



Confidence
at every turn™



Precise Positioning
Solutions for the

Future of
Automotive



Contents

01

Precision Drives
Confidence

04

Trimble RTX Positioning
Technology

02

The Importance of Precise
Positioning in Automotive

05

Safety and Integrity

03

Trimble's Positioning
Ecosystem

06

Flexible Integration
and Customization

Precision Drives Confidence

In the rapidly evolving world of automotive technology, precise positioning has become increasingly critical. From Advanced Driver-Assistance Systems (ADAS) to autonomous vehicles (AV) and connected mobility, accurate location data is **essential for safety, efficiency, and a seamless driving experience.**

Trimble®, a global technology leader with over 30 years of experience in automation and machine control, offers cutting-edge positioning solutions tailored to the automotive industry. These solutions are designed to meet the demanding requirements of next-generation vehicles, **providing unparalleled accuracy, reliability, and scalability.**



The Importance of Precise Positioning in Automotive

Precise positioning plays a vital role in various automotive applications, including:

ADAS and Autonomy:

From basic lane-keeping assist to fully autonomous driving, accurate, precise positioning is crucial for vehicles to perceive their surroundings, make informed decisions, and navigate safely.

Infotainment:

Precise location data enriches in-car infotainment systems by enabling features like location-based services, points of interest, and augmented reality overlays, enhancing driver convenience and enjoyment.

Precision Navigation:

Enhanced navigation systems rely on precise positioning to provide drivers with accurate directions, real-time traffic updates, and optimal routes, leading to a smoother and more efficient driving experience.

C-V2X (Cellular Vehicle-to-Everything):

Precise positioning is fundamental for C-V2X communication, allowing vehicles to share their location with other vehicles and infrastructure, improving safety and traffic flow.





Trimble's Positioning Ecosystem

Trimble's comprehensive positioning ecosystem addresses the challenges of automotive positioning with a suite of innovative, scalable solutions:

Sensor Fusion:

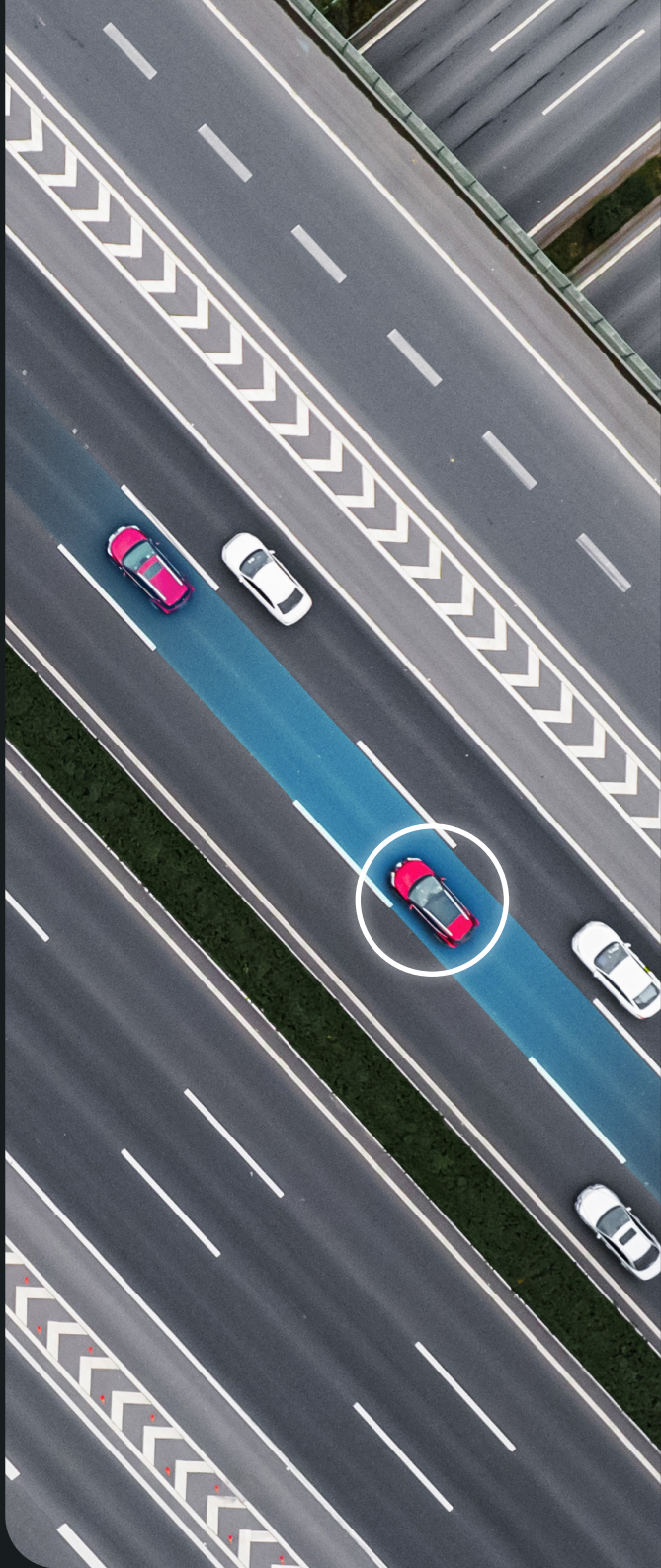
The Trimble® ProPoint Go platform combines data from various sensors, including GNSS receivers, IMUs (Inertial Measurement Units), wheel speed sensors, and map data, to provide a robust and accurate positioning solution.

