



# Introducing the Trimble R980 GNSS System

Seamless connectivity.  
Total confidence.

26 June, 2024

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# Our Team



**Tim Menge**

GNSS Product Manager  
Core Positioning  
Hardware Platform



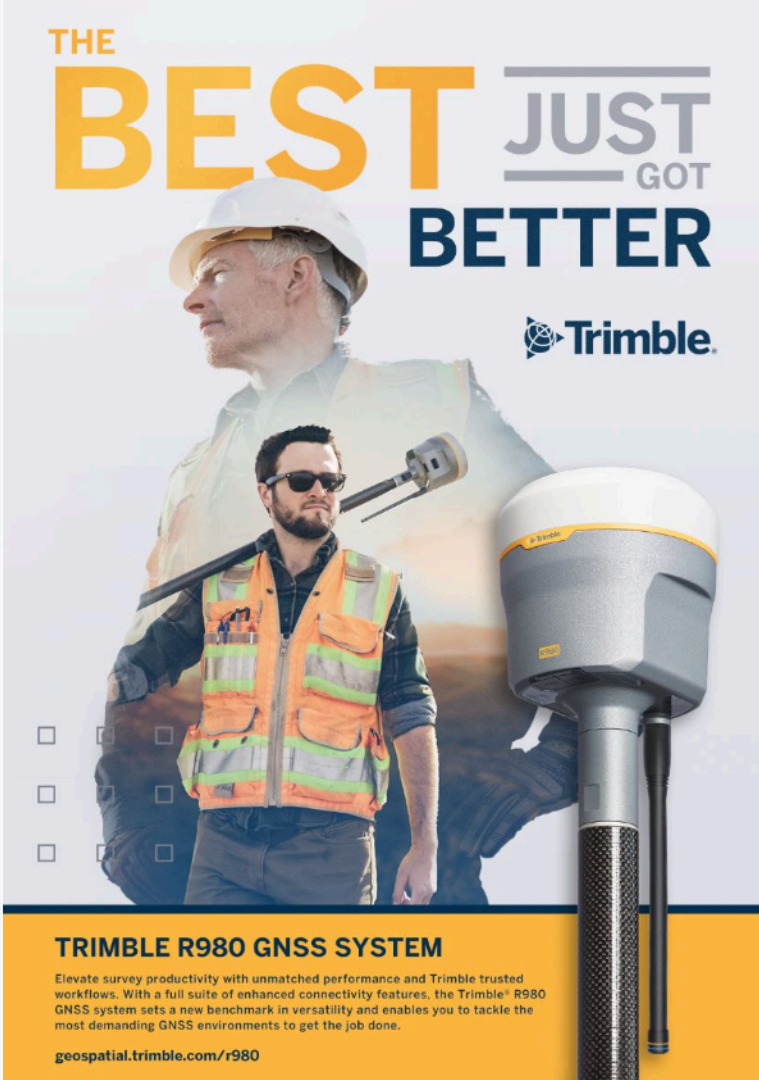
**Anthony McClaren**

Product Market Manager  
Go-to-Market Core  
Solutions Team



**THE  
BEST  
JUST  
GOT  
BETTER**

THE  
**BEST** **JUST**  
GOT  
**BETTER**



### TRIMBLE R980 GNSS SYSTEM

Elevate survey productivity with unmatched performance and Trimble trusted workflows. With a full suite of enhanced connectivity features, the Trimble® R980 GNSS system sets a new benchmark in versatility and enables you to tackle the most demanding GNSS environments to get the job done.

[geospatial.trimble.com/r980](https://geospatial.trimble.com/r980)



