

Infosys Global Hackathon

Universal Logistics Visibility Platform

Team MCKV

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OptiLogix

Your ultimate solution for optimizing logistics and supply chain management. Streamline operations, enhance efficiency, and drive growth with our cutting-edge platform.

Smart Inventory

Keep track of your stock with real-time updates and predictive analytics.

Route Optimization

Find the most efficient routes for your deliveries, saving time and fuel.

Compliance Checker

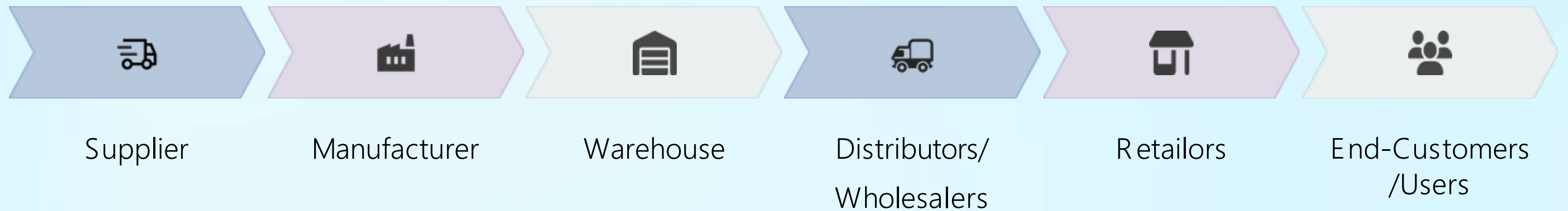
Ensure all your parcels meet regulatory standards effortlessly.

[Get Started](#)

OVERVIEW

1. Introduction
2. Core Features
3. Additional Features
4. Scalability and Security
5. Business Plans
6. Conclusion

Introduction



Core Features



Dock dispatcher



Inventory Spotter



Route Optimiser



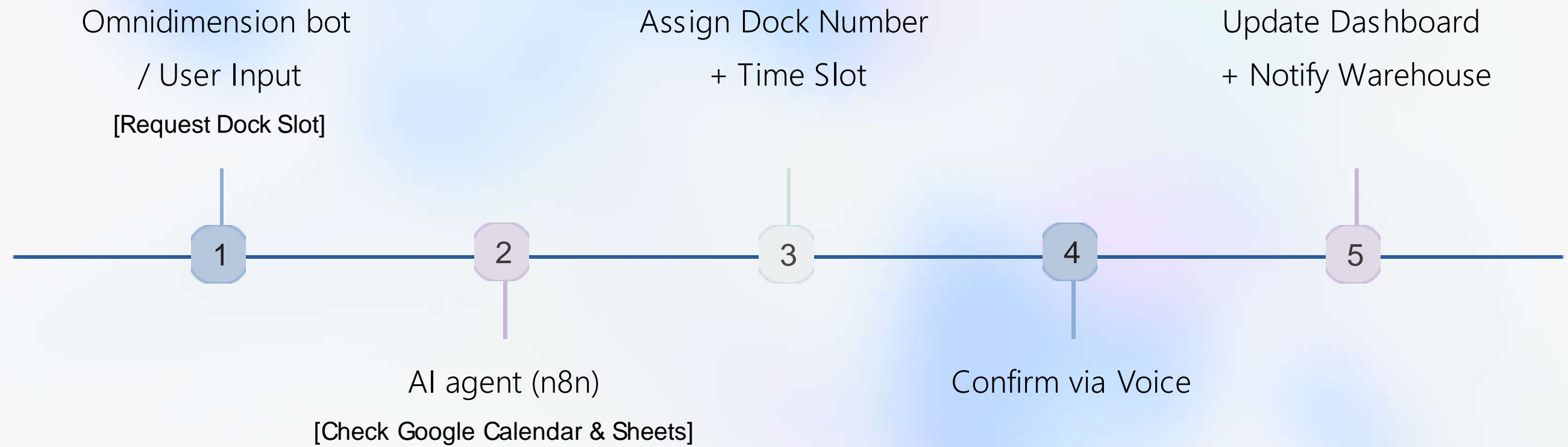
AI agent integrations in all
features

Additional Features

- 1 Traffic Whisperer
- 2 Compliance Checker
- 3 Freight Quotes
- 4 Risk Dashboard
- 5 Demand Forecasting
- 6 Team Collaboration
- 7 Blockchain Provenance

