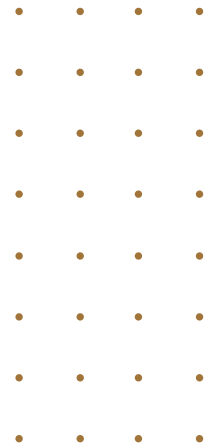




ENABLING

A NEW ERA



OF

LOGISTICS



# Summary

*A robust and efficient logistics sector is critical for the growth of a developing economy like India, as it matures and Tier 2+ regions see the benefits of sustained high GDP growth.*

*The logistics industry in India remains highly inefficient at a macro level, due to overwhelming share of the unorganised sector (~80%) and heavy use of roads due to lack of development of other modes of transportation.*

*Rising consumption from both Tier 1 and Tier 2+, the growth of aspirational product driven channels such as E-commerce fulfillment and cold chain as well as high growth in domestic manufacturing form massive underlying drivers that shall boost the sector. On the supply side, renewed government infrastructure spending (\$90B in FY19) and profound structural changes in the form of GST and infrastructure status to the sector provide transformative triggers, paving the way for non-linear growth going forward.*

*We believe tech-based solutions are needed to navigate the nature of the Indian landscape—*

- *Highly unorganized market, with poor economics and disaggregated/underutilized assets*
- *Structural shifts in the form of GST, especially in warehousing*
- *High seasonality of demand*

*Innovative tech-driven companies like Rivigo and ElasticRun have unleashed incredible value by tailoring solutions for specific needs. With three unicorns created, the space is quickly gaining momentum. Private investors have poured \$620M into logistics tech in just the first eight months of 2018, surpassing the high of full-year 2015. We believe this is a high opportunity market and organized players have just started going beyond the surface. The sector is expected to see many more winners, as companies ride secular growth and continue to capture market share from the informal sector, both across the spectrum and in specific sub-segments using digital enablement.*

*We see key opportunities in the below sub-sectors of logistics:*

- **Trucking 2.0:** efficient Part Truckload (PTL) based business models
- **Cold Chain Fulfillment:** end-to-end high SLA solutions
- **Cross-Border Commerce:** process digitization and end-to-end trade management
- Other opportunities such as **Blockchain** and **Supply Chain Finance**

## A New Era Of Logistics

A healthy and robust logistics is vital for a growing economy. For India in particular, which is seeing significant growth in both the domestic demand and supply of goods, its economy will need a new wave of specialized logistics companies to keep pace.

In the 5 years leading to 2017, the sector witnessed growth at a CAGR of 7.8%, touching \$340B in 2017. It is poised to further grow to \$650B by 2025, at a CAGR of 8%, on the back of robust demand and supply side drivers such as increasing consumption, Tier 2+ integration, and a boost in manufacturing.

With increasing per capita income, India is witnessing the rise of household consumption. With rising aspirational consumption from Tier 2 cities, the need for organized players to provide efficiency and scale, as well as new channels is now imminent. This demand shall be met in large portion by domestic manufacturing, giving impetus to demand from the production side as well. With large government spending and favorable policy shifts, the business environment and on-ground infrastructure are also rapidly falling into place in the logistics jigsaw. With the various state governments in India providing support to set up domestic manufacturing plants, the logistics industry gets multiple new source locations for the delivery supply chain.

**\$340B**

Total Logistics  
Sector (2017)

**\$650B**

Total Logistics  
Sector (2025)

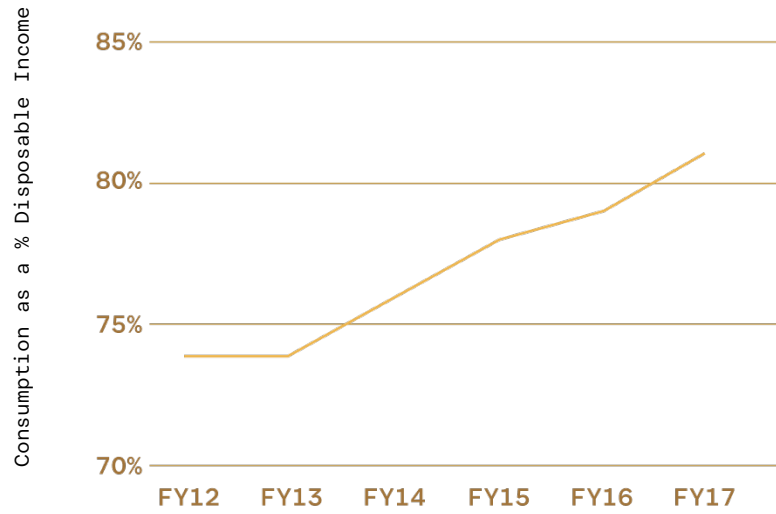
The sector accounts for a significantly high share of the country's GDP, contributing as much as 13% in 2017. This is much higher than the global average of around 6-8%, and indicates large inefficiencies in current structures. Some of this can be attributed to the high share of unorganized participants, being upwards of 80%. Another factor is that almost 65% of the logistics happen via roads, which is less efficient than rail or sea. This is significantly higher than China (30%), the US (37%), and Europe (~10%). However, lack of speed, multi-modal connectivity, and last-mile reach make other modes significantly less preferable in the near term. According to a report by McKinsey, wastage caused by inefficiencies contribute to 4.3% of GDP, and, if not corrected, can increase to 5% of GDP or \$100B by 2020.

