

# MARKETS AND VALUE PROPOSITIONS

## LEVERAGING THE VISTRACKS PLATFORM

### VISTRACKS COMPANY BACKGROUND

VisTracks is an Emerging Growth Company with unique intellectual property around Real Time Position and Movement, Tracking, Spatial Data Services and Analytics. We create Visual Business Intelligence via web based API's thru a Platform as a Service (PaaS).

### CORE VALUE PROPOSITION

The VisTracks platform shortens development time to create geospatially relevant analytics solutions with tracking, mapping, navigation, rules-based alerts and analytics, capabilities. VisTracks provides several points of value:

- Analytics on a new type of data. Real-time predictive analytics and specialized algorithms create business intelligence. A new class of analytics application extracts real-time value from location-centric streaming data generated by smart phones, smart appliances, telematics devices, connected sensors, and other mobile devices.
- Cloud-based platform and data warehouse. Leverages the flexibility of a cloud and client system. Rapidly deployed and easily configured solutions serve a variety of vertical purposes through dashboard clients.
- Complement to current analytics solutions. Easily coexists with traditional analytics solutions. Correlates real-time position and movement data with historical and other data for a more complete analysis presented in real-time.
- Professional services to ensure success. VisTracks partnering and customer process ensures successful implementation for its partners. Available to work alongside partner staff, are the VisTracks professional services team to provide concept, design, scope, development and delivery support during the project.

### VISTRACKS CUSTOMERS

The VisTracks platform serves implementers, solutions providers and partners who need to develop software to sense, record, react, analyze, predict and visualize real-time, and ongoing location-specific data streams.

## VISTRACKS PRODUCT

The VisTracks system is a platform-as-a-service (PaaS) that provides programmable web services for advanced statistics, tracking, rules-based notification and visualizing spatially relevant analysis of data. Unlike alternatives, the VisTracks modular platform provides a set of baseline capabilities (tracking, mapping, navigation, rules-based alerts and analytics) to accelerate the extraction of business value from an emerging class of real-time data by enabling rapid creation and deployment of solutions.

VisTracks provides its customers with solutions that include basic elements including:

1. Specialized real-time data warehouse built for position facts and computed analysis
2. Unique data schema and algorithms for a new class of data for position and movement analytics
3. Visual analytics dashboard for a new class of position and movement analytics applications
4. Cloud platform and infrastructure for optimized real-time data processing and analysis

## VISTRACKS CORE MARKETS

VisTracks' serves several markets with unique visual analytics filling a trend-driven capability gap for real-time and predictive analytics on the movement and location of people, assets and resources. The VisTracks Platform unleashes this untapped value in real-time from data streaming from smart phones and sensors.