RTX Correction Service:

Trimble RTX® delivers high-accuracy, real-time GNSS corrections via cellular or satellite delivery, enhancing the accuracy of positioning data to centimeter-level precision. Accessible worldwide, even the most remote locations.

Ground Truth Systems:

Trimble's ground truth systems provide highly accurate reference data for validating and calibrating ADAS and AV systems, ensuring optimal performance and safety.





Trimble RTX Positioning Technology

Trimble RTX is a core component of Trimble's automotive positioning solutions, and a performance leader in the industry, offering several key benefits:

Global Coverage:

RTX provides seamless, high-accuracy positioning worldwide, ensuring consistent performance across different regions and environments.

Versatile Delivery:

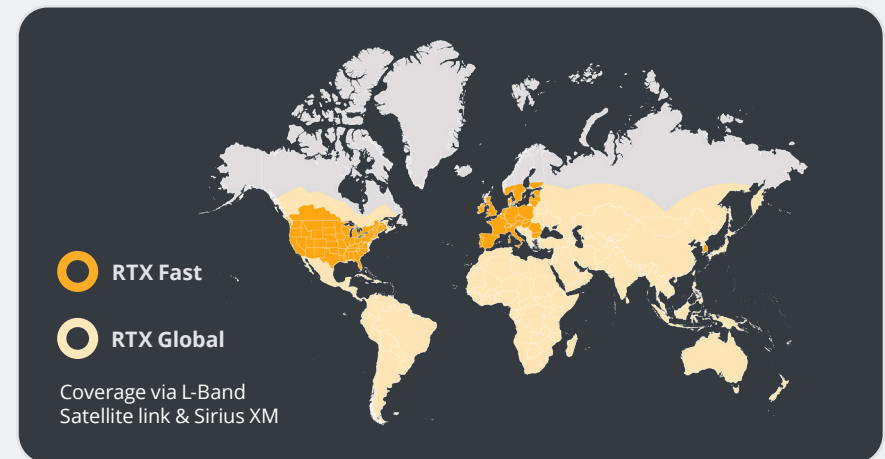
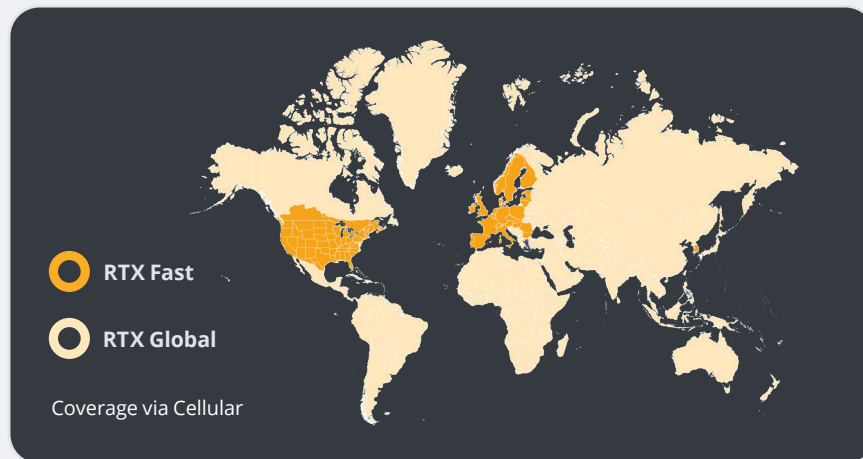
RTX corrections can be delivered via cellular networks or satellite links, offering flexibility and redundancy for automotive applications.

