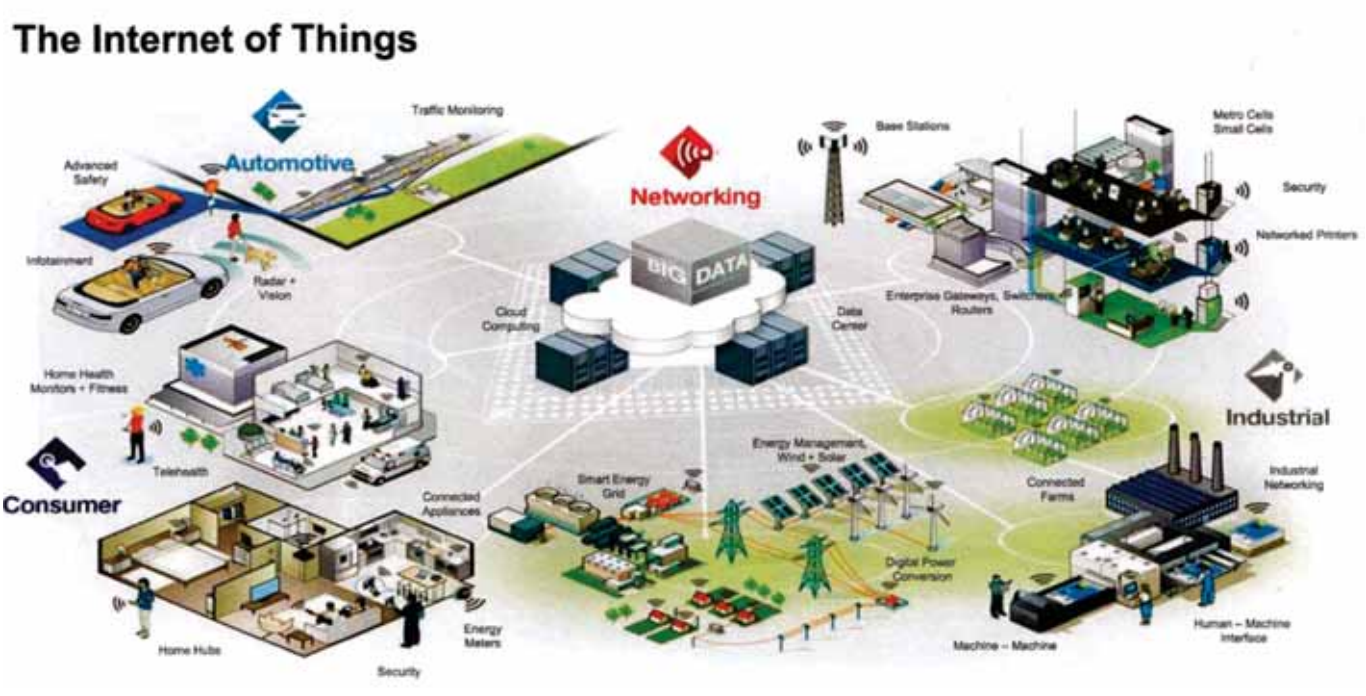
IoT

Internet of Nano Things (IoT)

Logistic industry is one of the first to adopt IoT compared to other industries. Enterprises are accelerating productivity, profitability and operations with solutions designed with the help of IoT. Enterprise can connect all devices to a centralized network to capture & share data.

IoT is been used for fleet management, warehouse management, an end to end process visibility. In coming year IoT is going to be Nano and will capture every single possible data.

One secondary research shows, 24% of the logistic companies have IoT plans in their next 1 year, 40% are already using, 67% are planning an IoT strategy.



Augmented Reality

Augmented Reality (AR)

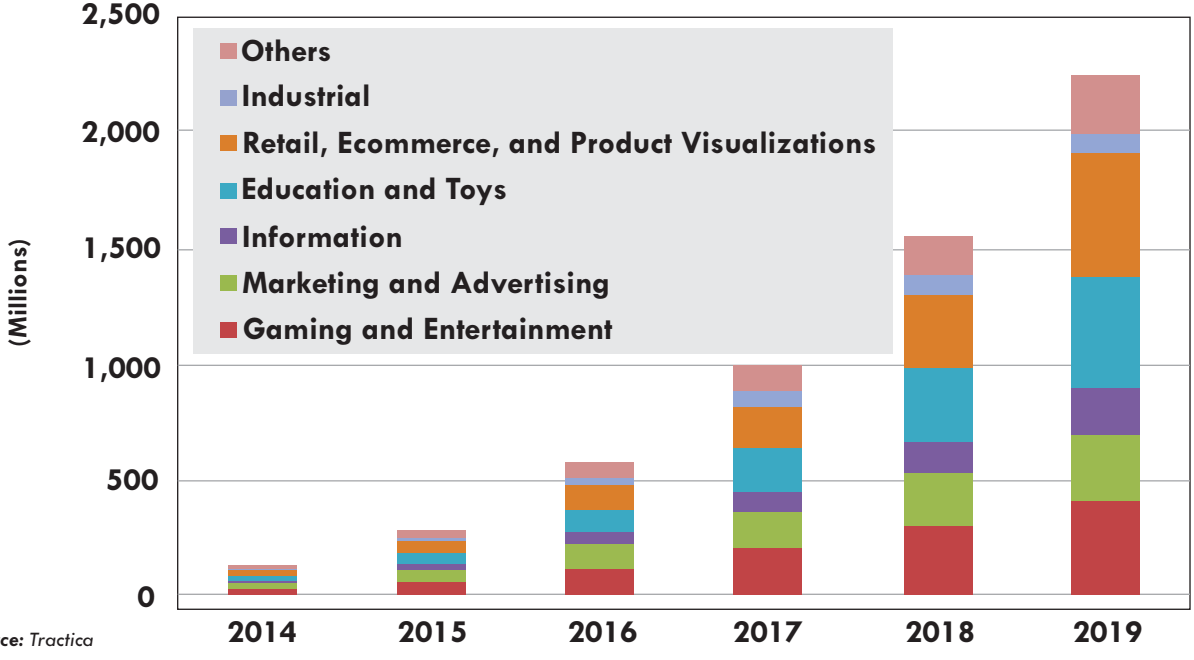
Augmented Reality refers to the layering of computer simulation models over the physical layout of current surroundings. In a sense, this is the hallmark of virtual reality, but AR refers to using this information to improve the efficiency of today's processes as they relate to the supply chain.