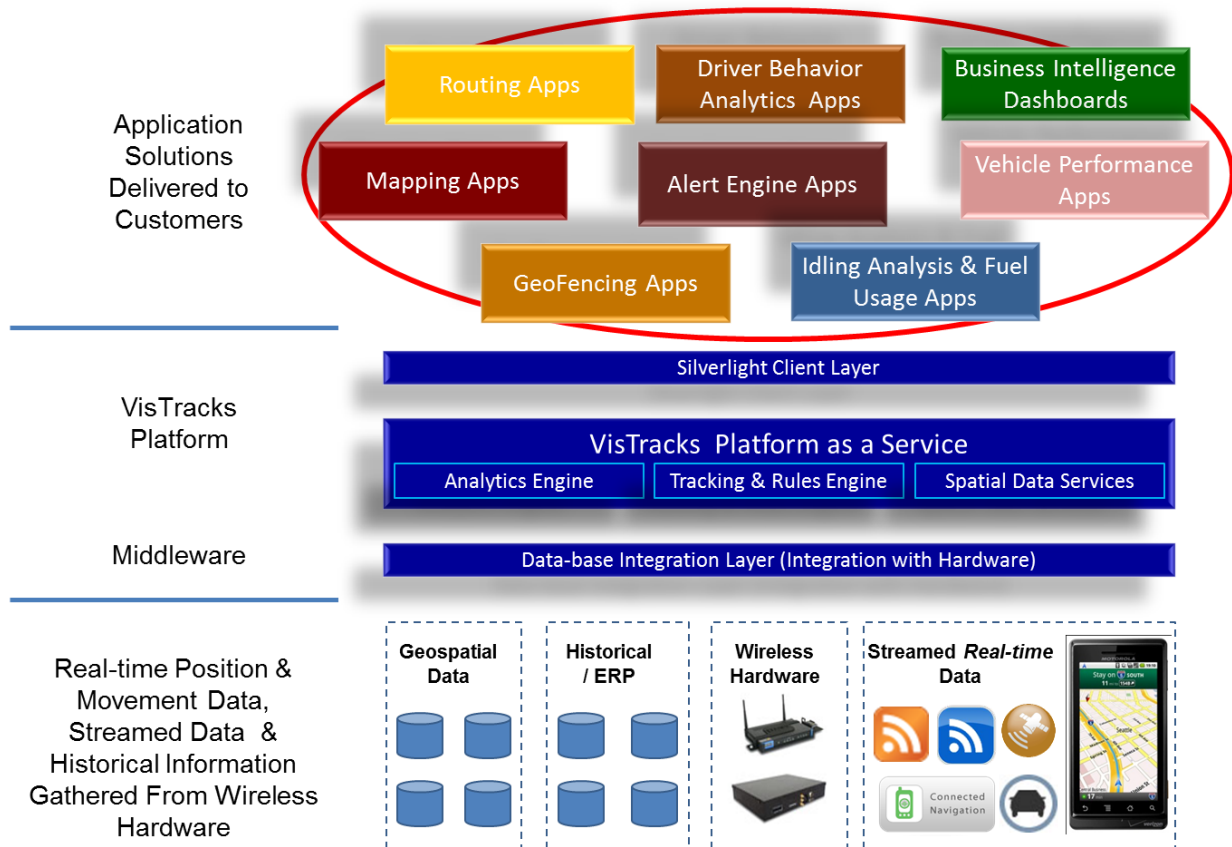
VisTracks serves high visibility strategic markets including:

- Fleet Management
- Usage Based Insurance
- Telecommunications
- Supply Chain Logistics and Distribution
- Digital Media, Marketing and Consumer Marketing Research

**INTEGRATION AND DEPLOYMENT**

The platform is securely shared in a standard multi-tenant cloud (e.g., Amazon Web Services, Microsoft Azure or Rackspace), but can be deployed behind the enterprise firewall or optimized through professional services work to leverage network appliance processing performance and data capacity.

The VisTracks Platform provides the benefits of open architecture technology and commercial customization API's in a robust multi-tenant cloud PaaS environment for standing up SaaS applications on the VisTracks platform.



The VisTracks platform at the (lowest level in the diagram above), integrates both real-time and historical data from a variety of sources. Then, using three modular components that live in the cloud, this data is processed and analyzed using the VisTracks analytics engine, tracking and rules engine, and spatial data services. The resulting analysis is presented to users in application-specific dynamic interactive dashboards (the top layer in the diagram above)

## **Platform Expandability**

As a platform, the VisTracks system is a modular system that has expandability built in. Not only does the open architecture lend itself to modular inclusion of other data, systems, and devices, but the application framework is built to allow new features to be built as customers require them. With demand for new analytics-based answers or need for new business intelligence about a your company's operation, fleet, or new business opportunity, the cloud and client framework is easily extended.

## FLEET MANAGEMENT

### DESCRIPTION OF THE VISTRACKS FOCUS

VisTracks real-time position and movement analytics focuses on the optimization, efficiency, and effectiveness of vehicles and entire fleets, correlated with driver behavior.

In the broadest sense, fleet management is a domain that spans procurement (lease, purchase) through operations (location, dispatch, performance, driver behavior, etc.) to vehicle maintenance activity and end-of-life replacement planning.