As supply side bottlenecks are removed, investors are increasingly lending support to the sector. The \$620M funding in first 8 months of 2018 surpasses the previous high of 2015.

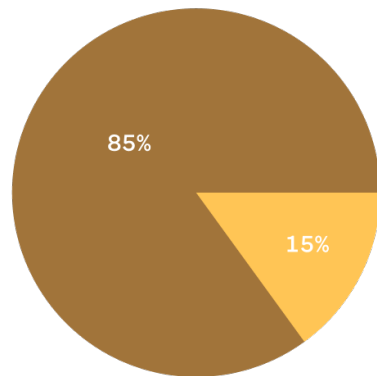
Over the past few years, we have seen key sectors of the industry evolve and move towards formalization and tech adoption. Sectors such as trucking, e-com fulfillment, last mile, tracking, and software are starting to see saturation.

We believe the next leg of growth will come from tech-first tailored solutions by companies such as ElasticRun on the back of upcountry penetration and market leaders in verticals such as cross-border, PTL trucking, cold chain, as well as emerging opportunities like Blockchain and Supply Chain Finance.

### Consumption has been rising steadily over the last 5 years

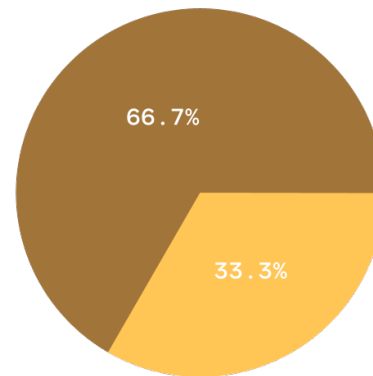


### Ecom Shipments per day (2017) - 2M



■ Tier 1

### Ecom Shipments per day (2022) - 15M



■ Upcountry

## Growth Drivers Demand Side Drivers

### ***Increasing Consumption***

India's per capita income crossed \$1,700 in FY18 and is trending close to the Wealth S-curve 'tipping point' of \$2,300. At the tipping point, consumption habits of a country's citizens change drastically and the aggregate amount of what they consume increases exponentially.

FMCG S-curve also suggests that as India's GDP/capita goes from \$6,800 (PPP basis) in FY18 to \$11,800 in FY23E, the FMCG spending per capita is expected to increase from \$250 in 2016 to just under \$800 in 2023, registering a growth of over 3X. Given this impending structural shift, the next decade should offer disproportionate consumption and opportunity. Consumers are increasingly asking for faster service times, driven partly by the high customer experience bar set by E-commerce companies.

### ***Catering to the Rising Tier 2 and Below Tide***

It is estimated that 45-50% of the consumer spends by 2025 would be contributed by tier 2+ towns.

In e-commerce, for example, out of the 2M shipments a day today, metros and Tier 1 cities account for 85%. The total

number is expected to rise to 15M shipments a day, out of which 5M (~33%) are expected to come from Tier 2+ by 2022.

Similarly, FMCG companies, are bullish on demand from Tier 2+, riding on a wave of awareness stemming from TV and smartphone penetration. According to CRISIL, almost 30-40% of current FMCG sales come from rural centers, and rural demand growth is outpacing urban.

### ***Boost from Manufacturing***

A large percentage of growth in consumption will be contributed by domestic manufacturing. Manufacturing is expected to grow at 14% CAGR to \$1T by 2025.

This growth has been encouraged by the #MakeInIndia initiative, with the Government recently launching Make In India 2.0, with renewed focus. Persistent efforts to improve the business climate in the country has resulted in India moving up 30 positions to be among the top 100 nations in Ease of Doing Business for the first time in 2017.

Expected increases in SME activity will also add to the logistics needs in the coming years with government supporting the creation

of SMEs actively through MUDRA and other financial incentives.

