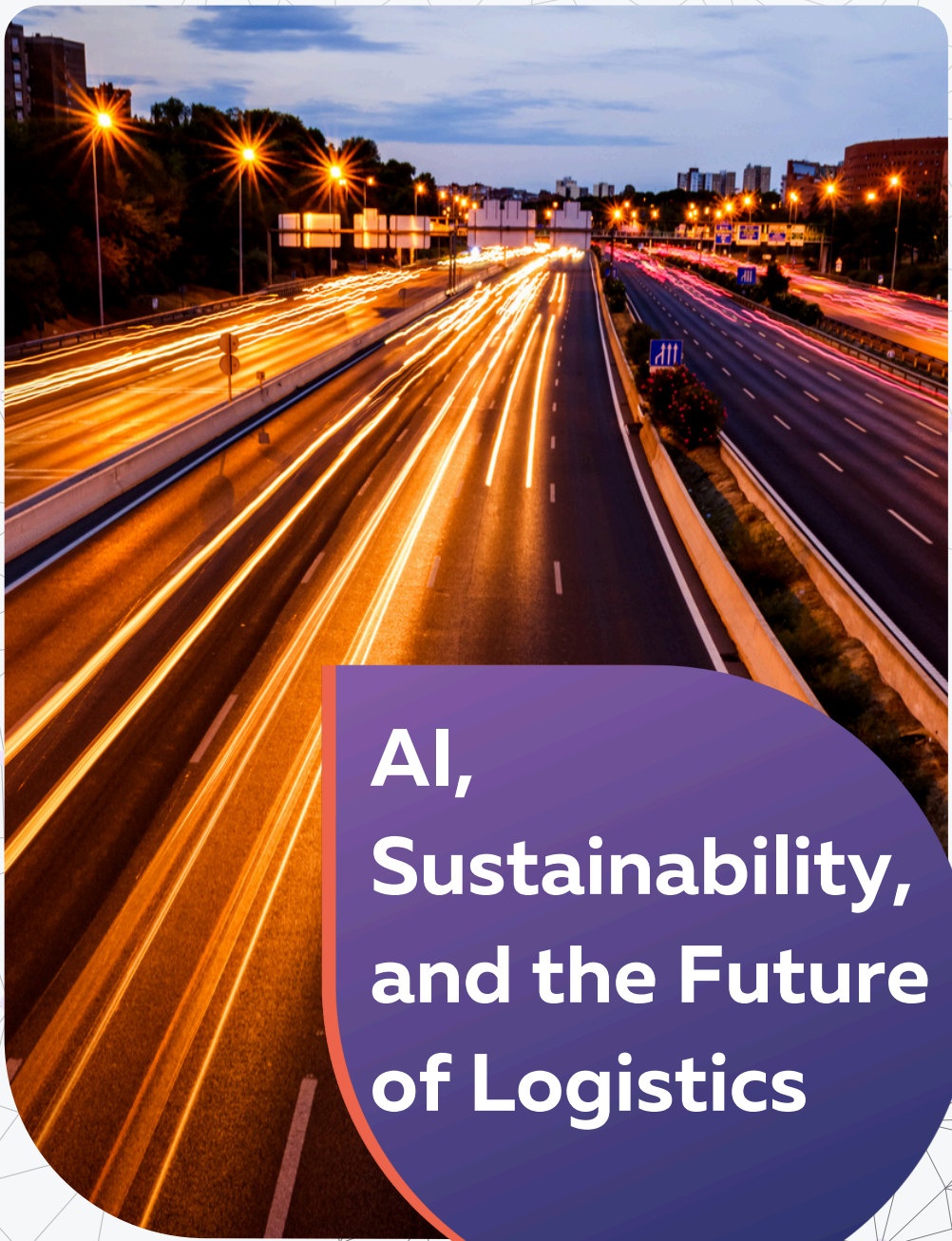
next billion.ai



AI, Sustainability, and the Future of Logistics

INTRODUCTION: AI AT THE HEART OF MODERN LOGISTICS

Artificial Intelligence (AI) is the most talked-about technology trend today, shaping business conversations from boardrooms to factory floors. Customers regularly demand AI-powered solutions for everything—whether it's optimizing deliveries, driving operational efficiency, or gaining real-time insights. AI now stands where "digital transformation" once did: it's the new baseline for innovation and competitive advantage.

At Nextbillion.ai, we recognized this shift early. Well before AI became the industry buzzword, we were designing our platform with deep learning, adaptive algorithms, and data-driven intelligence at its heart. Our approach wasn't to retrofit AI for trend's sake, but to build from the ground up, ensuring that every route planned, every driver assignment, and every geospatial decision harnessed the power of real-time machine learning and predictive analytics.