VisTracks maximizes an enterprise's potential to optimize and extract more value out of day to day and real-time operations of vehicles in fleets.

### CUSTOMER VALUE PROPOSITION

Fleet management systems have focused on maintenance and location for years. With a new and richer data set streaming from on-board monitoring vehicle and driver monitoring systems, VisTracks delivers on this new opportunity to extract and analyze information to improve vehicle and driver efficiency and fleet effectiveness for its customers.

VisTracks analyzes this data in real time, delivering it to decision makers in a dashboard, and correlating it with other related information systems. Based on vehicle routing and stop point tracking and history, VisTracks fleet and vehicle analytics provide deep insight into:

- Vehicle activity,
- Route delivery time and inefficiency,
- Fuel use and idle time analysis,
- Driver behavior and performance,
- Overall vehicle utilization.

Drivers and managers can be alerted through a variety of mechanisms such SMS and Email. And automatic alerts can be generated by the VisTracks rules engine to enable rapid response to anomalous activity and end of day, week, or month reports identify systemic action to improve the operation of a fleet.

### USE CASES

1. Construction and maintenance crew fleet management and dispatch systems.
2. Rental car fleet tracking and management systems.
3. Rental equipment fleet tracking and management systems.
4. Local, state and other municipal livery and vehicle fleet management and tracking.
5. Taxi fleet tracking, dispatch and management systems.

VISTRACKS FEATURES AND BENEFITS FOR FLEET MANAGEMENT

Some example features and benefits of the capabilities of the VisTracks platform for Fleet management companies are in the following table:

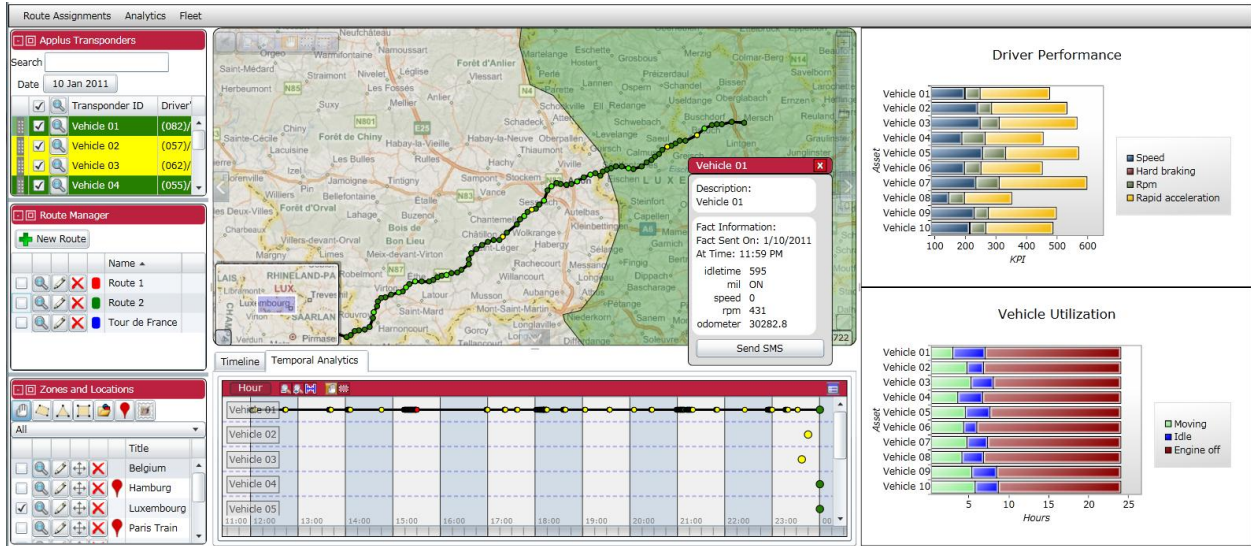
Feature	Benefit
Interactive fleet management dashboard.	<p>Visualize vehicle and fleet movement on a map, query and display metrics and vehicle data in real-time.</p> <p>Have one place to monitor and visualize pertinent data on the fleet, as it happens, to make better decisions.</p>
Color-coded breadcrumb route trails on the map.	<p>View breadcrumb trails with color-coded analysis of vehicle, driver, and stop point analysis</p> <p>Identify issues along routes, notify drivers of route changes, and advise on route redirects.</p>
Rules and alerts	<p>Send notification to management, stakeholders (destination, or origin), and drivers, in real-time based on rules and triggers, or on demand.</p>
Dynamic Timeline of activity	<p>Visualize vehicle and driver behavior on a timeline, correlated with vehicle performance and speed data.</p> <p>Identify patterns of behavior, at stop locations, or time of day based on analysis.</p> <p>Forensically observe circumstances around events, through playback analysis</p>
Dynamic analytics display of charts in dashboard.	<p>Understand driver behavior and performance, lower risk and insurance premiums, and provide driver training to drivers that need it.</p> <p>Correlate movement across time and space (the map).</p> <p>Increase utility of entire fleet and individual vehicles.</p> <p>Analyze driver safety and behavior profiling analytics for hard breaking, excessive idle time, rapid acceleration, and sharp cornering and high engine RPM revving.</p> <p>Assess and analyze vehicle activity and utilization in terms of relative time in-motion, stopped for delivery, engine off or idle, and vehicle speeding periods.</p>
Route manager	<p>Assign routes, manage stops and on-demand stop and route changes.</p> <p>Provide better service from fleets by sending the closest vehicle to a location, during the course of the day..</p>