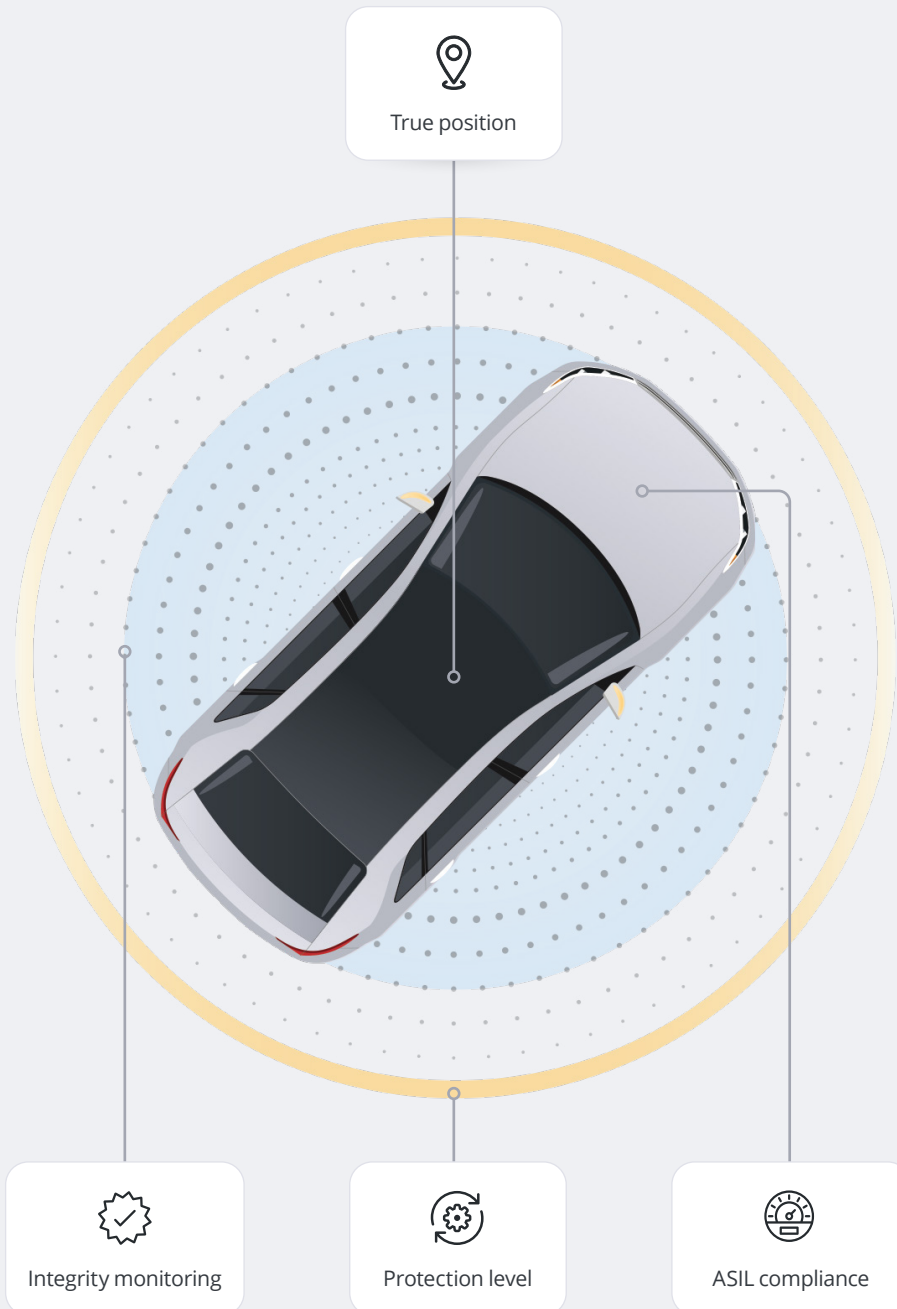
High Scalability:

RTX is designed to support mass-market automotive deployments, ensuring scalability and cost-effectiveness for large-scale adoption.

Low Bandwidth Consumption:

RTX utilizes efficient data transmission techniques, minimizing bandwidth usage and communication costs.





Safety and Integrity

Trimble prioritizes safety and integrity in its positioning solutions, incorporating features such as:



ASIL (Automotive Safety Integrity Level) Compliance:

Trimble's ProPoint Go ASIL positioning engine is certified to ASIL-C, meeting the stringent safety requirements of automotive applications.



Integrity Monitoring:

Trimble's RTX service includes pre- and post-broadcast integrity checks to ensure the reliability and accuracy of correction data.



Protection Levels:

Trimble's positioning engine provides protection levels, indicating the level of confidence in the positioning solution, enhancing safety and decision-making.



Flexible Integration and Customization

Trimble offers flexible integration options to support various automotive platforms and applications:

Tailored Integration:

Trimble works closely with automotive OEMs and Tier 1 suppliers to provide customized hardware and software integration solutions, ensuring seamless integration with existing systems.

Software Stack Evolution:

Trimble's software stack offers a range of options, from basic dead reckoning to tightly coupled sensor fusion, allowing for scalability and customization based on specific needs.

Evaluation Kits and Prototyping:

Trimble provides demo kits and prototyping support to facilitate the evaluation and development of automotive positioning solutions.



Trimble: Your Partner in Automotive Positioning

Trimble's expertise in positioning technology, combined with its deep understanding of the automotive industry, makes it the ideal partner for developing and deploying precise positioning solutions for next-generation vehicles. With a proven track record of success, Trimble has enabled hundreds of millions of semi-autonomous driving and has partnered with leading automotive OEMs like General Motors and Nissan.

Conclusion:

As the automotive industry continues its journey toward software-defined vehicles and greater automation and connectivity, precise positioning will remain a cornerstone technology. Trimble's comprehensive suite of positioning solutions, backed by its commitment to safety, innovation, and customer collaboration, empowers the automotive industry to navigate the future of mobility with confidence.

To request a meeting with one of our business development team members click below:

[CONTACT US](#)

For more information click below to visit our website:

[POSITIONING SERVICES](#)