Most common forms of Augmented Reality involve some sort of glass, visual display for a wearer to use in the process of increasing productivity and performance. For example, smart glasses in the warehouse are considered a form of Augmented Reality Supply Chain. The wearer is able to overlay a computer simulated image into the physical space.

Did you know?

- By 2017, augmented reality is estimated to have a value of just over $6 billion. Evidently, this trend is growing at one of the fastest paces in the market, 100 percent annually.
- One of the largest sectors we will see grow is in the "Industrial" sector, meaning application for both an augmented reality supply chain to include **manufacturing, distribution, and logistics.**

Installed Base of Actively Used Mobile AR Apps by Application Type, World Markets: 2014 - 2019



Source: Tractica

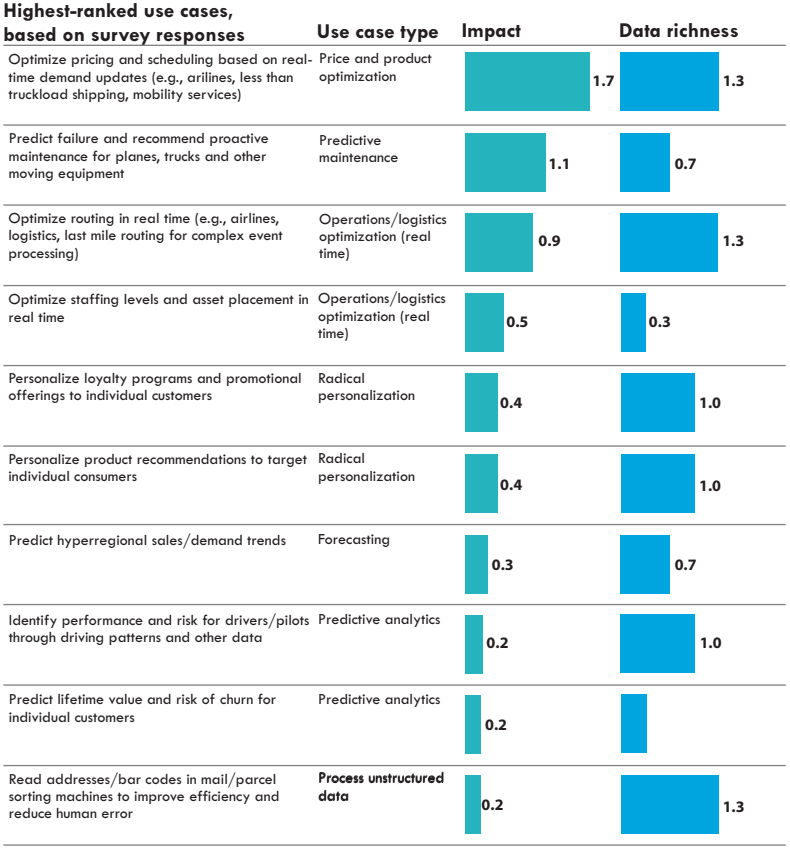
Analytics & Machine Learning

Analytics and Advanced Machine Learning

Machine learning is on the edge of revolutionizing numerous sectors. Most leaders in those industries look at Machine Learning and see a non-stable, none viable technology in the short term. They are wrong. This will allow technological Entrepreneurs to disrupt them.

Machine Learning will be combined with Supply Chain Management for turning volumes of passive data into actionable business intelligence. Machine Learning will be incorporated to dynamically create a supply chain for incoming orders, improve demand forecasting accuracy, predicting trends and performance etc.

Machine learning opportunities in transport, travel, and logistics



Source: *McKinsey Report*

Conclusion

There are few technologies which are going to change and improve the logistics and supply chain industry. These technologies will help the industry to overcome some tough challenges like cost optimization, faster service, damage management, route optimization, warehouse management and much more. This will bring the much needed efficiency and the highest level of customer satisfaction. As a whole, we are going to witness a stronger and connected logistic service.