By embracing AI-first principles before they were mainstream, Nextbillion.ai created technology that not only meets today's high expectations but also reliably anticipates tomorrow's logistics challenges—delivering genuine intelligence, continuous learning, and future-proof flexibility for businesses that aspire to stay ahead of the curve.

API-FIRST: THE FOUNDATION FOR SCALABLE, ADAPTIVE LOGISTICS

The Nextbillion.ai platform is API-first and designed for seamless integration and adoption. Every major capability, from planning delivery routes to matching drivers and orders, is available as an API endpoint and documented for third-party integration.

API-First Optimization: Why API-First Matters for Enterprise Logistics

- Any business can build its own custom experiences, workflows, or apps on top of our logic.
- Orchestrate unique combinations of constraints, objectives, and data flows, not locked to rigid web interfaces.
- Supports thousands of vehicles, jobs, or real-time requests without manual intervention.
- Seamlessly integrates with other enterprise systems like TMS, ERP, or telematics platforms.

Whether it's custom route planning, optimization, tracking, or driver dispatch, enterprises can get up and running in days and adapt to changes on the fly.

EMBEDDED INTELLIGENCE: HOW AI POWERS OUR API-FIRST MODEL

AI is at the core of our routing engine and enables us to deliver API-first routing and logistics solutions, driving every phase from raw data processing to intelligent decision-making and business outcomes.

Our core functions, like Route Optimization and Distance Matrix, are built around AI and machine learning models, thus enabling them to serve beyond just static computation engines. Nextbillion.ai's API-first platform is made intelligent through embedded AI, enabling real-time, adaptive, and ever-improving logistics decision-making.

Our AI-powered, API-first model empowers businesses to go beyond just automation and elevate to intelligent automation - uniquely match operational reality, lower costs, improve efficiency, and enhance customer experience.

On-demand ride-hailing
Allocating drivers in real time using distance, traffic, and historical job patterns.

Food delivery and batch dispatch
Allocating drivers in real time using distance, traffic, and historical job patterns.

Trucking and waste collection:
Optimizing multi-stop, multi-vehicle schedules under regulatory, skill, and cost constraints, adjusting to driver shifts and road conditions on the fly.

AI IN ACTION: BUILDING REAL-WORLD RESILIENCE, PERSONALIZATION, AND CONTROL FOR MODERN OPERATIONS

Our engine processes billions of data points from moving vehicles, historical trip data, and real-time traffic feeds to generate accurate ETAs, travel times, and optimized routes tailored to each businesses' operational realities.

Enterprises operate in environments where small disruptions—whether road closures, policy changes, or high-priority customer needs—can have a significant impact on service, cost, and compliance. Nextbillion.ai's intelligent engine is designed not just for speed and accuracy, but for robustness and customizability at scale.

OUR CORE OPTIMIZATION ENGINE

- Continuously learn from historical and real-time fleet data, traffic patterns, and job outcomes.
- Predicts precise travel times, ETAs, and optimal routes using data-driven segment speed profiles, learning from billions of location and sensor data points.
- Dynamically adapt routes to live disruptions (traffic jams, road closures, cancellations) and real-world, rapidly changing conditions.

REAL-TIME DECISION MAKING AND PERSONALIZATION

- Instant recommendations for job allocation, driver dispatch, ETA recalculations, and stop reordering.
- Machine learning models constantly update based on input from previous jobs, actual trip times vs predicted, traffic incidents, vehicle types, and more—making the optimization increasingly personalized and accurate over time.

SUPPORTS 50+ COMPLEX CONSTRAINTS

- Manages multiple real-world constraints—vehicle capacities, regulatory requirements, delivery priorities, skills, and operational preferences—at scale and speed.
- Advanced capabilities combine, prioritize, and solve for complexity that is impossible to handle with rules-based logic alone.
- Vehicle-specific routing supports tailored route planning and optimization for trucks, bikes, e-scooters, autonomous vehicles, vehicle-based restrictions, and custom profiles.

GRANULAR, ENTERPRISE-LEVEL CONTROL

- Enterprises can encode business policy at a granular level—such as vehicle-specific access rules, region-based service restrictions, preferred delivery times, or mandatory use of green corridors.
- SLAs (Service Level Agreements), like on-time rates, maximum lateness windows, multi-tiered priority assignment, and guaranteed delivery slots, are natively modeled and enforced by the engine.

- Whether it's optimizing routes, assigning drivers, or clustering jobs, all capabilities are accessed via APIs, and our embedded AI enables highly configurable, fine-tuned responses for each API call.
- Businesses can build custom logic using these AI-powered APIs, embedding intelligence directly into their products or workflows.
- For example, you can set up APIs to optimize routes by fuel cost, green delivery slots, time windows, custom constraints (like cold chain, hazardous materials), or driver skills—all of which AI models and algorithms can handle on demand.