Zones and locations

Define geo-fence areas of allowable driving and locations for specific vehicles.

Enable alerts such that disallowed travel is prevented, or response issued.

Prevent or respond to theft for vehicles in disallowed zones.



Sample metrics dashboard display for Fleet Management application in VisTracks.

## USAGE BASED INSURANCE

### DESCRIPTION OF THE VISTRACKS FOCUS

Broad applications leveraging telematics data for customer-specific insurance fees based on use, location, time, driver behavior which complement standard actuarial science. Consumer-centric results focused on reducing costs for low-liability customers, and equitably transferring liability insurance fees to the highest risk drivers. Industry and insurer-centric results based on minimizing loss, rating and scoring drivers more effectively resulting in best product to offer customers with the maximum profit.

### CUSTOMER VALUE PROPOSITION

Insurance companies can save money, lower expenses, reduce risk, lower costs due to loss, and increase margins by using position and movement analytics from VisTracks.

VisTracks processes real-time data coming from the insured's vehicle using sophisticated algorithms which can score drivers' behavior, classify risk level and send alerts to stakeholders (parents, fleet managers, etc.) Driving patterns for both vehicle and driver can be processed in real time for attributes such as:

- What roads the vehicle commonly traverses?
- When it is driven? During rush hour? During the day? In the middle of the night. Late on weekends after the bars close?
- How aggressively it is driven?
- Are the driving patterns improving?

Through this information, insured consumers are motivated to drive safely. Insurers can target consumers with appropriately priced insurance products which reduce costs due to loss.

From broad community-building activity, additional products and services can be offered to insurer's customers. For example: defensive driving, or driver behavior modification, courses can be targeted at drivers whose recent scores indicate a need to improve driver behavior and reduce risk. An additional example is family tracking and alerts which can keep parents and teens informed based on a variety of location or behavior characteristics monitored in real-time.