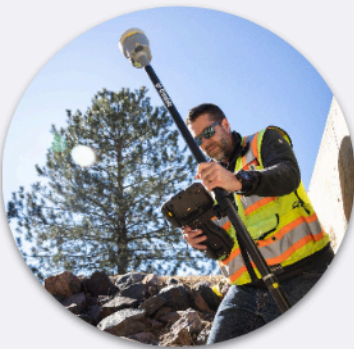
# Integrated GNSS Receiver Portfolio

The **Trimble R980** is the premium receiver in the GNSS portfolio





# 5 Key Takeaways



## Trimble TIP Technology

Boost productivity with  
IMU-based tilt  
compensation



## Trimble ProPoint

Most reliable and  
repeatable  
Measure where you  
have to



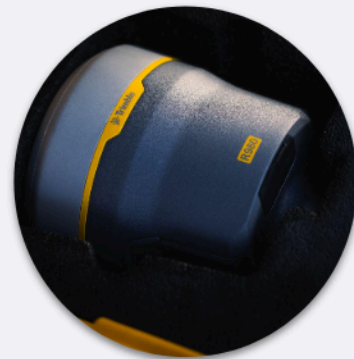
## Dual-Band UHF Radio

Flexible radio module  
can transmit & receive  
on both 450 and  
900 MHz



## Worldwide 4G LTE Modem

Mature cellular  
networks spanning the  
globe



## Flexible Configuration Options

Choose the license type  
to fit your needs:  
perpetual or yearly  
termed



# 01

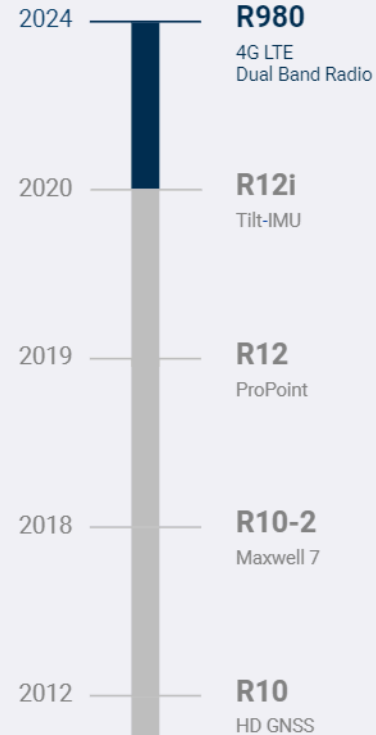
## Key Technologies

Introducing the Trimble R980

*Unmatched GNSS performance  
with connected workflows to  
elevate survey productivity*



# Trimble Premium GNSS Evolution



# R12i

# vs

# R980

## What's Different?



### Communications

3.5G cellular modem  
450 MHz radio

### Internal Memory

6 GB

### Communications

4G LTE cellular modem  
Dual band 450/900 MHz radio\*

### Correction Updates

1-year CenterPoint RTX included  
with purchase

### Internal Memory

9 GB

### Purchase Updates

Flexible configuration options



# R980 Key Features

## ProPoint Technology



Industry-leading Trimble ProPoint positioning engine for unmatched performance and reliability

## TIP Technology



Trimble TIP  
IMU-based tilt compensation technology  
Integrity monitor

## Updated Comms



4G LTE modem  
Dual-band radio

## Latest GNSS Technology



Maxwell 7, track all satellites in all constellations  
Trimble IonGuard, coronal mass ejection mitigation

## CenterPoint RTX



1-2 centimeter accuracy with a fast convergence time  
Complimentary 12-month subscription

## Rugged



IP67 rated  
Built for any harsh environment





# Updated Communications

## 4G LTE Modem

Global  
Supports multiple carriers  
SIM required



## Dual Band Radio

450 MHz  
900 MHz  
Only in USA, Canada, Australia  
and New Zealand



# Dual-Band Benefits

## 450 MHz

Longest range  
Licensing allows for dedicated  
channels and higher power\*

\*Varies by Country

## 900 MHz

License-free spectrum  
Larger bandwidth  
Great for smaller project sites

## Dual-Band Benefits

Interoperability  
Construction site infrastructure  
Work the way you want



# Why 4G LTE



791 telecom operators with 4G and LTE networks in 240 countries!



# Termed Configurations



## Lower Barriers to Entry

By switching to a Termed Configuration through an annually recurring model, Trimble is able to offer **significantly lower the upfront cost** of the acquisition of equipment.

In doing so, we **enable more people to be able to adopt technology** and start their journey with Trimble solutions



## Solution Mindset

As we pivot to **offering a more holistic solution** that shifts our focus away from selling single point measurement products, we strive to provide **workflows tailored to meet our customers' business needs**.



## Increase End User Satisfaction

By moving to a subscription model Trimble will be encouraged to **continually add value in order to keep customer satisfaction at the highest level**.

Staying up-to-date with software and firmware versions will drive the **maximum solution value** for the user.



# Termed Configurations



## R980 Base and Rover

All Constellations  
Tilt-IMU and xFill



## R980 Rover Only

All Constellations  
Tilt-IMU and xFill

Hardware is purchased and owned outright:

- R980 GNSS receiver kit
- Controller
- Accessories

Termed elements:

- GNSS receiver configs
- Access field software
- RTX services

\*Note: Yearly termed configurations do not have upgrade parts. Upgrade at renewal.