Dock Dispatcher

Streamlines truck movement and dock assignments at warehouses



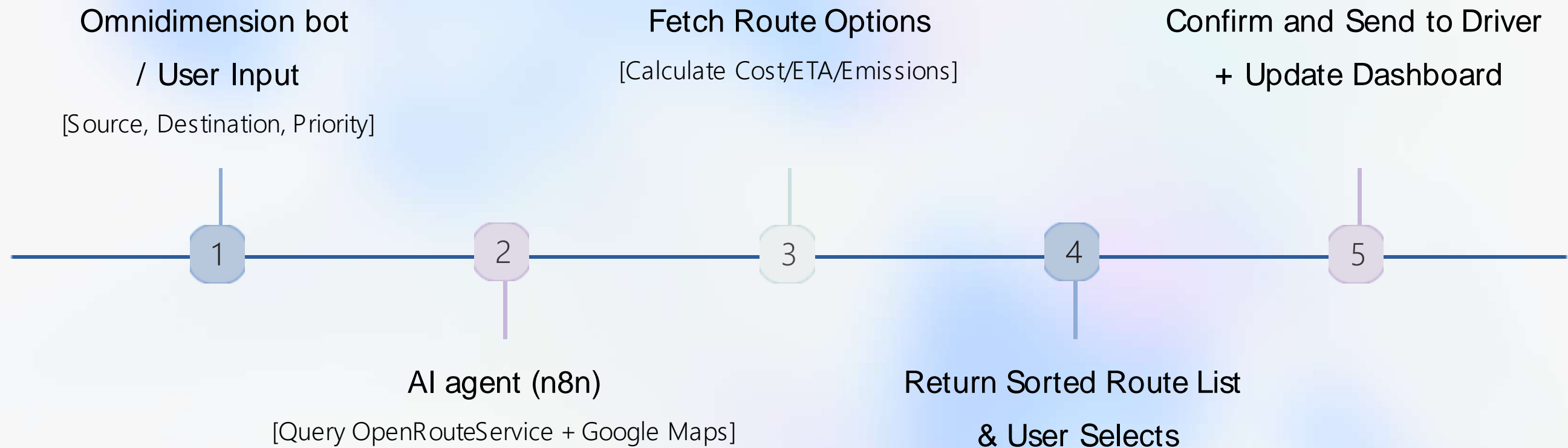
Inventory Spotter

Helps warehouse workers pick items faster and accurately



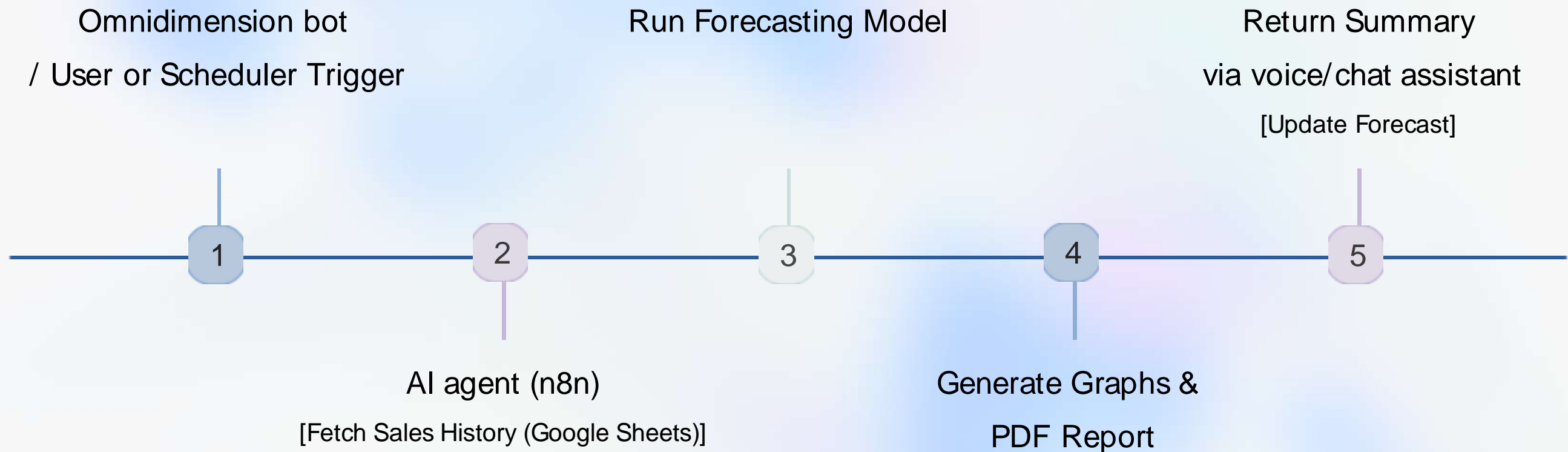
Route Optimiser

Finding the most efficient and cost-effective delivery path



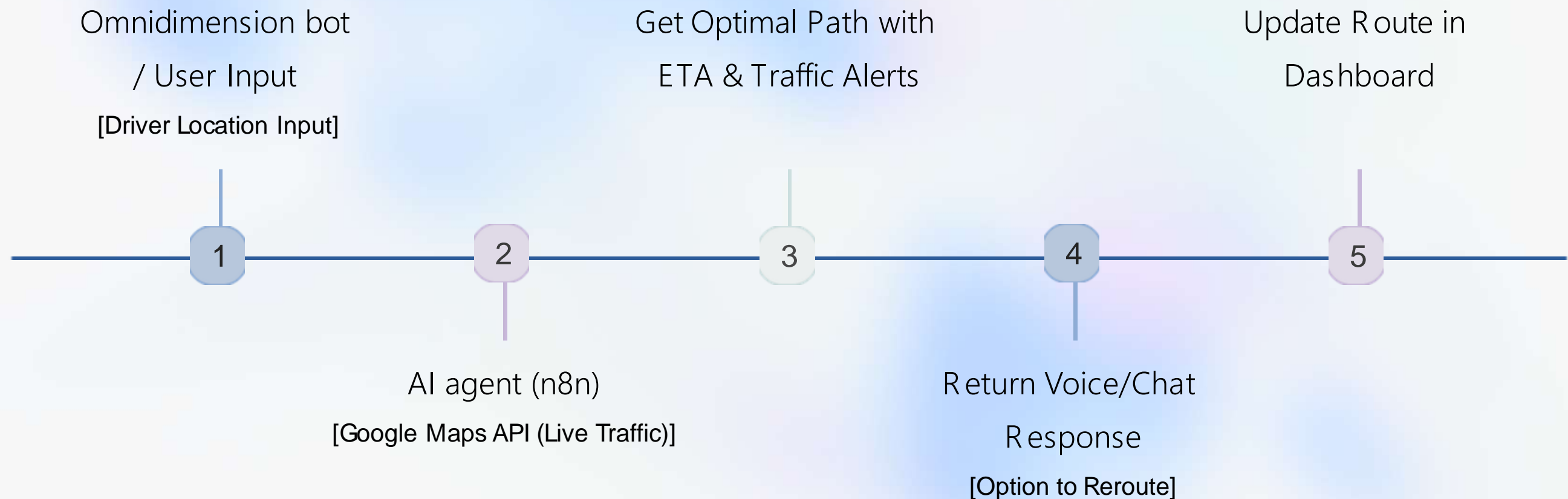
Demand Forecasting

Predict future customer demand using past data and trends



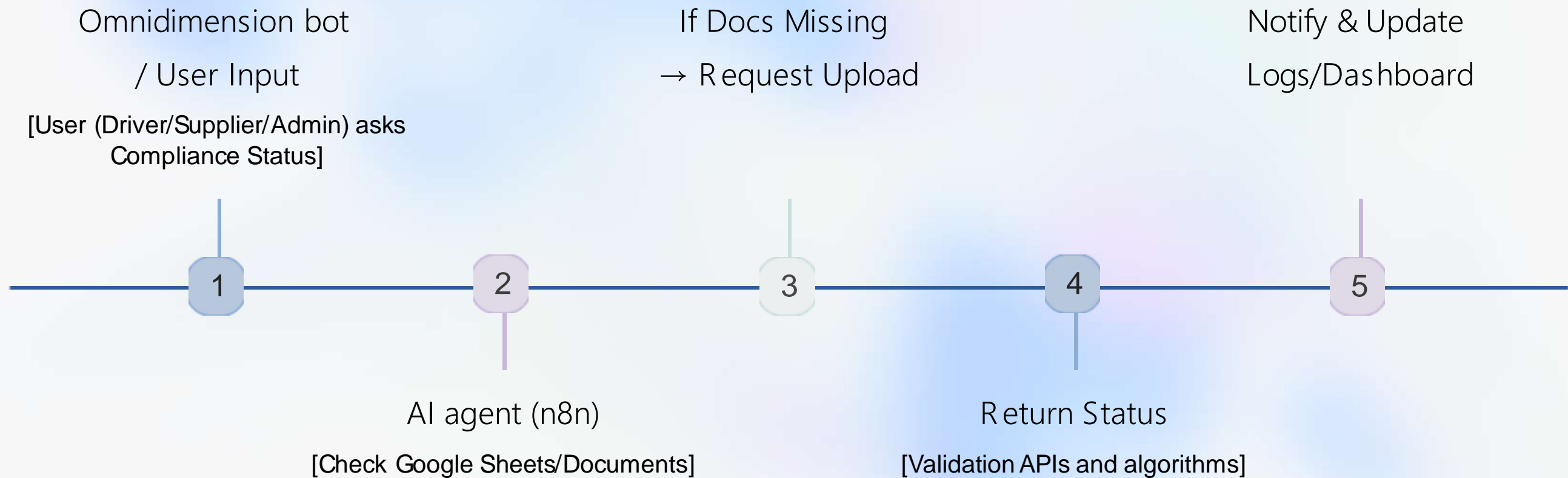
Traffic Whisperer

Predict future customer demand using past data and trends