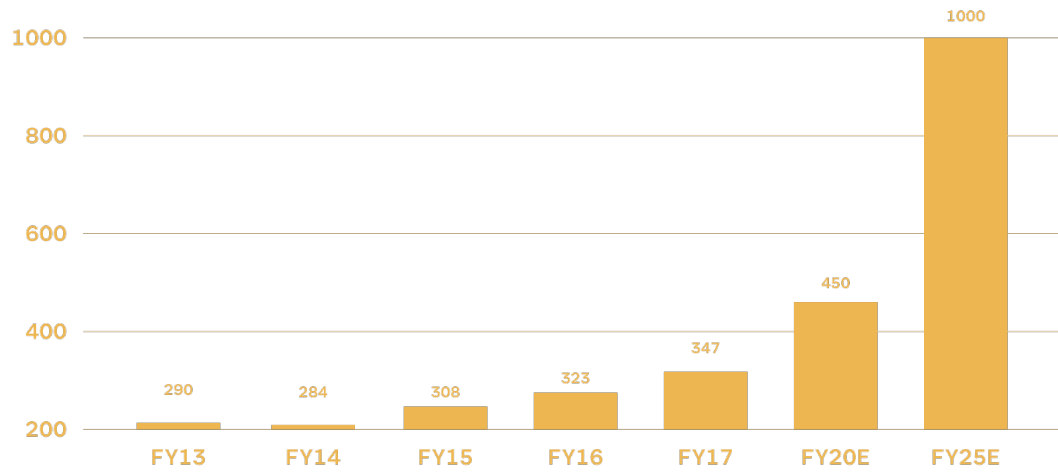
Moreover, the share of the manufacturing sector in employment, output, and the number of enterprises has declined in urban areas, whereas the share of manufacturing has increased in rural areas. Large scale manufacturing is moving towards rural areas in search of cheap labor. In 2011-12, 51% of the total net value added in the manufacturing sector came from rural India. It is likely that this number is higher now.

As manufacturing and consumption move towards Tier 2+ cities from concentrated mega cities, their need for logistics connectivity shall increase significantly.

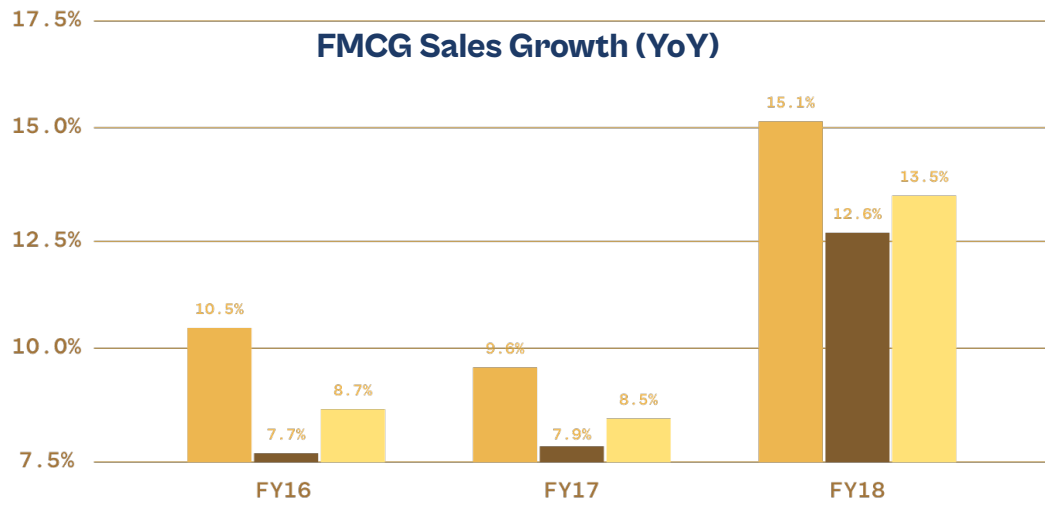
### ***Changing from a Cost function to a Revenue Enhancing Function***

High service levels and tier 2+ penetration are increasingly being seen in the industry as revenue drivers. E-commerce, with its promise of on time delivery, FMCG companies looking for entry into Tier 2+, pharma and food manufacturers that need specialized channels, are all helping change the way clients look at logistics companies. This shall allow players to appeal to clients in a different and more value generative way.

### Manufacturing Gross Value Added (current prices) (\$B)



### FMCG Sales Growth (YoY)



■ Rural      ■ Urban      ■ Total

## Supply Side Drivers

### **Government Spending**

Increased government spending on infrastructure development like building ports, roads, multi-modal logistics parks, dedicated freight corridor, and Sagarmala will help increase the efficiency of the logistics sector in a large way. The Indian government planned to spend close to \$90B in just FY19 on various infrastructure projects.

The government has made efforts towards improving the road network. As of April 2018, there were 1,529 Public Private Partnership (PPP) projects in India, of which 740 were related to roads. The Government has decided to invest \$108B for construction of new roads and highways over the next five years. In an effort to increase modes of transport, government initiatives like the Sagarmala program, Inland Waterways program and coastal shipping can provide the much needed shift.

### **Policy Support**

Grant of infrastructure status to the sector in late 2017, including cold chain and warehousing, has given a boost to the sector. This enables the sector to avail infrastructure lending at easier terms with enhanced limits, reduce costs by as much as 100bps (according to CARE, ICRA), access larger amounts of funds from External Commercial Borrowings (ECB), and elongate tenors via access to insurance, pension funds and India Infrastructure Financing Company Limited (IIFCL).

