



**DELHIVERY**

**Small World**



# Delhivery is the largest 3PL for e-commerce shipments in India

**DAILY 450-500K  
PACKAGES**  
FOR B2B/B2C/C2C/CROSS-  
BORDER COMMERCE

**>5M SQFT**  
INFRASTRUCTURE MANAGED;  
1.4M PARCELS/DAY WITH  
AUTOMATED SORT CAPACITY

PAN-INDIA REACH ACROSS  
**14,000+**  
**POSTCODES,**  
**1,400+ CITIES**

HIGHEST SERVICE PRECISION  
AT LOWEST COSTS  
**>95%**  
PRECISION AT COST OF  
**<\$1.5/ORDER**

**300+ MILLION  
ORDERS**  
FULFILLED IN 6 YEARS

**REAL-TIME GPS  
TRACKING**  
10,000+ delivery Executives  
3,000+ large vehicle movements

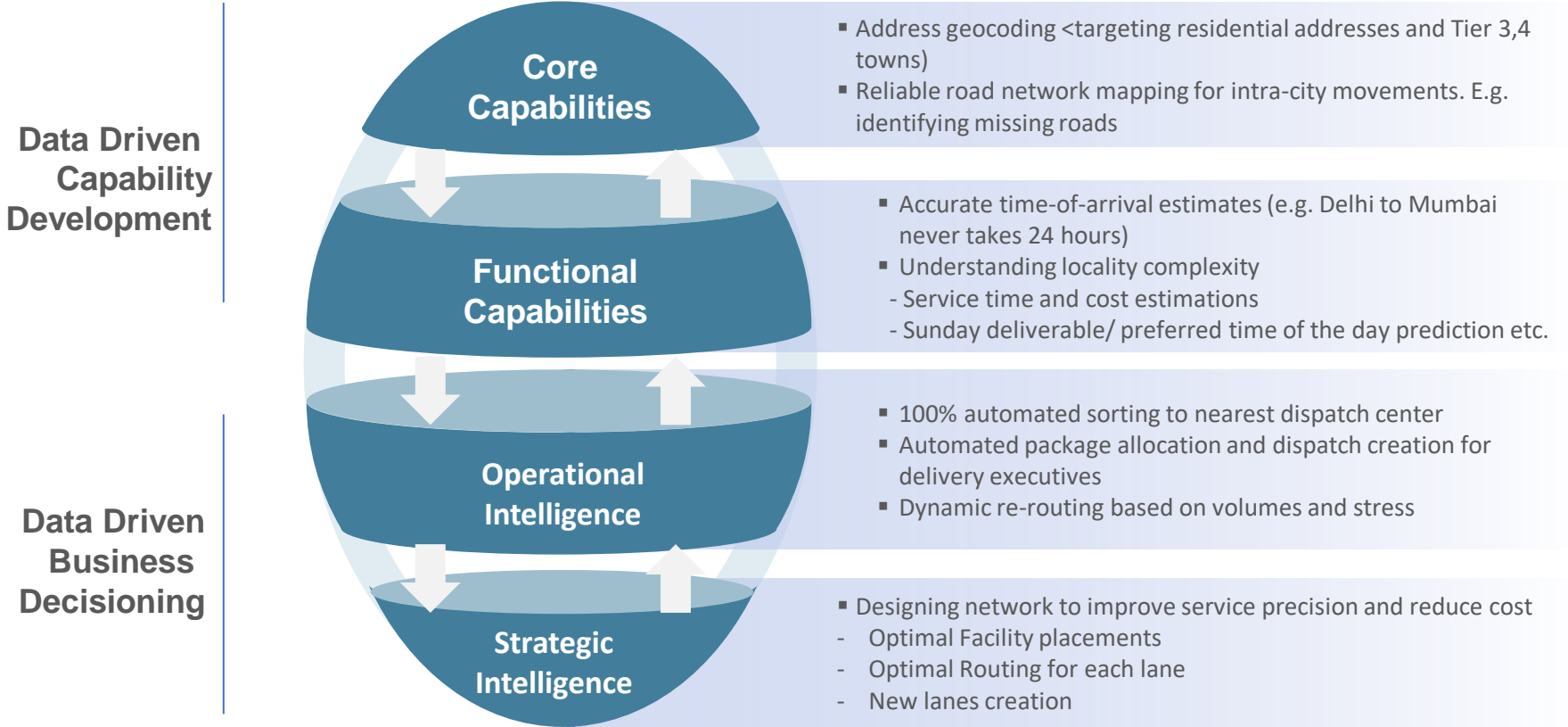
## Delhivery Data Warehouse



Terabytes of geo-spatial data  
collected on a daily basis with near  
real-time access

**DELHIVERY**

# We are developing a Data Science ecosystem for solving core challenges in logistics for the country



**Machine Learning & Artificial Intelligence Platform**

*ML and AI based stack to maximize service precision and minimize costs*

# Case Study: Address Disambiguation



Addresses come in different shapes and sizes:

- Building's Names
- Street Names
- Points/Person of Interests (POIs)
- Workflows

A more Detailed Workflow:

A-161 Raheja Atlantis Sector 31 Gurgaon (on weekdays) B-15 Gulmohar Park New-Delhi 110049 (on weekend)

Pin Code Problems

Median area of a pin-code is ~90 sq km

Around 30% of written addresses have incorrect pincodes

Multiple localities in a town

3 "Rathtala"s in Kolkata. Now, combine that with wrong pincode

Similar sounding areas

"Amrit Nagar" vs. "Amrut Nagar" in Mumbai

Misspelling

"Andheri Wast" – Andheri East or Andheri West?

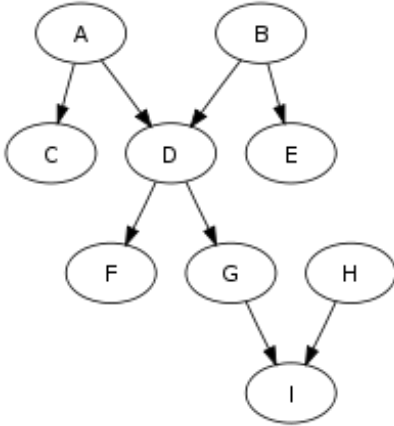
Poor language skills

"Beside" can mean anything from "next to" to "in the general neighborhood of"



# Case Study: Delhivery AddFix!

## Machine Learning Platform



- **Graph Based Models:** Build a Graph using relations found in user addresses
- **Determine Probability functions that establish:**
  - If a certain node (city, locality, sub-locality, POI, etc.) actually exists
  - Hierarchical relations between different nodes
  - Aliases and alternative spellings for nodes

**AddFix - Alpha**

B111 rahja etlantice gurgaon **Search**

*Polygons supported in : Gurgaon, Delhi, Bangalore, Kolkata, Hyderabad, Mumbai*

Locality Sector 31

Lat,Lng 28.452674865722656 , 77.0465087890625

Hierarchy India  
Haryana ✓  
Gurgaon \* ✓  
Sector 31 \* ✓  
Raheja Atlantis \* ✓

\* Polygon Available  
✓ Locality Verified



## The road ahead....



- In the Indian context,
  - logistics sector is going through a transition - migrating from **unorganized to organized players**
  - these new entrants are investing in **innovative** ways to solve core geo-spatial business problems
  - there exists a **self-fulfilling ecosystem** in geo-spatial research - the users are gaining a competitive edge from Data Science intelligence