See how it works

NEXTBILLION.AI'S AI-POWERED ROUTE PLANNING MODELS

Our AI-driven models infer travel times and create segment speed profiles and ML models process millions to billions of data points from moving vehicles. The RO engine processes all this data to derive Accurate ETA predictions, travel time, and distance calculations. Our advanced AI and ML algorithms enable quick, accurate, and optimized route dispatch.

Heuristic Rule Based Problem Solving

Finds quick, efficient routes using rules based optimisation

Meta-Heuristics Higher Level Optimisation strategy

Improves route optimisation by understanding objectives, goals and refines the results from optimisation engine.

Route Optimisation Engine

AI driven routing engine continously adapts and optimises based on historical and real time traffic and fleet data.

FASTER, MORE ADAPTIVE, COST EFFIECIENT AND ROUTING

BUILT-IN AI MODELS

- Integrated AI engine uses ML algorithms to process billions of data points from moving vehicles.
- AI-driven models infer travel times and create segment speed profiles.
- The data feeds the route planning engine for accurate ETA, travel time, and distance calculations.

ENTERPRISE AI MODEL: DRIVEN BY CUSTOMER DATA

- Our enterprise-grade solution collates and processes real-world data from multiple sources.
- Algorithms train on customers' historical and live tracking data to determine accurate ETAs and optimal entry/exit points.
- It considers fleet size, vehicle type, and other constraints to provide the most optimized solution.
- Customer-level data is anonymized and secure.

Aggregates real world data from multiple resources

Live GPS data from fleet vehicles

Post trips, Delivery Durations and Speed Variations

Customer feedback on delivery points, preferred routes and access points

AI processing engine

Analyses Live + Historical live tracking data

Uses vehicle movement data to determine speed profiles

Adjusts ETAs based on real-time traffic, roadblocks, and delays

Geospatial clustering identifies best access routes

Geocodes the pinpoint correct loading docks or drop-off points

Factors in fleet size, vehicle type, and delivery constraints

Route Optimization benefits

Improved fleet efficiency

Intelligent, adaptive routing and dispatch

Accurate arrival predictions

On-time deliveries and fewer delays

Reduced customer wait times

Lower fuel costs

ENTERPRISE-GRADE SECURITY, COMPLIANCE & GOVERNANCE

In today's enterprise landscape, we recognize that robust security and governance are fundamental—especially for organizations managing sensitive location, customer, and operational data. Our platform is engineered with a "security-by-design" approach, adhering to industry-leading global standards and regulatory requirements.

- Support for comprehensive compliance frameworks—including **GDPR, SOC 2, and industry-specific mandates**—ensures that customer data is protected both in transit and at rest.
- Fine-grained **access controls, audit trails, and role-based permissions** empower enterprises to precisely manage who can view and act on routing data and AI recommendations.
- All **data is encrypted and anonymized** as necessary, and our transparent governance processes support risk management, regulatory audits, and internal IT oversight.

Enterprises can confidently scale intelligent logistics while maintaining rigorous control and full visibility over their data and operations—critical for business continuity, brand trust, and regulatory peace of mind.

AICPA SOC – SOC 2

SOC 2 Type II certified and undergoes regular third-party audits and penetration testing to uphold high data security and compliance standards.

GDPR

GDPR compliant, ensuring strict data privacy and protection standards.

ISO 27001

ISO 27001 certified, ensuring rigorous information security management standards.

UNCOVER THE AI BEHIND SMARTER ROUTING

Nextbillion.ai is cutting-edge AI-driven platform for faster, more adaptive, and cost-effective routing.

Faster Route Calculation

Predefined rules provide quick solutions and advanced algorithms refine routes further, reducing unnecessary detours.

Accurate & Dynamic Optimization

Finds a good baseline route and continuously improves it by learning from real-time data like traffic and vehicle speed.

Highly Scalable

Preset conditions solve simple routing problems and advanced algorithms cater to scale for large fleets, multiple stops, and real-time conditions in complex logistics and last-mile delivery scenarios.

Cost savings & Efficient Resource Allocation

Reduced computational overheads and routes optimized for fuel usage, driver schedules, and traffic delays.

Schedule a personalized demo

Learn More

Transforming Speed and Scalability

AI-powered optimization reduces wait times, handles massive workloads, supports real-time dynamic routing, and continuously self-improves to cater to modern logistics needs.

- The trained ML models reduce the computational overhead of every API call by pre-emptively learning and indexing road profiles and traffic speeds, resulting in APIs that respond **2–3 times faster** than traditional rule-based engines or manual map lookups.