Further, policy interventions like GST and the E-way bill have given impetus to structural shifts in the sector. The implementation of GST will lead to logistics companies moving from tax-optimized warehousing locations to cost-optimized warehousing.

### **Digitization of Participants**

With smartphone and internet penetration reaching the interiors of the country, the on-ground logistics participants like drivers and workers are increasingly technology savvy and digitally connected. This increased connectivity and education is unlocking new business models in the country where large amount of real time data is being generated and analysed for enhancing efficiencies as well as identifying new revenue opportunities.

**\$90B** **34800km**

*Government  
Spending in FY '19*

*Roads proposed  
under Bharatmala-I*

## Needs and Challenges

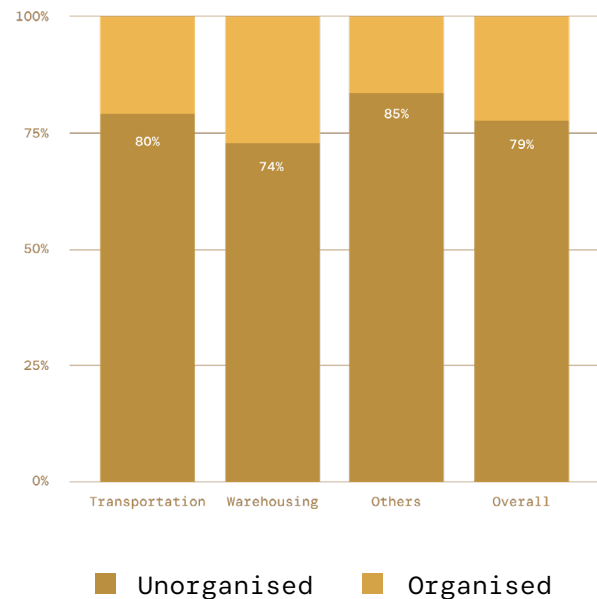
*Disruption in the sector will stem from the needs of the logistics ecosystem to respond creatively to existing structures as well as new avenues of demand, policy changes, and technology.*

### Unorganised Market

80% of the trucking market and 74% of the warehousing market is unorganized in the country. Further, more than 85% of the 12-15m trucks are owned by fleet owners who own less than 5 vehicles, mostly consisting of drivers themselves or micro-entrepreneurs. This leads to large inefficiencies in terms of capacity utilization, pricing visibility, and delays.

The lack of price transparency causes prices to be increased by 10%-20%. Due to this, logistics costs are around 2.5-3.5% of the sales costs in India, compared with 0.8-1.5% globally. Three-fourth of this is spent on movement and storage of goods. Suboptimal procedures like manual search can cause time delays, which cascade into larger downstream costs.