CORPORATE UPDATES

TCI ORGANIZED CUSTOMER MEET ON THE THEME "PARTNERS IN PROGRESS"

Transport Corporation of India Limited organized premium customer meet under the theme **"Partners in Progress"** on 14th Feb 2017 at JW Marriot Aerocity, New Delhi

The meet was organized to honor and thank our customers for their continuous support which helped our organization to reach new heights every year

The event was graced by **Mr. Madan Birla,** a doyen of the transportation and logistics industry & **Mr. Prasad Joglekar,** Sr. Vice President Supply Chain – Jubilant Life Sciences

Mr. Madan Birla shared his life experiences at one of the world's largest transportation company and gave the insights on how logistics experts like us can maintain a healthy work-life balance

Where Mr. Joglekar shared his views on best practices in logistics and supply chain management

To add more, on this auspicious eve Mr. Birla launched his book **"Enjoy Balance & Unleash Creativity "**

TCI PARTICIPATED IN FUTURE OF LOGISTICS IN INDIA BY BOMBAY MANAGEMENT ASSOCIATION

Bombay Managements Association in partnership with KJ Somaiya Institute of Management Studies & Research organized an event on "Future of Logistics in India" on 20th Jan 2017 at Mumbai

Mr. Vineet Agarwal, Managing Director – TCI, was the key speakers where is shared his views on future of logistics in next few years, the talk also highlighted the effects of e-commerce, government regulatory policies, and digital transformation.

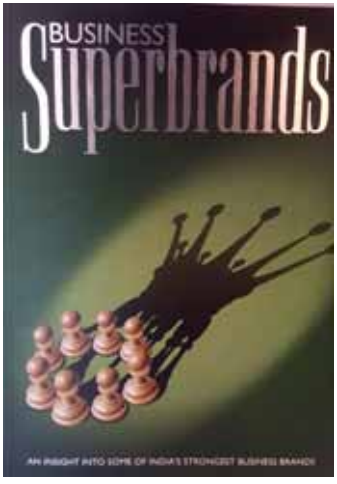
TCI PARTICIPATED IN 56TH AIMA SHAPING YOUNG MINDS PROGRAMME

All India Management Institution (AIMA) in collaboration with Calcutta Management Association organized the 56th Shaping Young Minds on 7th February 2017 at Kolkata.

Shaping Young Minds Programme is a platform for management professionals to interact with leading icons from different fields.

Mr. Vineet Agarwal, Managing Director, Transport Corporation of India Ltd. addressed the large audience, to find the common link between management of self, choosing a career path and achieving the right work environment.

TCI EXPRESS WAS ANNOUNCED AS THE BUSINESS SUPERBRAND OF THE YEAR 2016-17



TCIEXPRESS was announced as Business Superbrand of the year 2016-17 at Hotel Hyatt, New Delhi on March 24, 2017, at the eve “Business Superbrand" book was also launched.

It was a powerful event with top management from various industries participated in the event.

There were 33 brands at the award night and to name a few Godrej, LIC, Vodafone, Yes Bank, Tata Wiron, HDFC Life and American Express were other giants who were given award along with TCI EXPRESS

Mr. Pabitra Panda, Regional Head, Delhi, Mr. Manish Jain, National Head, Sales & Marketing, Mr. Nawal Kishor, Zonal Head, Gurugram, Mr. Ajay Semwal, Zonal Head, Faridabad, Ms. Aishwarya Kaul, Manager, Customer Support and Ms. Arpana Saini, Manager, Marketing Communications were the participants and received the award on behalf of TCIEXPRESS

TCI EXPRESS WINS NATIONAL SERVICE EXCELLENCE AWARD - 2017

The National Quality Excellence Awards, 2017 held at Hotel Radisson Blu Plaza, New Delhi on 21st January.

TCI Express was awarded for Service Excellence in Express Cargo Distribution in India.

The event was graced by an elite panel of guests and dignitaries that included names like Shri GVL Narsimha Rao – Senior Politician & National Spokesperson, BJP, Shri Chetan Sharma – Former Cricketer, Indian Cricket Team, Padmashree Smt. Pratibha Prahlad – Cultural Icon of India, and Dr. Jai Madaan – Celebrated Astrologer & Numerologist.

The prestigious award was received by Mr. Asim Ali Khan, DGM Air International, TCI Express and Ms. Arpana Saini, Manager Marketing Communication, TCI Express.

TCI EXPRESS RECEIVED "ICONIC BRAND OF THE YEAR" BY THE ECONOMIC TIMES

As the government's ambitious "Make in India" initiative gains productive momentum, this time they acknowledge the "Made in India" brands, which have stood firm in the winds of globalization and have truly become a part of our popular culture and day to day lives.

This initiative titled "Iconic Brands of India 2017", featured successful brand stories and also outline the DNA of the legendary brands, taking a deep dive into what has made these brands stand out and what are they doing as an ongoing process to live up to the iconic status

With this TCIEXPRESS received an award as "Iconic Brand of India" by The Economic Times on March 24, 2017 at Taj Santacruz, Mumbai.