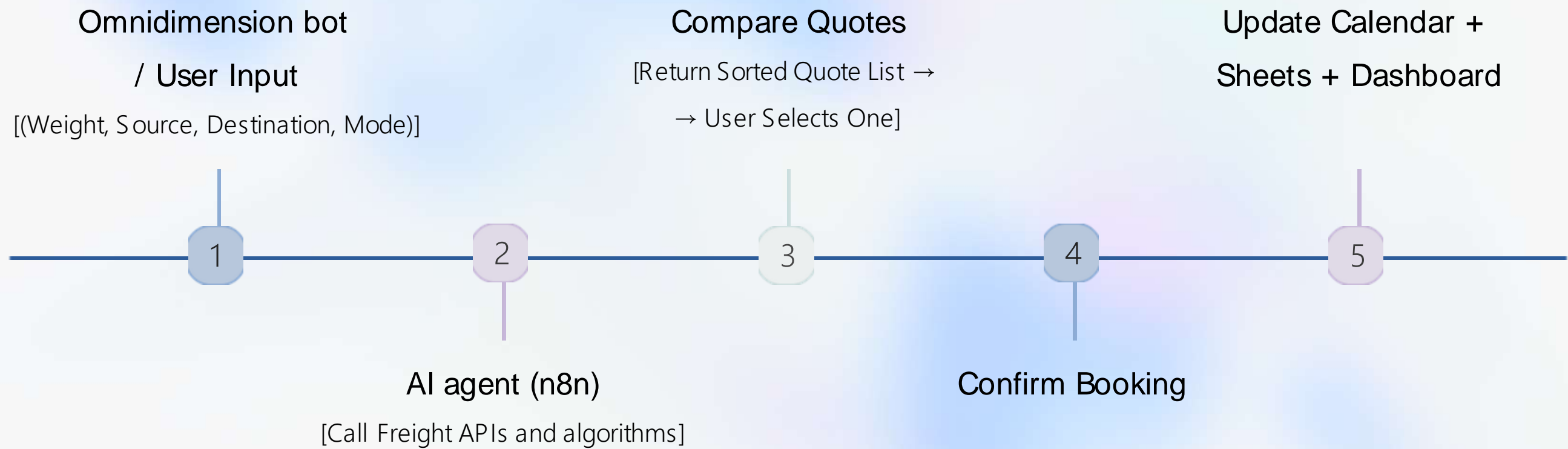
Compliance Checker

Predict future customer demand using past data and trends



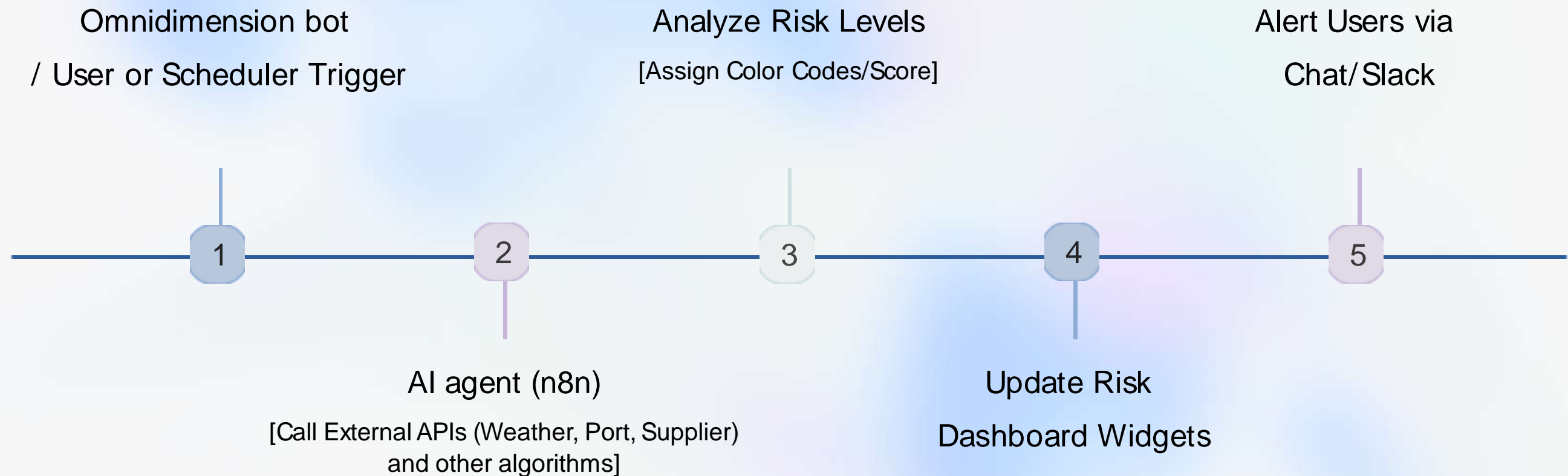
Freight Quotes

Predict future customer demand using past data and trends



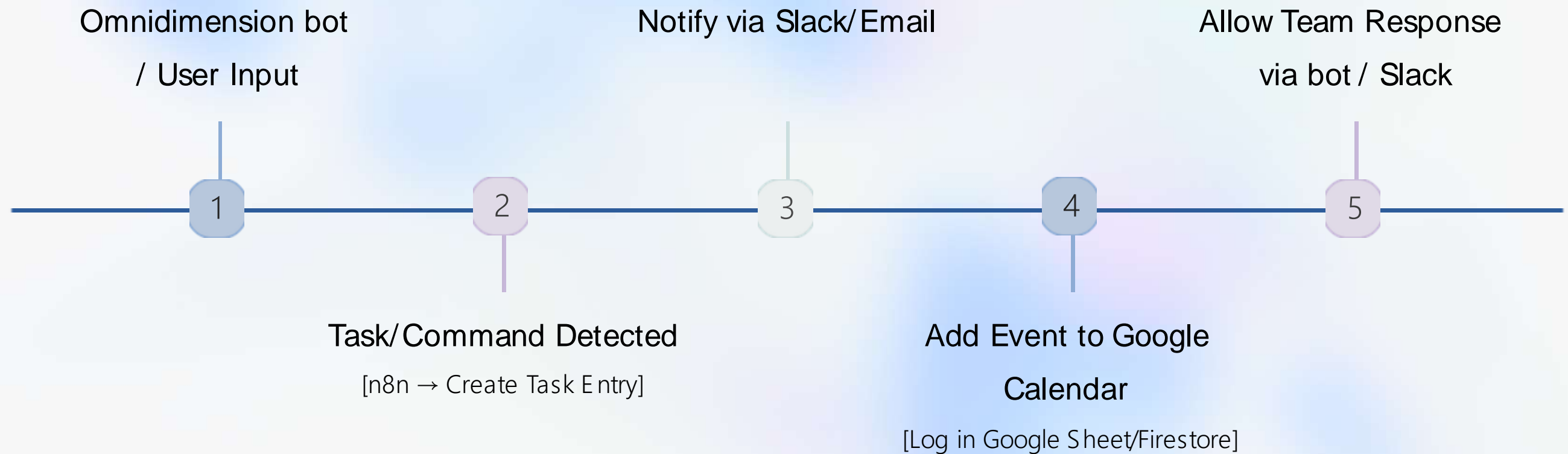
Risk Dashboard

Predict future customer demand using past data and trends



Team Collaboration

Predict future customer demand using past data and trends



Algorithms Involved

| <u>Feature</u> | <u>AI/ML algorithm used</u> | <u>Purpose</u> |
|-----------------------|---|---|
| 1. Dock Dispatcher | Rule-Based + Priority Scoring (Custom Logic) Optional: XGBoost Regressor | Assign dock slots based on urgency, truck type, ETA, etc. |
| 2. Inventory Spotter | A* Pathfinding Algorithm | Route optimization for shortest pick path across warehouse grid |
| 3. Route Optimizer | Rule-Based Logic A*/Dijkstra (for map graph) Optional ML for ETA/cost | Multi-modal route scoring & optimization (cost, carbon, time) |
| 4. Compliance Checker | Rule-Based Validator Optional NLP (BERT/OCR) | Detect violations in parcel content, dimensions, restrictions |