### Indian Logistics is Highly Unorganised



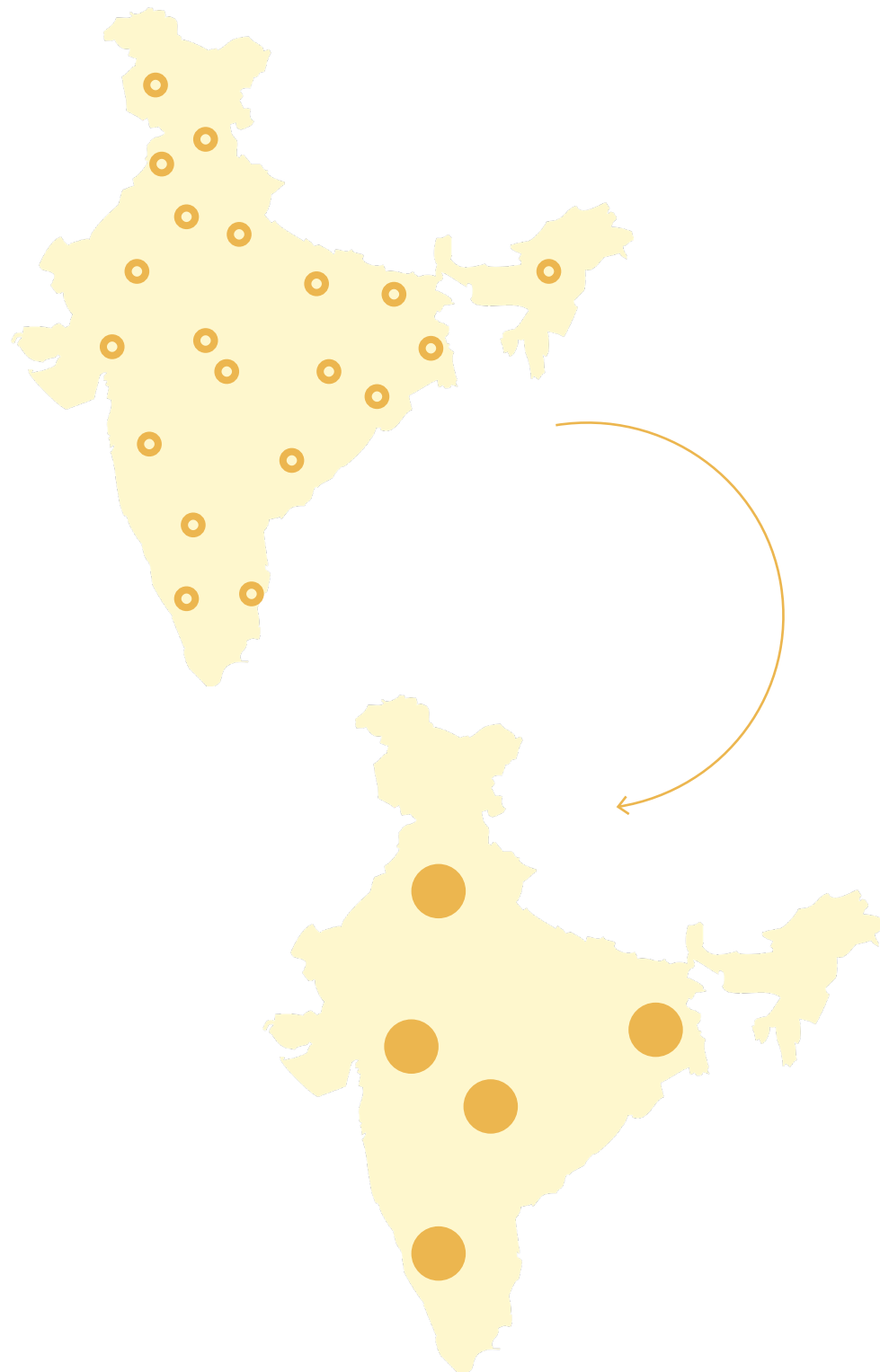


## Unified Taxation

With the advent of a unified taxation system via GST, companies need to transition from tax optimized warehousing to cost optimized warehousing. This means that companies will look to consolidate warehouses in optimal locations, a shift to a hub and spoke model. Real estate services firm JLL India estimated that warehousing space in India will increase by 112% by the end of 2021 from 2017, driven by government support and structural shifts like GST.

While the existing 5-8 cities are expected to retain their leading positions as major hubs, India will see the emergence of at least 12 new feeder/ warehousing spoke locations. Larger warehouses can afford smarter solutions like warehousing automation, robotics and analytics. Further, collection of warehouses in a few locations opens up the possibility of high truck utilization via a Part Truckload (PTL) model instead of the prevalent Full Truckload (FTL).

This structural shift creates large opportunities for warehousing, logistics, and automation players.



## Seasonal Demand

Consumption in the country often follows a sawtooth graph, especially in verticals such as electronics, home décor, fashion, jewelry etc. Solving for such fluctuating demand arising from festival/discount driven purchases, in both online and offline channels, leads to unused capacity in lean times or loss of revenue in times of high volume.

In E-commerce for example, during festival sales, orders can jump to 4.5M a day, as opposed to the average 1.2M -1.5M.

Seasonal nature of certain fruits & vegetables and certain consumer durables (air conditioner, geyser etc.) also results in similar challenges.

## Underutilization

Average utilization of trucks in the country is at 40% while in developed countries this number is more than 65%. This is a fallout of an informal workforce, no load return journeys, low load factors, and high friction on roads in the form of poorer infrastructure, bureaucracy, and working conditions. For example, demand-supply mismatch leads to 30%-50% of trucks being underutilized in the return journey.

## Funding

### Trends Shaping the Sector

In 2018 itself, the space has seen 3 unicorns emerge. The below charts show a significant trend of investors building confidence over the past 3 years post 2015, when we saw a secular drop in VC investments.

Sub-sector wise, a large chunk of the dollars have flow into Fulfilment (~65%), which comprises both Hyperlocal/Last Mile and E-com Fulfilment. This was followed by Trucking, which comprises technology first trucking companies and trucking marketplaces (~20%). The last large sub-segment is Robotics (~9.5%).

#### **Increasing Later Stage Support**

Out of the \$620M invested in the first 8 months of 2018, \$516M was invested in later stage (C+) deals in just 7 companies.

Another important factor is the growth of venture debt support to this industry. We believe the availability of venture debt, as well as traditional debt lines (due to infrastructure status) will lend a significant boost to well managed companies. These are positive signs for the early stage ecosystem.