Mr. PC Sharma, CEO & Whole Time Director along with Mr. R. B. Yadav, Regional Head, Mumbai received this award

TCI SCS BAGS WAREHOUSING ACHIEVER OF THE YEAR

TCI SCS was awarded as **"Warehousing Achiever of the Year"** at Global Logistics Excellence Award on 18th April at Mumbai.

The prestigious award was received by Mr. Manoj Tripathi, VP & Western Regional Head and Mr. Shiva Prakash, Head Cold-Chain.

TCI SUPPLY CHAIN SOLUTIONS BAGS "EFFECTIVE RETAIL THROUGH SUPPLY CHAIN" AT AWARDS FOR RETAIL EXCELLENCE

TCI SCS was awarded for "Effective Retail through Supply Chain "at Retail Excellence Award on 14th Feb 2017 at Mumbai.

Mr. Manoj Tripathi – VP, Western Regional Head received the award on behalf of TCI SCS

TCI SUPPLY CHAIN SOLUTIONS IS RECOGNIZED FOR "LOGISTICS SERVICE PROVIDER" BY JUBILANT LIFE SCIENCES

TCI Supply Chain Solutions is recognized for "Logistics Service Provider" by Jubilant Life Sciences in their 3rd Logistics Partner's Meet on 17th Feb 2017 @ Mumbai.

Mr. Prokash Roy, Manager – TCI Group & Mr. Yogesh, Asst. Manager – TCI SCS received the award on behalf of TCI SCS

TCI SCS WON 6TH MANUFACTURING SUPPLY CHAIN AWARDS

TCI SCS has been officially declared as a winner in the following categories of 6th Manufacturing Supply Chain Awards:

- Excellence in Manufacturing Supply Chain– Automobiles/ FMCG/ Chemicals
- Supply Chain Technology Advancement / Solution Implementation
- Manufacturing Supply Chain Service Provider of the year
- Warehousing Excellence in Manufacturing Sector

TCI SEAWAYS LAUNCHES NEW SHIP TCI VIJAY AT WESTERN COAST

- TCI Seaways announces capacity addition and business expansion through addition of another vessel.
- The new acquisition called TCI Vijay joins TCI Arjun at Western Coast, which will ply from Mudra to Kochi – Tuticorin to Punjab, UP, MP, NCR, Rajasthan and Gujarat production areas for consumption in South and return cargo from South.
- The ship has a DWT 13760 with nominal capacity of 712 (TEUs) and was acquired in March, 2017.

Marketing and Promotion of the Launch: To market and promote the launch of new vessel, TCI Vijay, strategic marketing campaign was rolled out. The campaign comprises of ATL and BTL activities like newspaper advertisement in leading newspapers of Gujarat and Kerala, viz Gujarat Samachar and Malayala Manorama respectively, apart direct mailers and posting on our social media pages was also done.

TCI SCS PARTICIPATED IN ECONOMIC TIMES GLOBAL LOGISTICS SHOW & AWARDS BY INFINITY EXPO

Economic Times Global Logistics Show a convergence of 120+ exhibitors, 6000+ trade visitors, 400+ conference delegates, 100+ world class speakers a three days exhibition cum summit was scheduled on 17th -19th April at Bombay Exhibition Centre, Mumbai

TCI Supply Chain Solution was one of the exhibitor at the show and Mr. Shiva Prakash, Head Cold-Chain – TCI SCS was the key speaker, wherein he spoke on the topic **"Metric Tons to Pallets - Moving from Cold storage to Cold chain the way forward"**

TCI PARTICIPATED IN A SEMINAR ON DOING BUSINESS WITH BANGLADESH

On occasion of the visit of H. E. Ms. Sheikh Hasina, Prime Minister of the People's Republic of Bangladesh to India from April 7-10, 2017, FICCI organized a seminar on "Doing Business with Bangladesh" on 8th April at FICCI House, followed by B2B meetings with the high-powered business delegation accompanying the Hon'ble Prime Minister.

At the seminar the delegation comprised of businessmen representing various sectors like automobiles, cement, insurance and banking, ready-made garments, shipping, IT and ITes, food and beverages, jute, power, renewable energy, real estate, electronic & print media, packaging, poultry, education, health and pharma, chemicals, telecommunication etc.

Mr. Rajkiran Kanagala, Group Head Business Development, Ms. Meena Bora, Officer Group BD & Ms. Pooja Yadav, CHA – Manager were the delegates at the seminar from TCI.

TCI PARTICIPATED POLICY DIALOGUE ON MEKONG - GANGA COOPERATION (MGC) BY CII

On the Occasion of Celebrating 25 Years of the ASEAN – India Dialogue Partnership CII in collaboration with the ASEAN-India Centre (AIC) organized Policy Dialogue on Mekong - Ganga Cooperation (MGC) scheduled on 8 April, 2017 at India Habitat Centre, New Delhi.

