

# TerraStar Correction Services

Enabling accurate GNSS solutions around the world



# The trusted GNSS correction source for applications worldwide



## Accuracy

Seamless, consistent accuracy wherever you move without being tethered to a base station



## Availability

With 99.999% uptime and availability, corrections are always streaming



## Efficiency

Same simple setup wherever you go, with no extra equipment or configurations



## Repeatability

Exact same positioning every time you work



## Scalability

Move, expand or split out into multiple project areas – there's no limit



## Security

Quick and secure access, with one-way data transfer of corrections to your receiver



## Speed

Fast converging PPP accuracy saves you time and keeps you working in more challenging conditions

## Industry leaders trust TerraStar for reliable, available and accurate positioning

TerraStar Correction Services unlock high-performance real-time positioning for applications around the world. Powered by an expansive global system, TerraStar corrections provide seamless worldwide coverage giving you the highest quality data for assured, reliable positioning anywhere, anytime.

TerraStar completes the high-precision solution for OEM7 applications from Hexagon | NovAtel on or above land, including agriculture, construction, survey, UAV and ground truth systems. With a range of options to fit your needs, TerraStar is as precise and flexible as you need to be.



Agriculture



Mobile Mapping



Automotive



Aerial survey



Construction



Outdoor robotics



Transport



Mining

# There is an ideal TerraStar solution for your precision

## Global PPP services

TerraStar's global services deliver correction data in real-time with minimal latency directly to your NovAtel receiver. Driven by a culture of innovation and excellence, TerraStar's global positioning is faster and more accurate than ever before, proving that RTK From the Sky performance is possible anywhere, anytime. With 99.999% availability and the convenience of both satellite and Internet delivery, TerraStar is always on and ready to power your application, wherever you are in the world.



### **TerraStar-C PRO – Best in class position for fast, reliable accuracy**

Delivering 2.5 cm accuracy in as fast as three minutes, TerraStar-C PRO is the world's most reliable global service at the fastest speeds. Transformed by our global RTK From the Sky technology, TerraStar-C PRO redefines the global PPP experience.

### **TerraStar-C – Standard high accuracy position for OEM6**

The trusted choice for centimetre-level positioning on NovAtel's OEM6 receivers. TerraStar-C delivers centimetre accuracy in less than 30 minutes for applications that need precision and reliability.

### **TerraStar-L – Entry level performance for basic positioning**

Reliable sub-metre accuracy for basic positioning needs. TerraStar-L is a dependable choice for operations requiring consistent, repeatable performance with no concerns of data outages or service downtime. Ideal for users outside of SBAS regions.

 Powered by RTK From the Sky



## Advanced corrections technology

TerraStar offers advanced solutions for NovAtel OEM7 users to enhance their positioning experience, even improving existing RTK configurations. RTK ASSIST options maintain reliable centimetre-level accuracy during RTK outages and TerraStar-X continues the tradition of leading-edge technology, all with the convenience of satellite delivery.



### **TerraStar-X – Premium performance of two-centimetre accuracy in under a minute**


This is the total RTK From the Sky experience. Leveraging the power of regional PPP, TerraStar-X delivers the instant availability and accuracy of RTK with the convenience and reliability of satellite delivery. But it doesn't end there; TerraStar-X also provides unlimited RTK bridging and is simultaneously backed by our most advanced global TerraStar-C PRO, unlocking fast, reliable corrections outside of the TerraStar-X region.