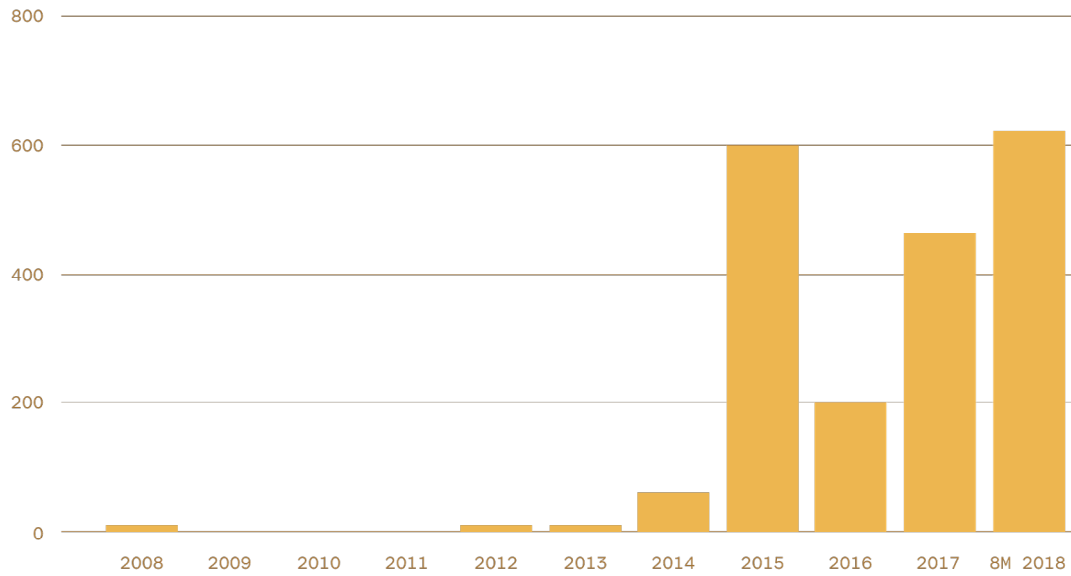
#### **Exits**

Currently 16 logistics companies, command a combined market cap of ~\$7.5B at an average P/E multiple of ~40x. Given the contribution to GDP (~13%) of this sector, we believe more companies will come forward to tap public markets.

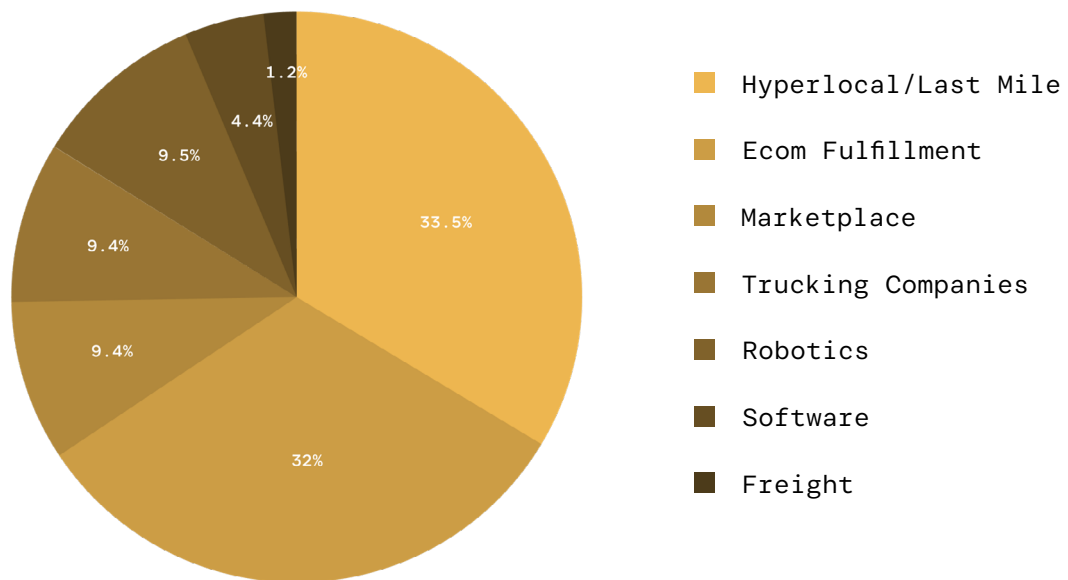
From an M&A perspective, the space is one of the most consistent, seeing over 200 deals in the last decade. In just H12018, 2 of the top 3 startup M&A deals were in the sector.

Overall, we believe increasing interest across the broad will support the ecosystem and provide returns to venture investors in the form of exits, making this a great investment area, especially at early stage.

### Investment till Q3 2018 has already surpassed the 2015 high (\$M)



### Venture Funding till Q3 2018 by Sector



## Evolution of Key Sub-Sectors

### **Fulfillment**

Prior to E-commerce, the domestic express service market was largely unorganized and fragmented. In the last 3-4 years, 3rd party 3PL players have emerged to take advantage of scale and efficiency through a technology first approach. However, existing traditional 3PL players have limited capabilities to cater to time sensitive delivery and service levels demanded by e-commerce players, which has resulted in captive logistics arms being built by large E-com players. 3PL has now come down from 25% of deliveries for E-com companies 3 years ago to less than 15%. Almost \$600M in VC money has flowed into the E-commerce fulfillment sector since 2010.