The dialogue facilitated an in-depth discussion on MGC with the objective to learn from the experiences of India and Mekong countries in aspects to new initiatives and ideas that would help formulate an actionable policy agenda for strengthening the MGC through connectivity and how Indian industry can collaborate to catalyse trade and investment.

Mr. Gagan Dubey, Head Business Development – TCI Freight and Mr. Parth Sarthi Sen, were the delegates from TCI.

TCI PARTICIPATED IN CHEMLOGISTICS INDIA 2017 BY CHEMICAL WEEKLY

ChemLogistics India 2017 an international Exhibition on Chemical Warehousing, Transportation, & Logistics. The exhibition was organized in concurrent to 13th Chemspec India – India's leading exhibition for fine & specialty chemicals and 8th ChemProTech Tech India 2017 – Exhibition on chemical processing technology, equipments and suppliers.

It was one of the biggest events with 270+ exhibitors from India and abroad under one roof, scheduled on 25th -26th April 2017 at Mumbai and TCI was the exhibitor, where the service portfolio was displayed through exhibition stall, Mr. Sunil Shaw, Officer - Group BD represented TCI at the Stall.

Mr. Rajkiran Kanagal, Group Head Business Development, Ms. Kriti Sharma, Asst. Manager Group Business Development, and Mr. Prokash Roy, Manager Group Business Development were the delegates from TCI.

TCI SCS PARTICIPATED IN RAMICOM 2017 BY CII

TCI SCS participated in Regional Annual MGO Industry Co-Operation Meeting (RAMICOM) on 12th April 2017 at Hotel Sun-n-Sand, Pune.

The event covered the Indian Industry and MGO, CODs, RODs, ABWs, Ordnance Factories, DPSUs to identify the areas of partnering by complimenting each other with their respective potency towards developing a sturdy defence industrial pedestal in the Country.

Ms. Mahashewta Sarkar, Logistics Officer, TCI SCS & Mr. Ram Kishore, Logistics Officer, TCI SCS were the delegates at the event.

TCI SUPPLY CHAIN SOLUTIONS PARTICIPATED IN MOMENTUM JHARKHAND: GLOBAL INVESTORS SUMMIT 2017

Momentum Jharkhand Global Investors Summit is the initiative being done in a bid to boost the 'Make in India' initiative of Hon'ble Prime Minister Shri. Narendra Modi, and to ripen high value investment opportunities in the state.

TCI Supply Chain Solutions participated in Momentum Jharkhand: Global Investor Summit 2017 as an exhibitor on 16th -17th Feb 2017 in Ranchi organized by Government of Jharkhand.

Mr. Amar Gomber, Mr. Suresh & Mr. Mahesh Gupta represented TCI SCS at the event

TCI SUPPLY CHAIN SOLUTIONS PARTICIPATED IN ASIA RETAIL CONGRESS

TCI SCS sponsored in Asia Retail Congress, organized by CMO on 13th -14th Feb at Taj Lands' End, Mumbai. **Mr. Manoj Tripathi –** VP, Western Regional Head was one of the key speaker. At the event he spoke on the topic **"What is the Next in Evolution for online Retail"**

Mr. Praveen Melge – Asst. Manager TCI SCS was the delegate in the event.

TCI SUPPLY CHAIN SOLUTIONS PARTICIPATED IN LOGISTICS & SUPPLY CHAIN SUMMIT AT NEW DELHI BY CII

TCI Supply Chain Solutions sponsored and exhibited in 9th edition of Logistics 2017, with the theme "End to End Solutions to Move the World" scheduled on 2nd - 4th Feb 2017 at Pragati Maidan New Delhi.

In the summit all the stakeholder from logistics industry gathered to deliberate on new technologies, solutions, trends and issues in logistics sector.

Mr. Sumit Kumar, VP & North Regional Head – TCI SCS was one of the key speakers in the Enhancing Competitiveness in Automotive Manufacturing Forum. He spoke on the topic **"Driving Manufacturing Processes of the Future"**

Mr. Jasjit Sethi , CEO –TCI Supply Chain Solutions, Mr. Shiva Prakash , Head Cold Chain – TCI Supply Chain Solutions were the delegates in the event.

TCI SUPPLY CHAIN SOLUTIONS PARTICIPATED IN 6TH MANUFACTURING SUPPLY CHAIN SUMMIT BY KAMIKAZE

TCI SCS sponsored in 6th Manufacturing Supply Chain Summit, organized by Kamikaze on 21st -22nd Feb at The Westin, Mumbai. **Mr. Jasjit Sethi,** CEO - TCI SCS & **Mr. Manoj Tripathi,** VP & Western Regional Head – TCI SCS were the speakers in the event.

Mr. Jasjit Sethi spoke on the two topics which are **"Supply Chain in an Era of Disruption" & "Revise Your Game Plan - Talk Strategy, Build Relationships and Follow Industry Trends"**, while **Mr. Manoj Tripathi** spoke on the topic **"SCM challenges in Digital Manufacturing"**

Mr. Praveen Melge, Asst. Manager - TCI SCS, Mr. Alok Pandey, Executive –TCI SCS & Mr. Dharam Niranjan Sahoo, Executive – TCI SCS were the delegates in the event.