- The AI-driven optimization engine enables throughput gains of **10 to 20x** over conventional systems by parallelizing decision-making and continuously tuning algorithms based on real-world fleet and delivery data.

- The platform can compute and return optimization matrices as large as **5000x5000 in seconds**, allowing enterprises to run thousands of simultaneous route, distance, and assignment calls without performance bottlenecks.

- Continuous data processing and learning dramatically **shortens the time required for each API call** to get to a high-quality solution. Our models get more accurate with every transaction—delivering not just speed, but better plans and allocations that reduce re-computation downstream.

For example, Nextbillion.ai's Driver Assignment API demonstrates real-world response times **under one second** for complex matching between hundreds of drivers and orders, even when accounting for custom constraints and vehicle preferences.

ADVANCED AI FOR SUSTAINABILITY

Route optimization is more than a business improvement: it is a solution that empowers organizations to lead on sustainability, help cities thrive, and build a cleaner, more equitable future for everyone. In 2015, the UN adopted the Sustainable Development Goals (SDGs): a set of 17 ambitious, interconnected objectives designed as a universal call to action to end poverty, protect the planet, and ensure peace and prosperity for all by 2030.

The SDGs address challenges such as health, education, inequality, climate change, sustainable cities, responsible consumption, and environmental preservation. Nextbillion.ai's platform is closely aligned with the United Nations Sustainable Development Goals (SDGs), supporting sustainability and efficiency across logistics and mobility sectors.

By enabling AI-driven optimization, our platform helps enterprises meaningfully reduce their carbon footprint—optimizing fuel use, minimizing unnecessary miles traveled, and improving asset utilization.

Green delivery slots

Eco-sensitive route avoidance

Dynamic scheduling

Emission-conscious routing

SPECIALIZED ROUTING AND OPTIMIZATION CAPABILITIES FOR A GREENER TOMORROW

Electric vehicle (EV) routing has become a cornerstone of sustainable urban mobility and modern logistics. Our platform's AI-powered routing engine is built to handle the complexities of EV logistics, integrating up-to-date map and charging infrastructure data with real-time traffic and vehicle-specific parameters.

Food delivery logistics are key to sustainability—reducing waste, emissions, and urban congestion, while ensuring freshness and strong customer satisfaction. Our intelligent routing cuts travel distance, fuel use, and idle time, and enables batch delivery, dynamic re-routing, and precise time-window optimization. With green delivery slots, an optimized vehicle mix (including bikes and e-scooters), and emission-aware routing, we help delivery businesses meet their sustainability targets.

We provide a host of features that empower organizations to make operations more sustainable in line with SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action).

Safe, sustainable trucking is crucial to the global supply chain—and one of the most complex logistics challenges. Our routing engine accounts for the unique needs of commercial fleets and long-haul logistics like vehicle size, weight, hazardous materials rules, driving hours regulations, and access restrictions. Our routes proactively avoid accident-prone routes, unsuitable roads, and urban congestion zones - improving driver safety and protecting assets.

By optimizing routes for fuel use, minimizing empty miles, and scheduling deliveries to reduce idling and layovers, we help cut emissions and lower costs. These capabilities support compliance with road safety mandates, environmental regulations, and industry sustainability goals.

Learn More

DELIVERING MEASURABLE IMPACT

ML models leverage real-time and historical data, markedly reducing delays and failed deliveries. The AI engine maximizes vehicle use, minimizes empty miles, and ensures optimized computation and intelligent batching. Our platform's impact is reflected in real, measurable business results.

95%	ETA prediction accuracy
20%	reduction in operational costs
60%	lower cloud costs
30%	reduction in delivery costs
15%	reduction in miles driven
98%	on-time delivery for sectors like F&B and NEMT

Schedule a personalized demo

Learn More

SOLVING FOR THE REAL-WORLD: INDUSTRIES WE POWER

MAERSK · MNX a UPS Company · DB · EVFY · ferryscanner · drivado a global chauffeur company · GOIN' · AB InBev · GEOTAB · xplor · ryde · MARS · gojek · ZUS COFFEE · AJEX. Logistics Services

UNRAVELING YOUR INDUSTRY'S BIGGEST CHALLENGES

- Cold Chain and Temperature-Controlled Routing
- Roll-off dumpster routing
- Hazmat and Regulatory Routing
- Snow Plow routing
- Field Service & Skill-Based Routing
- Cross-docking
- Multi-Modal and Multi-Asset Routing
- Patient transportation
- Demand Surge & On-Demand Logistics
- Multi-compartment Fuel Delivery

Let's Talk

NextBillion.ai is a pioneering technology company specializing in AI-powered mapping and routing solutions. Headquartered in Singapore, NextBillion.ai's comprehensive, next-gen routing solutions can be customized to cater to business-specific challenges across industries to optimize operations.

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