Similarly, the hyperlocal and last mile space saw large interest till 2015, when the sector overheated. Companies that surpassed competition in efficiency and innovation, survived and have garnered this space.

E-com Fulfillment and Hyperlocal models have largely played out. The coming years will see growth in the form of expansion into Tier 2+ territory, which will be led by existing asset light players such as ElasticRun. The next leg will come from specific verticals, and cold chain is a likely sub-segment that can see breakout companies.

### **Trucking**

Road logistics in the country suffers from the dual problems of underutilization and disaggregation.

Given these issues, the lowest hanging fruit was online aggregation systems. Over the years, nearly \$175M in funding has gone into these marketplace models. Shortcomings of this model are the lack of end-to-end service and little optimization on the ground.

Another approach has been to go asset heavy and compete with the unorganized sector using technology and best practices.

### **IoT**

End-to-end solutions optimized by IoT internally have been able to undercut the expensive logistics costs by competing on efficiency. Breakout companies have harnessed the power of such systems to optimize their operations. Rivigo's platform utilizes GPS, fuel, temperature, gyro and other vital reading to power their vehicle planning, driver allocation, and optimizer functions.

However, given fragmented asset ownership in India, 3rd party solutions have not picked up in the same way. The space has seen relatively less traction as the go-to-market remains difficult.

## Potential Venture Opportunities

*Companies that provide significant advantages to clients by virtue of not just cost optimization, but revenue expansion through better end consumer experiences, unlocking of new markets, and enhancing quality will be standouts in the next few years.*

Area	Driving Market	Venture Opportunities
<b>Trucking</b>	\$388B (2025), 15% CAGR	Tech lead shift from FTL to PTL
<b>Cold Chain</b>	\$7B (2022), 14% CAGR	End-to-end cold chain
<b>Cross-border</b>	Cross-border E-com: \$25B (2025)	Import-export, customs, trade finance, end-to-end freight lifecycle

### Trucking 2.0— FTL to PTL

As warehousing shifts to a hub and spoke model with 15-20 national hubs across the country, the next big opportunity in logistics lies in allowing truckers to cater to a host of warehouses in the same locality. We believe the structural change in the industry will be the trigger for truckers to move from a Full Truckload to a Part Truckload model (PTL), and this shall act as the holy grail for this sector going forward. However, PTL is a difficult technical problem and will require technology at the core of such solutions. This includes everything from mapping the shipment and matching loads to routing, scheduling and tracking. Companies that can provide effective solutions to bring about this paradigm shift will be at the forefront of the sector in the next few years.

### Cold Chain Fulfillment

After E-commerce fulfillment and hyper-local, the next leg of the fulfillment story will come from specific verticals, with cold chain having large potential.

As purchasing power increases, more and more consumers will demand fresher produce, higher protein in the form of dairy and meat, medicines, quick service restaurants, deserts, and packaged products. Such demand needs dedicated channels such as frozen, chill, and semi-chill. This segment provides significant growth opportunities for organised players and is expected to grow at 13-15% in the next 5 years. Frozen food industry, for example, is worth about \$300M and is estimated to be growing at 20% CAGR.

Current cold chain capacity fulfils only 11% of demand, with the rest falling to thermo-cool boxes or non-refrigerated channels. According to an ASSOCHAM report in May 2017, investment to the tune of \$12B is required to fill the investment gap, due to low packing house and reefer vehicle capacity.

Established players in the sector have been unable to aggregate value across intercity, storage, and last mile, despite the need for close control on temperatures and standardisation. We believe there is space to work across the value chain and offer end-to-end solutions to customers.

From a regulatory perspective, moves towards stricter food safety norms such as setting of global standards by FSSAI and government support for the industry in the form of subsidies to cold storages are forming strong tailwinds for the cold chain sector.

**\$3.5B**

(10% organized)  
Cold chain market  
(2017)

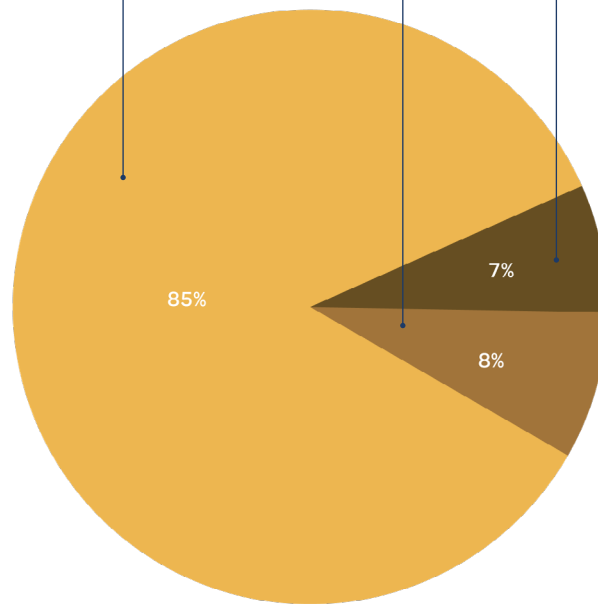
**\$6.5B**

(30% organized)  
Cold chain market  
(2022)