Technology Overview

Frontend - Typescript, Javascript

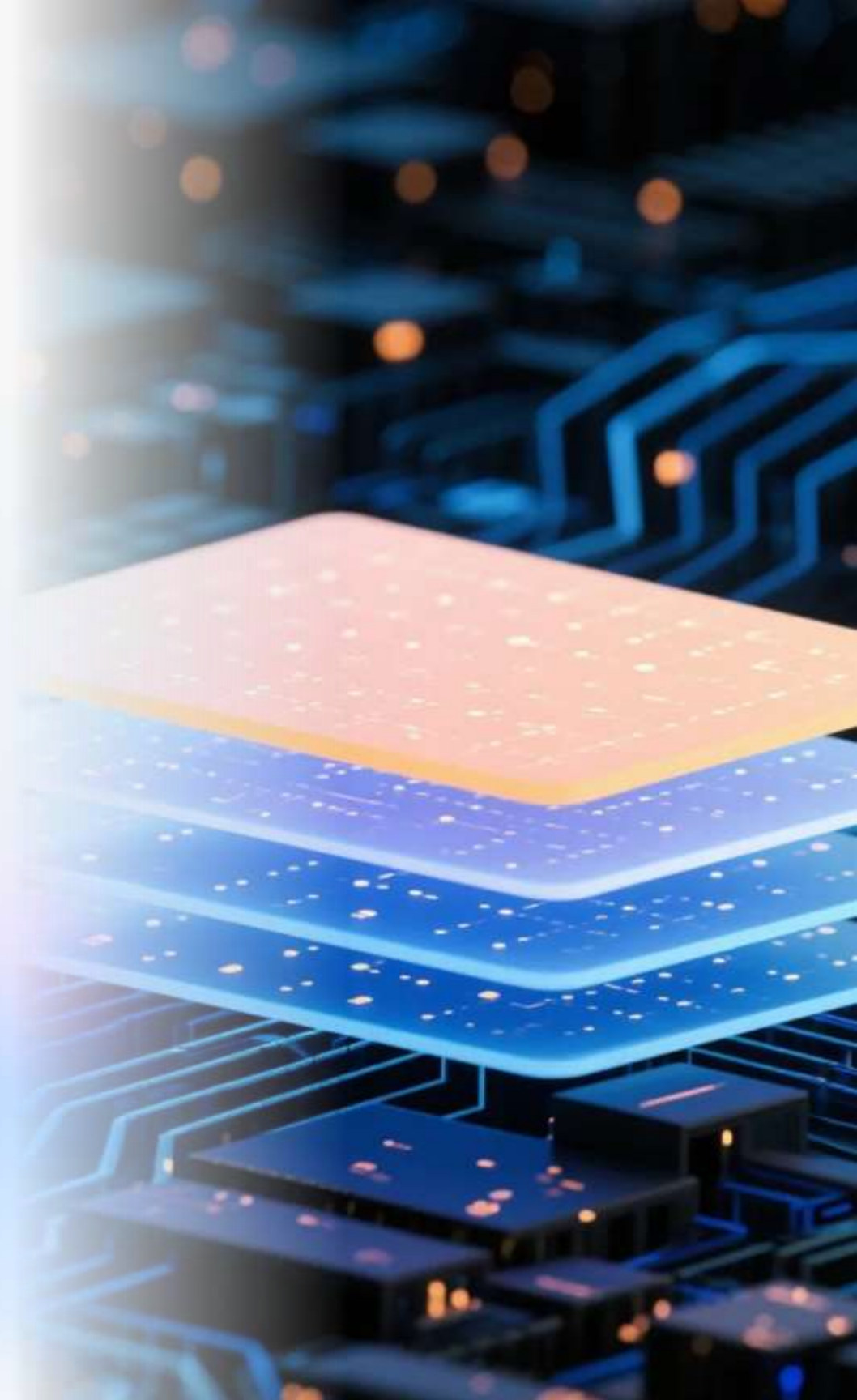
Authentication- Firebase

Backend- Node.js, Python

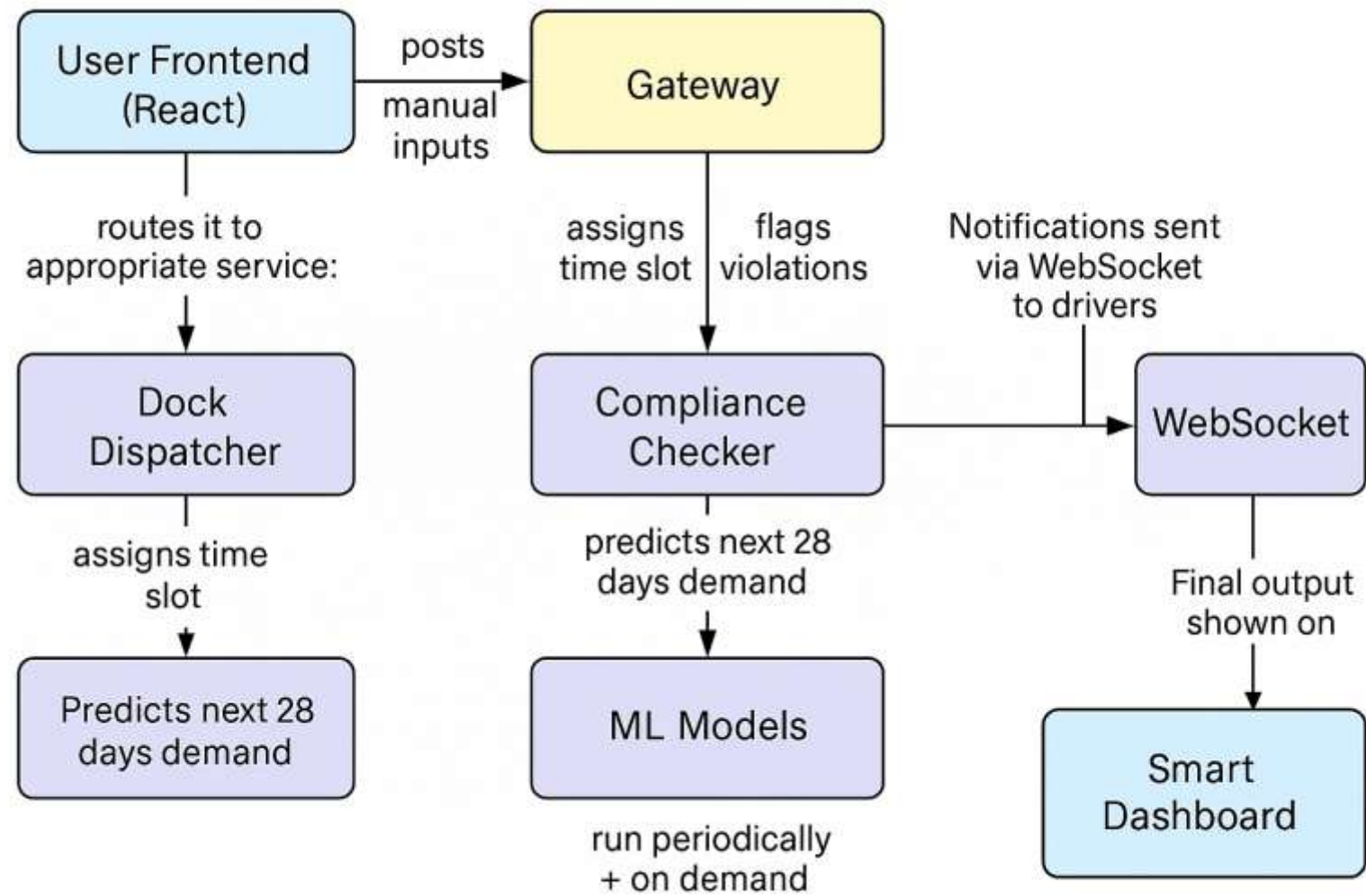
Database- MySQL(local)