TCI SCS PARTICIPATED IN LOGISTICS AND SUPPLY CHAIN SUMMIT 2017 BY PHDCCI

TCI SCS participated in Logistics and Supply Chain Summit 2017 by PHDCCI held on 21st March 2017 at PHD House, New Delhi

It was a platform for analyzing the challenges in outsourcing logistics and supply chain and how to best manage this relationship to ensure quality service to the customers

The Summit saw the large number of delegates from Ministry of Agriculture & Food Processing, Ministry of Shipping, Road transport and Ministry of Railways; Food processing & sea food companies; Logistics service providers and 3PL companies; Freight Forwarders and Cargo Agents; Automobile and Pharmaceutical Companies; Representatives from the trucking Industry; Warehouse and Cold storage owners; Supply chain solution & technology providers.

Mr. Jasjit Sethi, CEO – TCI Supply Chain Solutions was the key speaker in the summit wherein he spoke on the topic **"Customization across the Value Chain: Building a Competitive Supply Chain"**

Mr. Praveen Melge, Asst. Manager – TCI SCS & Mr. Vinod Mishra, Asst. Manager – TCI SCS were the delegates at the summit

TCI PARTICIPATED IN 3RD NATIONAL LEADERSHIP CONCLAVE BY AIMA

TCI Sponsored AIMA's 3rd National Ledership Summit held on 22nd - 23rd March 2017 at Taj Mahal Hotel, New Delhi.

A confluence of industry thought leaders and government dignitaries academia, economists and management experts gathered for a constructive dialogue on the way forward for the Indian economy and how to place Asia on top in the new world order in the coming 10 years.

Mr. Rajkiran Kanagala, Group Head Business Development – TCI, Mr. Gagan Dueby, BD Head – TCI Freight & Mr. Devashish Roy, Asst. Manager Group BD were the delegates at the event.

TCI SCS PARTICIPATED IN INDIAN SUPPLY CHAIN AND LOGISTICS SUMMIT BY ICC

TCI SCS participated in Indian Supply Chain and Logistics Summit as sponsor and speaker in Indian Supply Chain and Logistics Summit, organized by ICC on 27th February 2017 at Delhi

Mr. Jasjit Sethi, CEO – TCI Supply Chain Solutions was the speaker at the summit. He spoke on "The impending Roll Out of the GST and the Economic and Logistics changes it will bring about"

Mr. Ashish Ranjan Roy, AVP – TCI SCS, Mr. Atul Endlay, GM Warehousing –TCI SCS & Mr. Praveen Melge, Asst. Manager –TCI SCS were the delegates at the event

TCI SCS PARTICIPATED IN MILITARY LOGISTICS & TRANSPORTATION SUMMIT

TCI SCS participated in Military Logistics & Transportation Summit by PHDCCI on 21st March 2017 at Manekshaw Centre, New Delhi

Ms. Nilam Khaire, Officer Logistics – TCI SCS & Ms. Chandani Verma, Officer Logistics – TCI SCS attended the summit

TCI SCS PARTICIPATED IN 2ND ANNUAL CONFERENCE ON OPPORTUNITIES IN DEFENSE

TCI SCS sponsored 2nd Annual Conference on Opportunities in Defense by India Infrastructure Publishing held on 7-8 March 2017 at Le Meridien, New Delhi

Mr. Praveen Melge, Asst. Manager –TCI SCS, Mr. Mohit Chabbra, Officer –TCI SCS, Ms. Nilam Khaire, Officer –TCI SCS & Ms. Trishna, Officer –TCI SCS were the participants at the event.

TCI AND INDIA GLYCOLS LTD JOINTLY ORGANIZED THE 4TH ROAD SAFETY EVENT AND HEALTH CAMP

TCI and India Glycols Ltd jointly organized the 4th Safety Event and Health Camp on 4th March 2017 at Kashipur.

A platform to share knowledge & give safety tips to drivers to perform their job safely while driving on road, knowledge acquired by participation at the event is one of the method to spread awareness & to create an effective safety culture.

The event was graced by Govt. official Mr. Chandresh Kumar, District Magistrate - Uddham Singh Nagar & various industry leaders '

The event saw the gathering of over 350 people wherein a safety booklet "Sureksha Sandesh" was also released

Speaking on the occasion **Mr. Rajkiran Kanagala**, Group Head- Business Development, said "It's a platform to share knowledge & give safety tips to drivers to perform their job safely while driving on road, knowledge acquired by participation at this event is one of the method to spread awareness & to create an effective safety culture. At TCI we believe in doing such trainings on a regular basis be it road safety, electrical safety, fire safety or material handling safety.

MUSKAAN CLINICS – AN INITIATIVE BY TCI FOUNDATION IN ASSOCIATION WITH VALVOLINE CUMMINS PVT. LTD.

TCI Foundation in association with Valvoline Cummins Private Limited under its CSR initiative has established a Health Care Centre named **"Muskaan Clinic"** at Kalamboli (Navi Mumbai), dedicated to mechanics, truckers, and their families.