### USE CASES

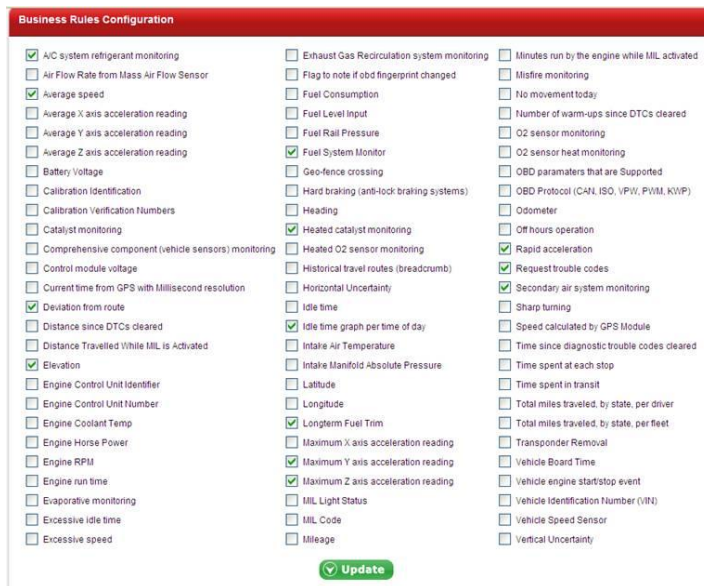
1. Driver behavior monitoring and risk scoring.
2. Usage-based fees based on risk score.
3. Driver category (e.g., teen or elderly) tracking solutions.
4. Real-time fleet insurance risk assessment (aggregate, or per driver)



VISTRACKS FEATURES AND BENEFITS FOR USAGE BASED INSURANCE

Some example features and benefits of the capabilities in the VisTracks platform for usage-based insurance are in the following table.

Feature	Benefit
Routing and distance analytics per vehicle and trip, trajectory, and stop-point analysis.	Calculate insurance fees based on precise usage and trends over most-recent time.
Variability and predictability across various driver-specific factors.	Identify candidates for driver behavior modification training.
Dashboard of real-time KPIs to measure efficiency and performance of drivers and vehicles.	Identify concerns and issue alerts to driver and fleet manager for driver and vehicle anomalies.
Clustering of group movement patterns into driver specific paths.	Identify high-risk locations and adjust driver insurance rates according to frequency.
Driver scoring algorithms analyzing driver behavior against road network and vehicle location.	Assign risk factor to specific drivers and complement/improve traditional actuarial data.



Sample business rules and options for managing risk in UBI application in VisTracks.

## TELECOMMUNICATIONS

### DESCRIPTION OF THE VISTRACKS FOCUS

Telecom companies require broad analytics applications that operate in real-time to manage the performance and health of their network which involves large data warehouses and a variety of information rollups and views into specific analysis and aggregate reports.

The unsolved problem is how to drill down into aggregate report analysis to gain insight into specific subscriber information in order to take action that increases consumer-centric customer service levels (or micro-aggregate views into corporate-centric customer service levels). A system that has the computing capacity and performance ability to identify root causes of service issues in real-time, can produce pro-active results, improve customer perception of quality and reduce a telecom's support costs.

### CUSTOMER VALUE PROPOSITION

Telecoms can save money, lower support costs, increase quality of their network, and improve both quality and customer perception by using position and movement analytics from VisTracks.

VisTracks processes real-time data coming from a telecoms' network to identify the location and subsequently help find the cause of network drops and other issues. This results in better customer retention and lower churn rates for a telecommunication company which further results in an increased market share based on the combination of retained and new subscribers. By using VisTracks' position and movement analytics, real-time subscriber signatures can be calculated and profiles developed to help a telecom company to:

- Identify handsets that are becoming defective.
- Identify poor network coverage based on subscribers moving through areas of poor network coverage.
- Differentiate between systemic issues and one-time network events.
- Highlight unprofitable customers and profile them for churn.
- Preemptively identify profitable customers who are about to churn, and take action to retain.

Through VisTracks solutions that can process real-time network data, at capacity, a variety of unsolved problems can be solved and exceptional differentiation is possible for the telecom customer using the system.