AI agent- Omnidim SDK, n8n agents

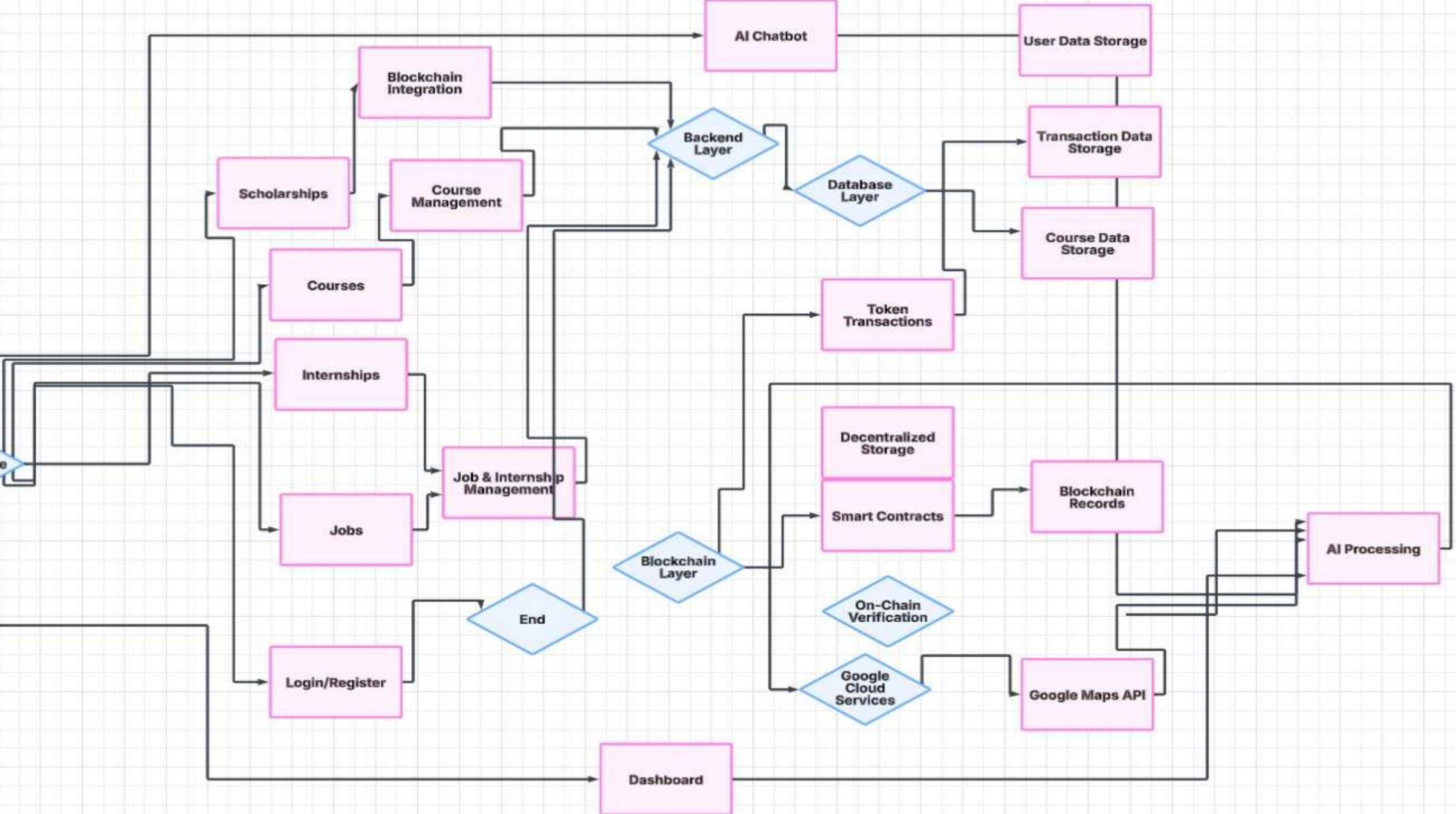
Blockchain- hardhat, wagmi, Solana testchain