The Clinic was inaugurated by Dr. Arun Koli District Health Officer Raigad. Speaking on the occasion Mr. Sandeep Kalia, the Chief Operating Officer, VCPL on the occasion informed the august gathering about Corporate Social Responsibility specially on health-care services provided by VCPL to the targeted populations, while Dr. Munish Chander, Head TCI Foundation, informed the guests that Foundation will provide best services to the identified community and refer them to associated hospitals for specialized services.

GOVERNMENT OF PUNJAB ALLOCATED INTEGRATED TESTING AND COUNSELING CENTRE (ICTC) AT LUDHIANA TO TCI FOUNDATION

Another feather in the hat of TCI : Government of Punjab has recognized the services rendered by TCI Foundation and has allocated Integrated Testing and Counseling Centre (ICTC) at Ludhiana. This is a unique partnership given first time by the government to the non-governmental organization TCI Foundation, earlier such kind of setup was only under government hospitals.

Another milestone achieved with the hard work of TCIF team.

Kudos to the team!! Many more to go…..

Quick FAQs (Glossary: Technology in Logistics & SCM)

A

AutoID: Referring to an automated identification system. This includes technology such as bar coding and radio frequency tagging (RFID).

Automated Guided Vehicle System (AGVS): A computer-controlled materials handling system consisting of small vehicles (carts) that move along a guideway.

Artificial Intelligence: Understanding and computerizing the human thought process.

Augmented Reality (AR): Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data.

B

Bar Code: A symbol consisting of a series of printed bars representing values. A system of optical character reading, scanning, tracking of units by reading a series of printed bars for translation into a numeric or alphanumeric identification code. A popular example is the UPC code used on retail packaging.

Bar Code Scanner: A device to read bar codes and communicate data to computer systems.

Bar Coding: A method of encoding data for fast and accurate readability. Bar codes are a series of alternating bars and spaces printed or stamped on products, labels, or other media, representing encoded information which can be read by electronic readers called bar.

Business Intelligence (BI): The set of skills, technologies, applications and practices used to help a business acquire a better understanding of its commercial context to make better business decisions

C

Customer Relationship Management (CRM): This refers to information systems that help sales and marketing functions, as opposed to the Enterprise Resource Planning (ERP), which is for back-end integration.

Cloud Computing: An emerging computing paradigm where data and services reside in massively scalable data centers and can be ubiquitously accesses from any connected devices over the internet. Similar to the "on demand" concept or ASP computing services with the exception of the broad nature of the network of computers.

D

Database: Data stored in computer-readable form, usually indexed or sorted in a logical order by which users can find a particular item of data they need.

Distribution Planning: The planning activities associated with transportation, warehousing, inventory levels, materials handling, order administration, site and location planning, industrial packaging, data processing, and communications networks to support distribution.

Distribution Requirements Planning (DRP): A system of determining demands for inventory at distribution centers and consolidating demand information in reverse as input to the production and materials system.

Distribution Resource Planning (DRP II): The extension of distribution requirements planning into the planning of the key resources contained in a distribution system: warehouse space, workforce, money, trucks, freight cars, etc.

E

EDI Interchange: Communication between partners in the form of a structured set of messages and service segments starting with an interchange control header and ending with an interchange control trailer. In the context of X.400 EDI messaging, the contents of the primary body of an EDI message.

Enterprise Resource Planning (ERP) System: A class of software for planning and managing enterprise-wide the resources needed to take customer orders, ship them, account for them, and replenish all needed goods according to customer orders and forecasts. Often includes electronic commerce with suppliers. Examples of ERP systems are the application suites from SAP, Oracle, PeopleSoft, and others.

G

Global Positioning System (GPS): A system which uses satellites to precisely locate an object on earth. Used by trucking companies to locate over-the-road equipment.

Geographic information system (GIS): A geographic information system (GIS) is a computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface.

I

Interchange: In EDI, the exchange of electronic information between companies. Also, the group of transaction sets transmitted from one sender to one receiver at one time. Delineated by interchange control segments.

IoT

The internet of things is a collection of everyday devices all talking to each other in intelligent ways. The old example is your fridge texting you when you're low on milk – which is stupid. Instead, think of a device that sits on a truck, tracks the contents of the truck using RFID (see below), keeps a running log of stops, door opens, speed, and temperature. If anything is out of place, connects to a central unit and alerts the monitoring team.

M

m-Commerce: Mobile commerce applications involve using a mobile phone to carry out financial transactions. This usually means making a payment for goods or transferring funds electronically. Transferring money between accounts and paying for purchases are electronic commerce applications. An emerging application, electronic commerce has been facilitated by developments in other areas in the mobile world, such as dual slot phones and other smarter terminals, and more standardized protocols which allow greater interactivity and therefore, more sophisticated service.

O

OEM: Original Equipment Manufacturer (OEM).

Quick Response (QR): A strategy widely adopted by general merchandise and soft lines retailers and manufacturers to reduce retail out of stocks, forced markdowns, and operating expenses. These goals are accomplished through shipping accuracy and reduced response time. QR is a partnership strategy in which suppliers and retailers work together to respond more rapidly to the consumer by sharing point-of-sale scan data, enabling both to forecast replenishment needs.