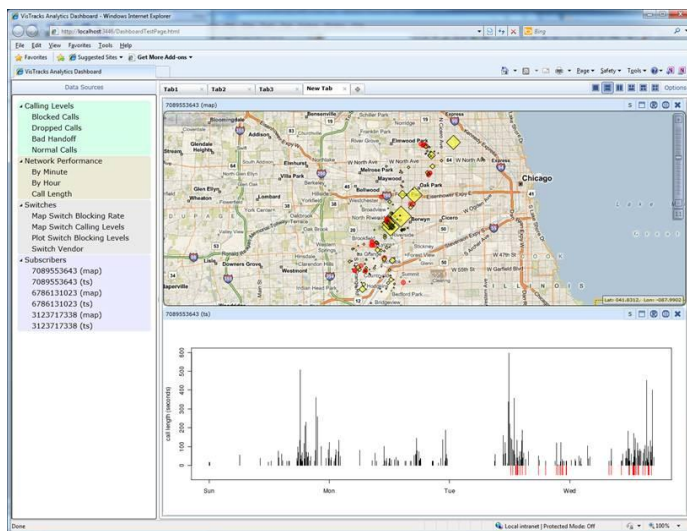
USE CASES

1. Telecom-wide and geospatially integrated network performance management dashboards.
2. Telecom-wide geospatially focused network issue identification and response management.
3. Subscriber signature and profile retention and maintenance solutions.
4. Corporate customer group management solutions.
5. Vertical solutions for connected people, assets, appliances or businesses, such as:
  - a. Mobile technician dispatch (via linked handsets or tablets)
  - b. Vending machine monitoring, management and servicing solutions (e.g., Coke, RedBox)
  - c. Teen, elderly or healthcare-centric geospatial tracking, alert, and safety-net solutions

VISTRACKS FEATURES AND BENEFITS FOR TELECOMMUNICATIONS

Some example features and benefits of the capabilities of the VisTracks platform for telecommunications companies are in the following table:

Feature	Benefit
Location and movement monitoring analytics per handset, mobile or other connected device.	Understand and optimize where to take corrective action or apply service in real-time.
Variability and predictability analysis of signatures and profiles across time, space and equipment.	Identify real issues with hardware, transmission and reception and improve customer service.
Dashboard of real-time KPIs to measure efficiency and performance of network traffic.	Identify service gaps, interference or anomalies and plan infrastructure to prevent service issues.
Compare individual subscriber signature to a baseline churn profile.	Pre-emptively take action to offer a subscriber an alternative (new handset) to prevent churn.
Deploy business specific algorithms to support business customers' unique use analysis needs.	Provide differentiated value over providers to improve offering and increase margins.



Sample metrics dashboard display for Telco application in VisTracks.

## SUPPLY CHAIN LOGISTICS AND DISTRIBUTION

### DESCRIPTION OF THE VISTRACKS FOCUS

VisTracks' business focus for Logistics and Distribution is to help customers use position and movement analytics to improve the efficient delivery of resources, materials and finished goods from one supply chain member to the next. By doing so, customers can predict supply chain issues (e.g., labor availability, disasters or weather) and preemptively avoid them. They can also use VisTracks to geospatially monitor the safe delivery of materials and goods in undamaged condition while also capturing forensic information (cause, responsibility and accountability) in the case of an exception. These efficiencies and the tools around them provide great value in reducing costs, both during transit, and after an exception.

### CUSTOMER VALUE PROPOSITION

A combined solution built on the VisTracks platform can add geospatial intelligence to supply chain management and improve on-time delivery, reduce costs and loss from exceptions, and improve a supplier's unique competitive advantage by improving performance for its customers.

In all industries, managing supply chain efficiency has become paramount to competitiveness. Today, the challenge has become global and the potential to reduce cost and risk has also increased through technology. The sheer quantity of tracked materials and goods in the world's global supply chain requires real-time position and movement analytics and solution approach from VisTracks.

Raw materials such as commodities (grain, cement, coal, uranium, metal ore, and corn syrup), subassemblies (such as auto parts, aircraft components and electronics) and finished goods are shipped by truck, rail, air, or multi-modal transport. Not only are these transportation vehicles tracked as to their location and speed, most suppliers RFID tag their goods and materials. High-value assets, such as pharmaceuticals and jewelry are shipped with GPS-enabled sensors. These high-value assets are now even geospatially tracked in the air as restrictions have lifted.

