

GEOSMART INDIA 2021

**THEME ADVANCING THE ROLE OF GEOSPATIAL
KNOWLEDGE IN INDIAN ECONOMY**



24-26 August 2021



HICC Hyderabad, India

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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

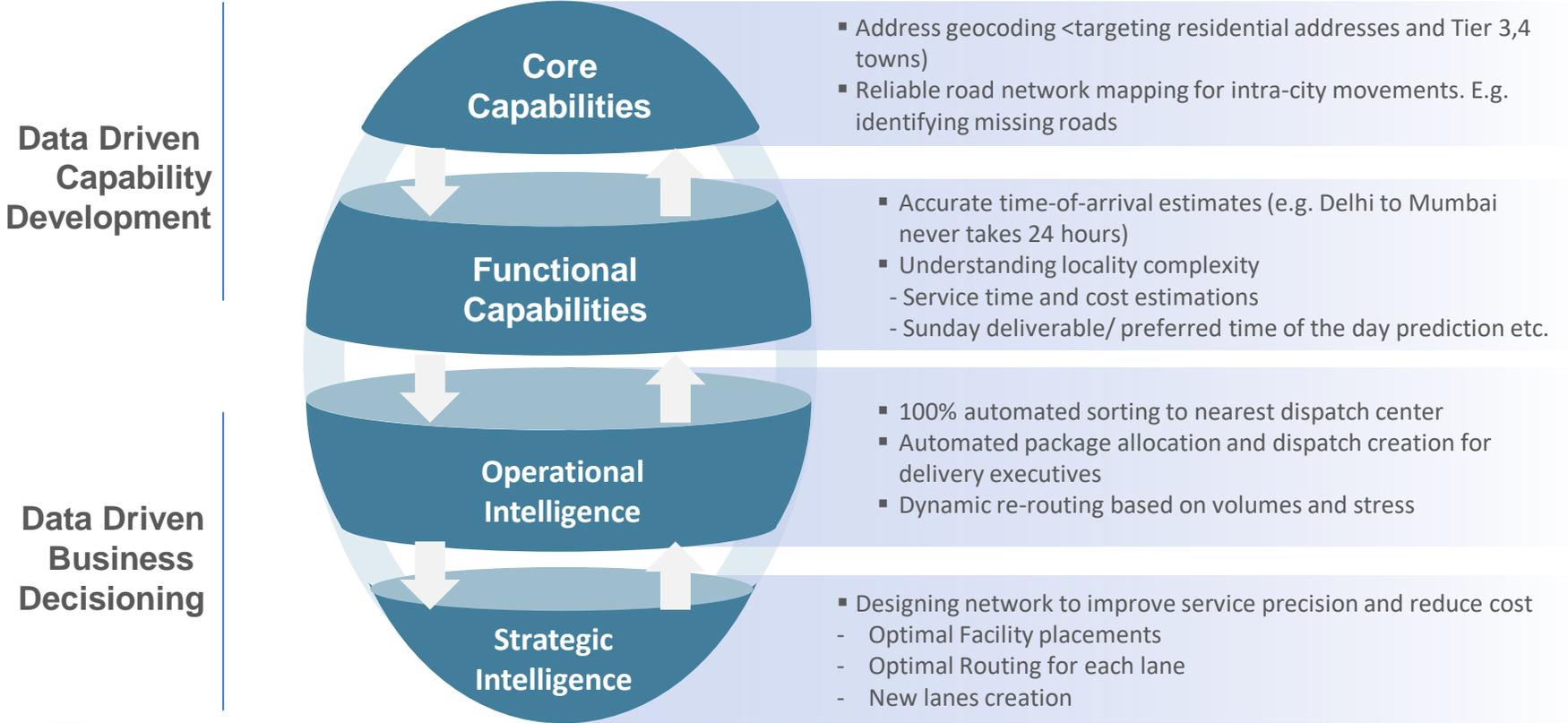
**REAL-TIME GPS
TRACKING**
10,000+ delivery Executives
3,000+ large vehicle movements

Delhivery Data Warehouse



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

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

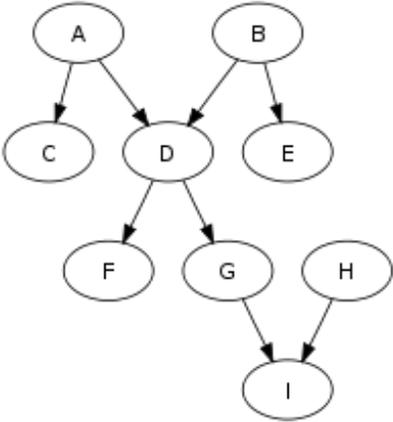
"Beside" can mean anything from "next to" to "in the general neighborhood of"



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