R

Radio Frequency (RF): A form of wireless communications that lets users relay information via electromagnetic energy waves from a terminal to a base station which is linked, in turn, to a host computer.

Radio Frequency Identification (RFID): The use of radio frequency technology such as RFID tags and tag readers to identify objects. Objects may include virtually anything physical, such as equipment, pallets of stock, or even individual units of product.

Warehouse management system

A WMS is a piece of software that does what it says on the tin – it helps manage a warehouse. Imagine this as a step up from inventory management and a step back from an ERP. If you need more than just to know what's in a room, but you don't need to know which customer is working with your sales team at every given moment, a WMS might be for you.

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TCI
LEADERS IN LOGISTICS

SECURE YOUR BUSINESS

CHEMICAL SHIPMENTS?

WE HAVE YOU COVERED.

Dry, Liquid & Gas bulk

Services:

1. Movement of hazardous & non-hazardous Chemicals.
2. Movement of bulk liquid chemicals in ISO Tanktainers by Road & Rail.
3. Movement of liquid & dry chemicals in drums & bags.
4. Movement of gases in gas tankers.
5. Safe warehousing services in chemically compliant warehouse.
6. Movement of Chemicals in dedicated containers.
7. Exim movement of bulk chemicals in ISO Tanktainers

Safety Standards;

1. Member of NicerGlobe for emergency response.
2. ISO Tanktainers Fleet Data Uploaded Online on Bureau International des Containers et du Transport Intermodal (B.I.C.).
3. Encouraging Mutimodal movement (Rail & coastal) to reduce carbon footprints.

bic-biotech.org
Technical Characteristics Database
FLEET LOADED

TCI
LEADERS IN LOGISTICS

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Find us on :

Connecting Boundaries

SAARC EXPORTS/IMPORTS

Map Not to Scale

TCI group has a strong presence in the SAARC countries with offices at borders and capital cities. TCI through its own companies provides Door-Door seamless services to its customers covering CHA at both borders as well as Transportation.

Services

- Road, Rail & Sea (Multimodal) Movements to SAARC Nations
- Customs Clearance - CHA (Both sides of the Borders)
- Express Distribution (Air and Surface)
- Warehousing & Yard Solutions

TCI's Presence in SAARC Nations

- Bangladesh (Own Company)
- Bhutan
- Nepal (Own Company)
- Sri Lanka (Under Formation)

1400 fully computerized officers • 5000+ strong and dedicated team members • Over 12000 trucks in operations • Fleet of 4 cargo ships • 11 milion Sq. ft. of covered warehousing space • Moving 2.5% of India's GDP by value of cargo • Own offices in 4 countries • CHA License • ISO Certified • IATA Certified

TCI
LEADERS IN LOGISTICS

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Find us on :

Full Rake & Piece Meal Container Movement

Customized Container Service

First & Last Mile Road Transportation

Terminal Management

TCI-CONCOR offers its customers a reliable, efficient and cost-effective multimodal Road-Rail Service and can cater to all your logistics needs for any type of cargo.

Rail is the backbone of TCI-CONCOR's transportation plans and strategy. The majority of the terminals are rail-linked, with rail as the main carrier for haulage. The first and last mile needs are addressed through road transportation. This rail-road combination is price competitive over long haulages and hence allows for competitive pricing and reliable carriage of which places our customers at an advantage.

Our Strengths :

- Experience of nearly 5 years in Multimodal Rail-Road logistics
- Customized Solutions
- Tracking & MIS
- Door Pick Up & Door Delivery
- Pan India Presence
- Access to CONCOR's extensive assets & Infrastructure

TCI CONCOR
Multimodal Logistics Solutions

TCI-CONCOR Multimodal Solutions Pvt. Ltd.
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TCI Supply Chain Solutions

Best Practices

- Modern Warehousing Practices for Racked and Block Warehouses.
  - State of the art WMS.
  - RF enabled HHT for paperless Put away/Pick.
  - Activity Based Costing.
- Co-Warehousing : Per Pallet Storage highly Variable Cost model.
- Competent team with 100% compliance to statutory requirements.

Order Management

Labeling

Kitting

Packing

Road Permit Management

Excise & Customs Documentation

Science of DC Management

Refined 2-Stage processes for Receipt, Put away, Pick and Ship

One time in Full (OTIF)

- Receipt to Put away.
- Order to Pick and Ship.
- On time Delivery & POD.

Inventory Accuracy

- Bar Coding.
- Perpetual Inventory.

SLA / KPI Management

Pan India Network

- 11 Million Sq.ft of covering Warehousing Space under management.
- Above 100,000 Pallet Positions under management.
- 100+ Warehouses.
- Modern Infrastructure based on best building standards , with 100% Dock levelers in Modern Warehouses , Tall Building of 40 FT +.
- 5000+ strong workforce.

Upcoming / Existing Large Multi-User Warehouses

NCR, Mumbai, Pune, Nagpur, Chennai, Ahmedabad, Hyderabad, Indore, Kolkata, Banglore, Guwahati and Madurai

TCI Supply Chain Solutions

A Division of Transport Corporation of India Limited

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