The volume of rich tracking (location) and attribute (environment and exposure) data produced by these RFID and GPS devices is growing exponentially, and suppliers and whole industries are looking for the right combination of processing power and intelligent software to give them real-time insight into the performance and exceptions of their supply chain.

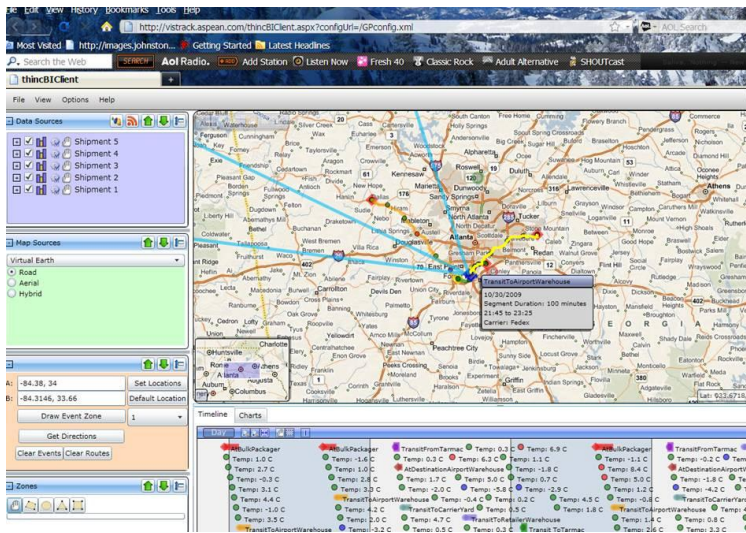
### USE CASES

1. Exception management solutions for delayed or damaged goods active in the supply chain.
2. Real-time tracking and monitoring dashboard for materials and assemblies for suppliers.
3. Forensic analysis to assess responsibility and cost accountability for damaged materials.
4. Geospatial product planning and resource scheduling dashboard to get to market on time.

VISTRACKS FEATURES AND BENEFITS FOR SUPPLY CHAIN LOGISTICS AND DISTRIBUTION

Some example features and benefits of the capabilities in the VisTracks platform for supply chain logistics and distribution are in the following table:

Feature	Benefit
Location and transit monitoring analytics of materials and goods from source to destination.	Optimize receiving and manufacturing to minimize inventory costs in real-time.
Variability and predictability analysis of high-value goods subject to potential adverse conditions.	Identify real issues with in-transit failure from sensors, and take corrective action in real-time.
Dashboard of entire supply chain on a geospatial canvas with KPIs to track progress and schedules.	Identify exceptions and manage around changes, delays and damage of materials and goods
Compare individual shipper and transit company performance across time, and in real-time.	Improve transit company selection based on information during shipment.
Deploy business specific algorithms to calculate analysis of combined factors a high-value good is subject to.	Identify theft, track and recover, ensure save delivery, and condition, and pre-emptively redirect based on factors (weather) in transit.



Sample dashboard display for Logistics application in VisTracks.

## DIGITAL MEDIA, MARKETING AND CONSUMER MARKETING RESEARCH

### DESCRIPTION OF THE VISTRACKS FOCUS

VisTracks' business for digital media, marketing, and consumer marketing research industries focuses on collecting and processing consumer marketing data, including location of consumer(s) and proximity to businesses. By efficiently and effectively sourcing this data at the point of customer experience (not just point of sale) and specifically at the time of a customer experience, a dramatically different opportunity for target marketing, and collecting consumer data (mobile survey panelists) has developed. This new trend invents a new research asset and enables marketing research companies to improve their research and analytics offering to their B2C clients. On the outbound side, this enables effective location-based targeting of consumers based on their location AND their past habits, AND their demographic interests of the last 90 days (or recent history).

### CUSTOMER VALUE PROPOSITION

A combined solution built on the VisTracks platform can uniquely provide the processing and real-time results that this emerging opportunity presents. The result for consumer marketing research and digital media and marketing companies is the ability to provide advertising clients with incredibly relevant data that drives results, new business, and profit. Marketing research is evolving out of the "clipboard" era, and with the proliferation of smart phones in consumer's pockets, enables an immediate ability to provide consumers with offers that are relevant based on proximity to businesses. (Groupon, today, delivers coupons by zip code – far too inaccurate for the needs of customers, and efficient use of green travel.)