TEU ~15.6M  
Export vs Import -  
45%/55% (\$23B)

Bill of Entry ~13M nos.  
~\$50/bill (\$2B)

Total Volume  
~2M tonnes  
Export vs Import -  
60%/40% (\$2B)



Estimated Freight Forwarding  
Market Size India

■ Ocean Freight    ■ Air Freight    ■ Customs/  
Insurance

## Tech Enabled Cross Border Opportunities

98% percent of cargo in India is handled by freight forwarders go through customs, who ship over 99% through various modes of transport on both export/import cycles. Despite the presence of many multinational freight forwarding companies, this is an interesting space for startups to explore given large size of the market and lack of technology adoption.

This will be driven by increased online demand for cross-border goods by Indian consumers (from US and China) and B2B players (from US, UK and China) and demand for apparel, jewelry and consumer durable products from India on international marketplaces. Cross-border e-commerce (imports) and cross-border B2C e-commerce (exports) are expected to reach \$15-20B and \$4B by 2025 respectively.

Globally, Flexport has emerged as a leading digital freight forwarding startup with presence across 8 cities in 3 continents. Flexport provides multiple services through a single platform including customs clearance, insurance, air freight, sea freight, warehousing and trucking. Flexport has till date raised about \$304M.

Freight value chain involves a large number of parties (manufacturers, truckers, warehouses, freight forwarders, shipping carriers, custom brokers, importers, exporters, bankers, financiers and retailers) and hence there are opportunities for technology to disrupt the space. Potential opportunities to explore with new age technology in freight space are–

- **Customs clearance**
- **Trade Financing**
- **End-to-End freight lifecycle management**

## Other Opportunities

### ***Blockchain in Logistics***

Blockchain's ability to provide trust and visibility is especially suited to a highly networked industry with high transaction volume. There is no question then as to why it is fast being adopted in logistics, all over the world. In September 2018, Walmart announced that it requires all suppliers of leafy green vegetable for Sam's and Walmart to upload their data to the blockchain by September 2019. Maersk's blockchain effort, called Tradelens, has now grown to 92 participants and has resulted in 154 million shipping events.

In India, the government body Niti Aayog has been spearheading the use of blockchain in various government initiatives, and as a part of the central India stack. In August, it said it was working with one of India's biggest hospital groups, Apollo Hospitals and Oracle to tackle spurious drugs in the supply chain. Given the government's support of blockchain on both center and state levels, blockchain products can be expected to be integrated quickly.

Given the high number of participants in each transaction and low digitization in the domestic supply chain, there is an opportunity to create the right infrastructure using blockchain, first time around. We believe that adoption will arise from sensitive and high value sectors such as food, automobile, and pharma, with companies that can bring together large ecosystems.

### ***Supply Chain Finance***

As more and more Small and Medium Enterprises drive manufacturing in the country, in-transit working capital requirements are going to increase significantly.

The current market is worth early \$10B and is highly fragmented between public sector banks (SBI, PNB etc.), private banks (HDFC, Axis, etc.), multinational companies such as (StanC, HSBC) and Non-Banking Financial Institutions (Tata Capital, Aditya Birla Finance, Hero Fincorp). Baring NBFCs, these players are low on tech adoption, while PSU banks also suffer from high NPAs and are reluctant to increase exposure. Similar to how Black-buck started in the financing layer and moved down to other functions for large enterprises, there is growing white space for players to cater to smaller enterprises with innovative and technology led business models.

*The logistics sector in India is poised to see rapid growth as well as formalization. Due to the unstructured nature of the space in the country as well as ongoing structural shifts, companies will need tailored tech driven solutions to truly unlock value.*



# Recent Investment

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**Sub-sector—**

*E-commerce Logistics*

**What?**

***Elastic Run** is building a tech enabled, asset-light, variable capacity logistics network. It uses a hub and spoke model of a small warehouse and partner physical retail stores (Kirana) for last mile delivery and first mile pick up.*

**Why?**

*Traditional E-commerce and FMCG logistics networks suffer from problems such as variable demand, high capex, low quality control & visibility, and high costs. Around 65% of the logistics cost is borne in the first and last mile. ElasticRun is able to leverage a shared-economy model through a robust tech stack and reduce overall cost by upto 30%, while at the same time being able to absorb demand variability, scale to newer pincodes fast, and provide granular visibility, at a fraction of the capex.*

**How are they doing?**

- Serving more than 2,200 pin codes across 175+ cities*
- Highly capital and resource efficient*