User Flow Diagram



HL Architectural Diagram



Scalability and Security

Scalability Strategies

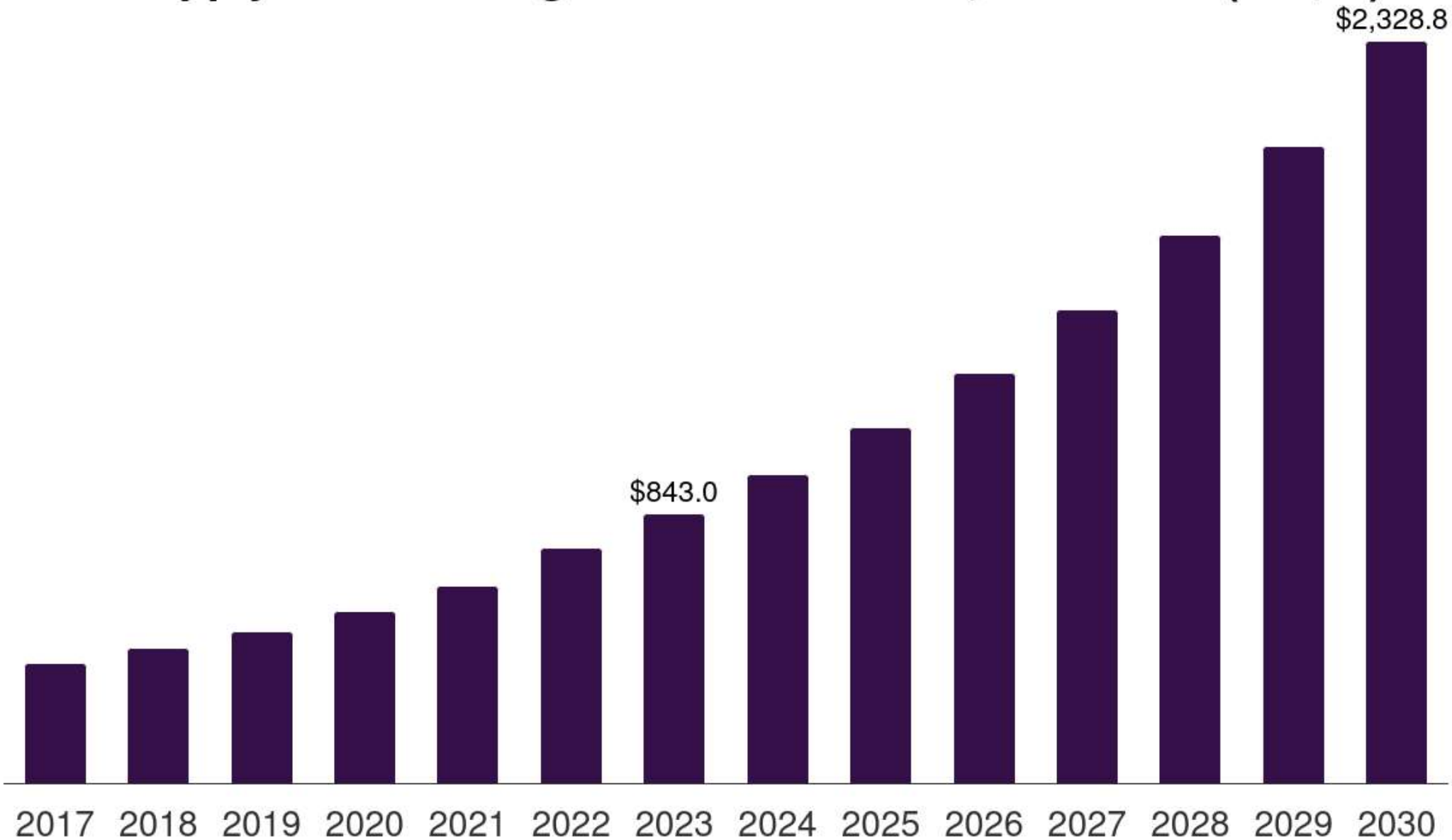
| Phase | Focus Area | Channels |
|-------------|-------------------------------|---------------------------------|
| MVP | SME warehouse pilots | Direct outreach, referrals |
| Scale-Up | D2C brands + ERPs | Tech partners, Shopify plugin |
| Suite Build | Add-on modules (Risk, Quotes) | SaaS bundling, marketplace APIs |

Security Measures

- Every compliance check, route dispatch, dock booking, etc., logged immutably (Solana IPFS).
- **Blockchain**

Business Plan Overview

India supply chain management market size, 2017-2030 (US\$M)



<https://www.grandviewresearch.com/horizon/outlook/supply-chain-management-market/india>



HORIZON
GRAND VIEW RESEARCH

15.6%

India Market
CAGR, 2024-2030

Target Market

Growth Trajectory of WMS and Logistics Tech



Primary Market:

- SME Warehouses & Fulfillment Centers (India, SEA)
- 3PL Providers scaling tech post-Series A

Secondary Market:

- Large D2C Brands (e.g., Meesho, Mamaearth) handling >100 orders/day
- Retail Chains with regional warehouses (e.g., Reliance Retail, BigBasket)

| Role | Needs | Influence Level |
|------------------|---------------------------------------|-----------------|
| Ops Manager | Reduce search time, improve SLAs | 🔥 High |
| Warehouse Owner | ROI and process standardization | 🔥 High |
| Pick Staff | Easy-to-use, accurate path assistance | ⚠️📦 Medium |
| CTO / IT Manager | Integration with ERP & infra | 🔥 High |

Product Differentiation

| Capability | OptiLogiX | Legacy WMS | Barcode Apps |
|-----------------------|-----------|------------|--------------|
| <i>A Pathfinding*</i> | ✓ | ✗ | ✗ |
| Real-time UI | ✓ | ⚠️ | ⚠️ |
| Modular Integration | ✓ | ✗ | ✗ |
| Plug-and-play Design | ✓ | ✗ | ✓ |

Designed by
logistics+tech experts
with real warehouse
experience



Built with real AI pathfinding, not
rulesets

Modular, API-first platform

Positioning and Branding

OptiLogiX is positioned as the **AI-driven nerve center of logistics operations**—a modular platform integrating dock dispatch, route optimization

Brand Pillars:

- **Simplicity:** Minimal learning curve for warehouse workers.
- **Speed:** Fast integrations and real-time route generation.
- **Connected:** API-ready, compatible with major WMS/ERP.