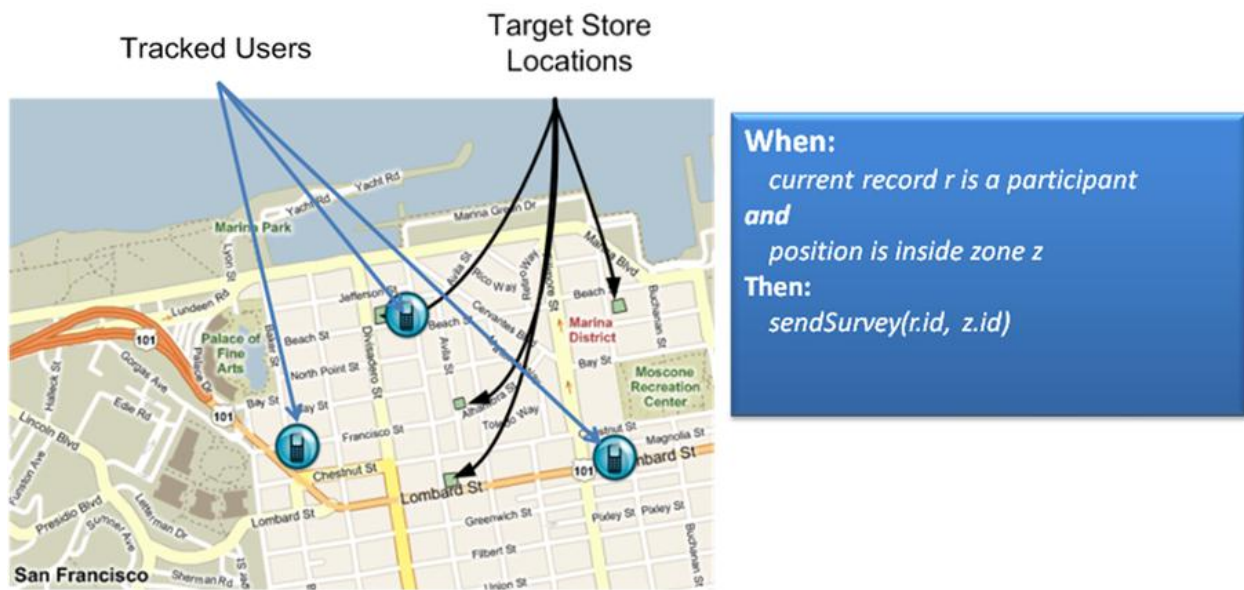
### USE CASES

1. Mobile marketing survey systems that create consumer feedback based on immediate purchase location and transaction.
2. Mobile coupon delivery mechanisms that deliver relevant coupons to consumers in proximity of that business.

VISTRACKS FEATURES AND BENEFITS FOR DIGITAL MEDIA, MARKETING RESEARCH

Some example features and benefits of the capabilities in the VisTracks platform for digital media, marketing and consumer marketing research are in the following table:

Feature	Benefit
Mobile client for opt-in consumer participation in marketing programs and research.	Target customers with precise, location-based (their location) offers and surveys.
Variability and predictability across various observable consumer behaviors and profiles.	Optimally targeted offers based on both consumer location and proximity to a business.
Dashboard of real-time KPIs to measure marketing survey and campaign performance and results.	Real-time tuning during execution to ensure results are maximized.
Geospatial dashboard to observe offers in progress.	Identify business opportunities as they happen based on events and aggregation of consumers.
Driver scoring algorithms analyzing consumer patterns and correlation with demographic or other data.	Align and deliver offers (coupons, programs and surveys) to consumer that they want, based on their consumer characteristics, AND location.



Example of combining location and opt-in demographically loyalty program tracked customers in VisTracks.