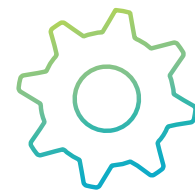
 Powered by RTK From the Sky



### **RTK ASSIST PRO – Flexible performance for hybrid PPP & RTK users**

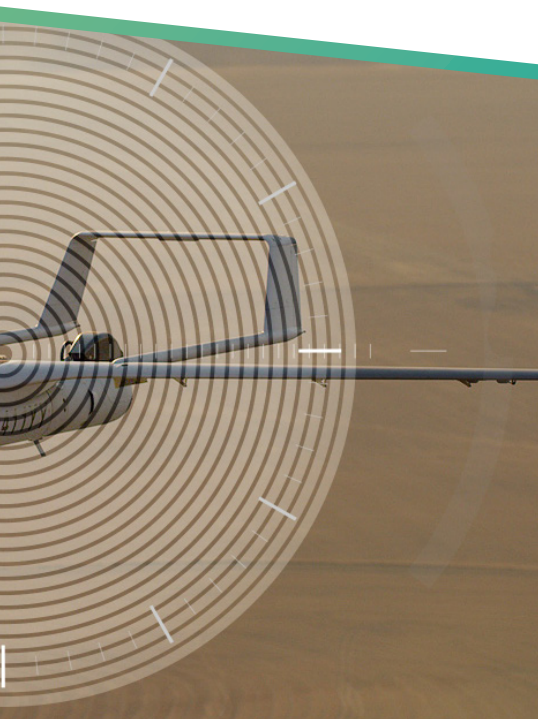
Powered by TerraStar's most advanced global technology, RTK ASSIST PRO provides unlimited RTK assistance, maintaining centimetre-level accuracy for extended RTK correction outages. Corrections can also be used for fast and independent centimetre-level positioning, enabling operations in areas with no RTK base or network coverage. RTK ASSIST PRO is the flexible, high-performance choice for mixed RTK and PPP use.

 Powered by RTK From the Sky

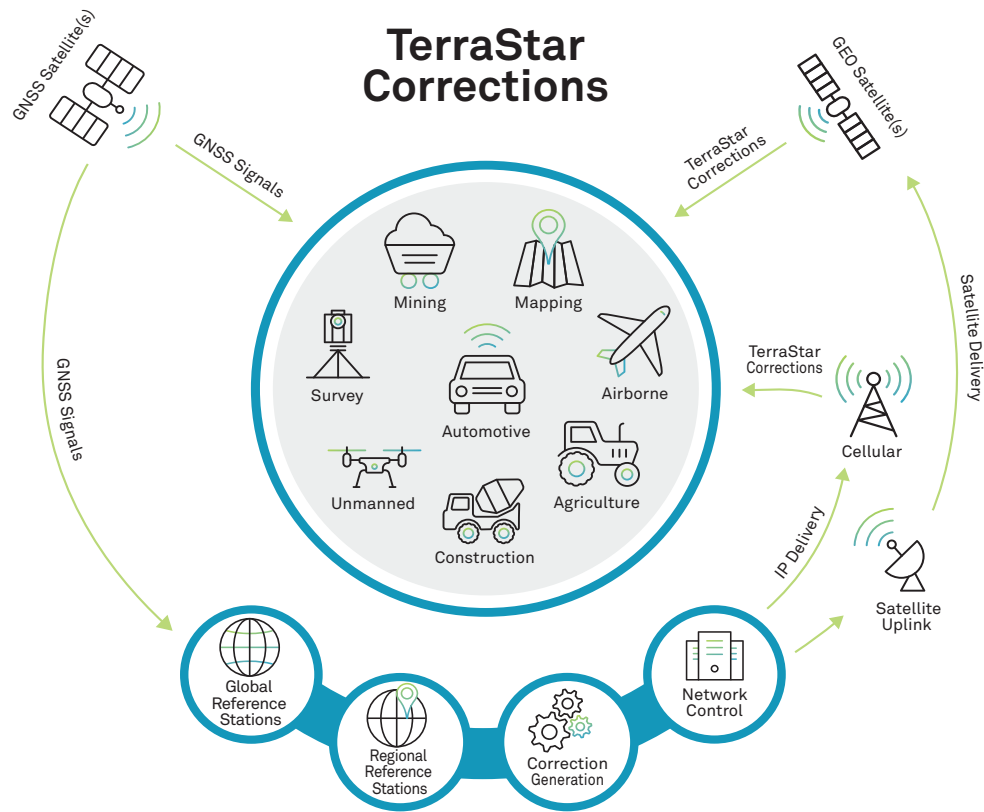


### **RTK ASSIST – Basic extension of RTK coverage**

Reliable, independent corrections maintain centimetre-level accuracy during short-term RTK data outages due to radio signal blind spots or interruptions in cellular network connectivity. RTK ASSIST seamlessly supports centimetre-level positioning for up to 20 minutes of RTK correction outages.