Positioned as the plug-and-play **AI assistant for warehouse picking** — seamlessly integrating into any warehouse operation to **cut pick time, boost visibility, and enhance operational speed.**

Go-To-Market Strategy

▶ Pilot 3–5 SME warehouses (3PLs, D2C)

▶ Launch “OptiLogiX Lite” — white-labeled for regional logistics

▶ Partner with ERP/WMS players (Zoho, NetSuite, Odoo)

▶ **Growth lever:** TMS plug-ins + freight quoting APIs

Competitive Landscape

| Platform | Inventory Spotter | Traditional WMS | Barcode Apps |
|---------------------|-------------------|-----------------|--------------|
| A* Routing | ✓ | ✗ | ✗ |
| Visual Route Map | ✓ | ⚠️ | ✗ |
| Live Inventory Feed | ✓ | ✓ | ⚠️ |
| Modular API Design | ✓ | ✗ | ✗ |
| Manual + CSV Input | ✓ | ✗ | ⚠️ |
| SaaS Setup | ✓ | ✗ | ✓ |

Dock & Warehouse Scheduling

- Project44
- FourKites
- BlueYonder

Freight Quotation & Logistics Platforms

- Flexport
- Freightos
- Shiprocket X

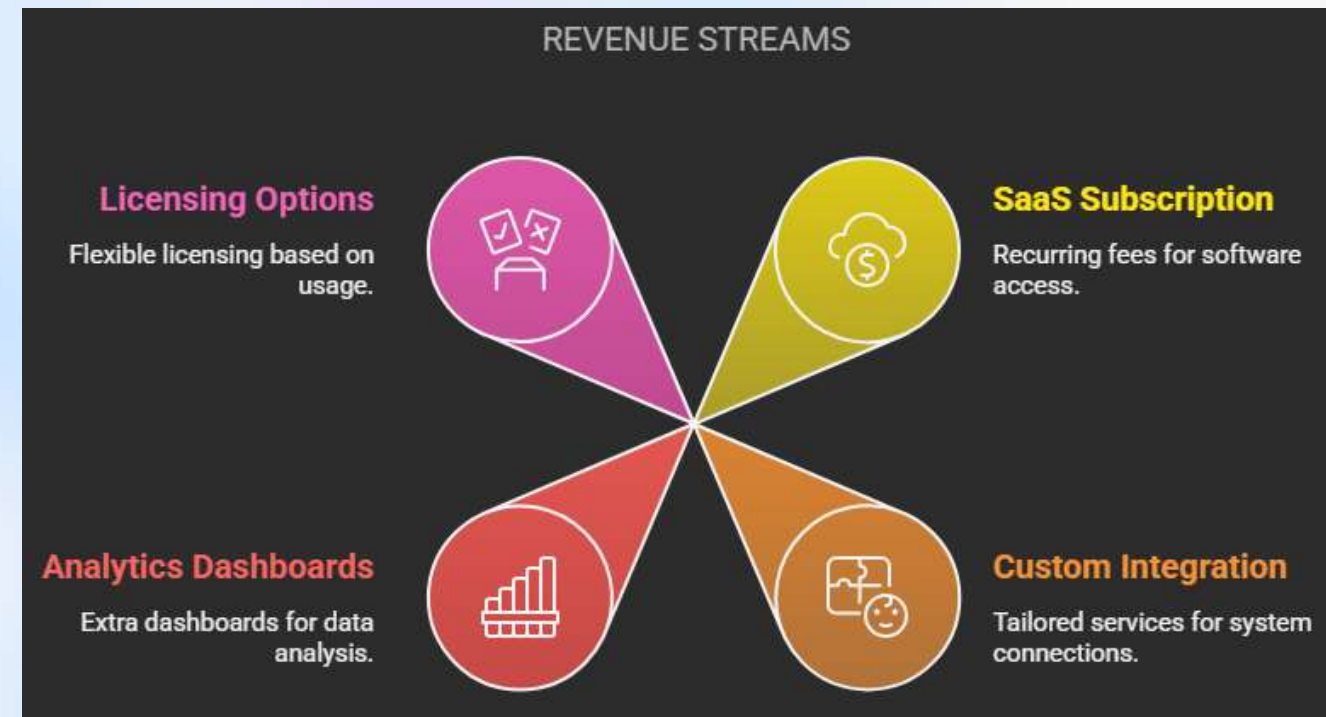
Inventory Optimization & Routing

- Zebra Technologies
- Locus.sh
- Fetch Robotics

Demand Forecasting

- Lokad
- ToolsGroup
- o9 Solutions

Revenue Model



| Plan | Price | Features |
|-------------------|-------------|--|
| Starter | \$99/month | 1 warehouse, 2 users, basic scan + path tools |
| Pro | \$499/month | Up to 5 users, integration APIs, dashboard module |
| Enterprise | Custom | Unlimited users, smart assistant, full analytics & integration support |

Distribution Strategy

Distribution Strategy Comparison

| Characteristic | Direct Sales | Channel Partners | Developer Community |
|--|--|---|---|
|  Target Audience | Warehouse ops leads & D2C brands | ERP Vendors, Logistics SaaS, Hardware sellers | Open API users, No-code integrators |
|  Sales Method | Inside sales, Targeted outreach | Partnerships, Platform integrations | Open API, Starter projects, Webinars |

Technology and Innovation

AI/ML Algorithms:

- **A* Pathfinding** for warehouse maps
- **XGBoost** for demand prediction (Phase 2)
- **Rule-Based Compliance Engine** for packaging



Future AI Additions:

- Vision-based product scan (CV + OCR)
- Forecast-based dynamic zone allocation

Innovations:

- Real-time pick route generation
- Manual + API input flexibility
- Real-time alerts + pick time KPI tracking

Scaling , Growth Strategy and Risks and Challenges

| Phase | Focus Area | Channels |
|-------------|-------------------------------|---------------------------------|
| MVP | SME warehouse pilots | Direct outreach, referrals |
| Scale-Up | D2C brands + ERPs | Tech partners, Shopify plugin |
| Suite Build | Add-on modules (Risk, Quotes) | SaaS bundling, marketplace APIs |

| Risk Type | Mitigation Strategy |
|-----------------------|--|
| Integration delays | Use plug-in connectors and no-code setup UI |
| User adoption | Simple UI, training videos, guided tours |
| Competition | Stronger UX, lower pricing entry point, modularity |
| Scaling warehouse ops | Flexible microservice setup with separate tenant DBs |
| Data security | Role-based access control, AES-encryption, ISO 27001 infra |

Conclusion & Thank You