# How TerraStar works



## High-performance global corrections

TerraStar's worldwide reference station network delivers a constant stream of clean measurements into our correction generation servers. This independently owned and operated network is the backbone for high-quality, multi-constellation and multi-frequency clock and orbit corrections.



## Reliability trusted by leaders

Reliability is built into the whole system, from redundancy at each reference station to geographically separated, independent network control centres. This robust system, combined with our expert monitoring and support teams, ensures over 99.999% service availability and uptime.



## Total solution design

TerraStar users get the best performance and experience from NovAtel systems. Long-trusted for high-precision positioning technology, NovAtel's corrections, positioning algorithms and hardware are designed side-by-side to ensure a seamless solution with powerful performance. The result is 24/7/365 all-weather operation.















## The security of simplicity

Corrections are broadcast over geostationary L-Band communication satellites for continuous, no-hassle data delivery and are conveniently available over the Internet for connected users. Subscriptions are easy to manage online, with flexible durations and scalable service levels to suit your application needs.

# Choose the TerraStar service that fits your needs

## Simple subscriptions for the best positioning<sup>1</sup>

Review with your NovAtel hardware details to find the best fit for your application

	Horizontal Accuracy (95%)	Vertical Accuracy (95%)	Pass-to-Pass Accuracy (95%)	Convergence Time	RTK Bridging	Correction Delivery L-Band Satellite Internet	Hardware	Supported GNSS Signals
 <b>TerraStar-X<sup>2</sup></b>	2.5 cm	5 cm	2.5 cm	<1 min	Unlimited		OEM7	GPS GLO
 <b>TerraStar-C PRO<sup>3</sup></b> (Firmware prior to 7.08.10)	2.5 cm (3 cm)	5 cm (6 cm)	2.5 cm (3 cm)	3 min (15 min)	—		OEM7	GPS GLO GAL BDS
 <b>TerraStar-C</b>	5 cm	10 cm	3 cm	<30 min	—		OEM6	GPS GLO
 <b>TerraStar-L<sup>4</sup></b>	50 cm	75 cm	15 cm	<5 min	—		OEM7 OEM6	GPS GLO
 <b>RTK ASSIST</b>	Maintain RTK Performance				20 min		OEM7 OEM6	GPS GLO
 <b>RTK ASSIST PRO<sup>5</sup></b>	Maintain RTK Performance				Unlimited		OEM7	GPS GLO GAL BDS

1. Performance specifications subject to GNSS system characteristics, Signal-in-Space (SIS) operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference. Best performance achieved with OEM7700 and GNSS-850 antenna. Signal content subject to change.

2. TerraStar-X is available on OEM7700, OEM719, OEM729, PwrPak7, SMART7. Subscription includes TerraStar-C PRO functionality outside of the TerraStar-X region.

3. TerraStar-C PRO enhancements with RTK From the Sky technology currently supported with 7.08.10 firmware on OEM7700, OEM719, OEM729, PwrPak7 and CPT7700.

4. TerraStar-L is available on OEM628, FlexPak6, SMART6-L, SMART2 and all OEM7 products.

5. In addition to RTK bridging, RTK ASSIST PRO subscription also provides independent centimetre-level positioning with TerraStar-C PRO functionality.

## TerraStar-X region

TerraStar-X is available regionally in the United States, approximately represented by the mapped green area. A subscription also includes access to TerraStar-C PRO corrections for positioning outside the green region.



## TerraStar-C PRO: Fast performance with global RTK From the Sky technology

Better than ever before, TerraStar-C PRO users now experience noticeable improvements in performance including convergence time, accuracy and recovery.

### Full GNSS Signal Support

GPS	L1	L2	L5	
GLO	L1	L2		
GAL	E1	E5a	E5b	E6
BDS	B1C	B2a	B2b	B3

The best performance is achievable with hardware support for all signals (full frequency, multi-constellation), on firmware 7.08.10 and higher.



# About Hexagon | NovAtel

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

NovAtel, part of Hexagon, is a global technology leader, pioneering end-to-end solutions for assured positioning for land, sea, and air. NovAtel designs, manufactures and sells high precision positioning technology developed for efficient and rapid integration. Its solutions are empowering intelligent positioning ecosystems in vital industries that depend on the ability to tackle the most complex challenges in the most demanding environments. Learn more at [novatel.com](http://novatel.com).

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