# Trimble ProPoint

## Advantages of ProPoint

### Reliable

- Improved the RTK and RTX performance in challenging environments
- TIP technology - Tighter integration of GNSS and IMU to provide continuous position and orientation solution

### Constellation support

- Reduced convergence time (<1 min in RTX-Fast regions) by utilizing multi-constellation
- Implementation of new signals - BeiDou Gen 3, E6, IRNSS Navic



# Trimble Inertial Platform (TIP)

## IMU-based tilt compensation technology

### Easy to use

- No out of the box calibration required
- No need to level for most topo & stakeout tasks
- Measure obstructed points — like building corners — with ease

### Tightly coupled GNSS & inertial solution

**Integrity monitor:** warning if anything is out of tolerance

- Solution age
- Inertial concussion
- Temperature
- In-field re-calibration routine, if needed



**Video tutorial** on TIP found [here](#)





# Latest GNSS Technology

- Trimble Maxwell 7
- Trimble IonoGuard
- Trimble xFill
- Track all current constellations and signals
- Everest PLUS multipath mitigation
- Anti-spoofing
- Spectrum analyzer



**Video tutorial** on R980 technology found [here](#)

Blogs are located at [geospatial.trimble.com/en/resources/blog](https://geospatial.trimble.com/en/resources/blog)



# What is Trimble IonoGuard?





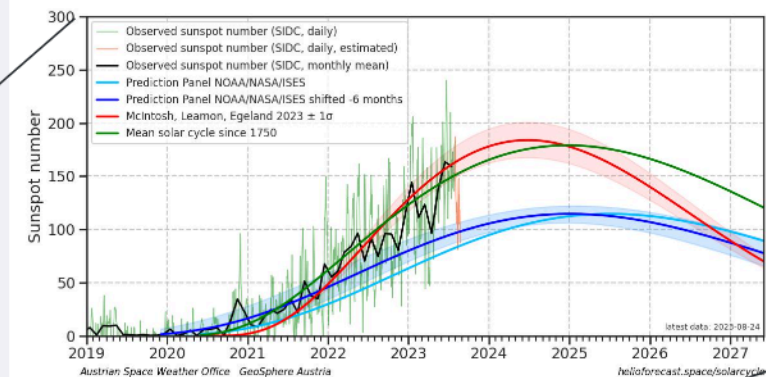
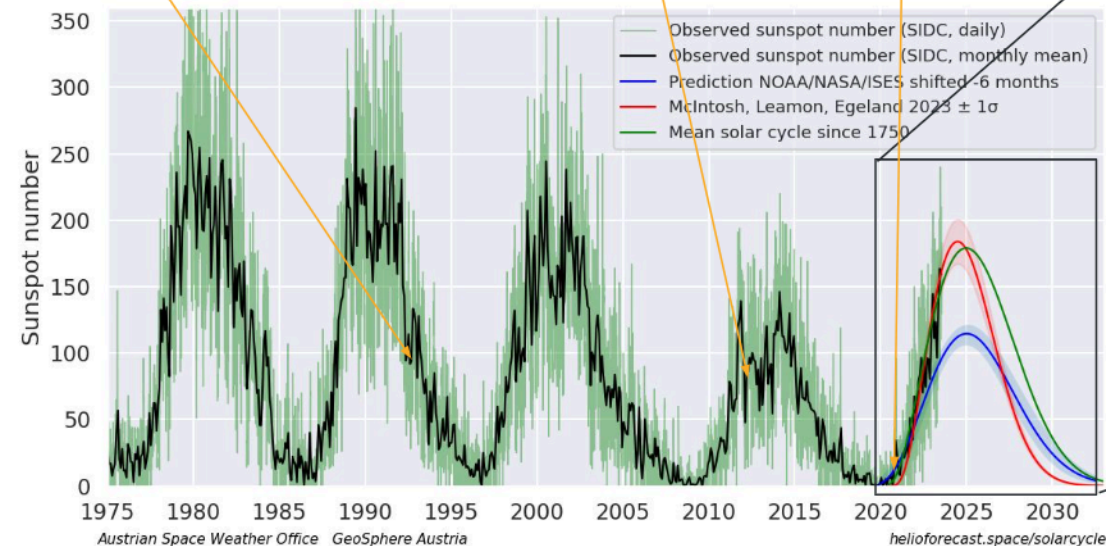
# Cycle 25 Prediction

- Exceeded the NOAA/NASA prediction (which predicted a cycle similar to 24)
- Now appears closer to cycle 23 than cycle 24

1st RTK system

R10 Released

R12i Released



Cycle 23

Cycle 24

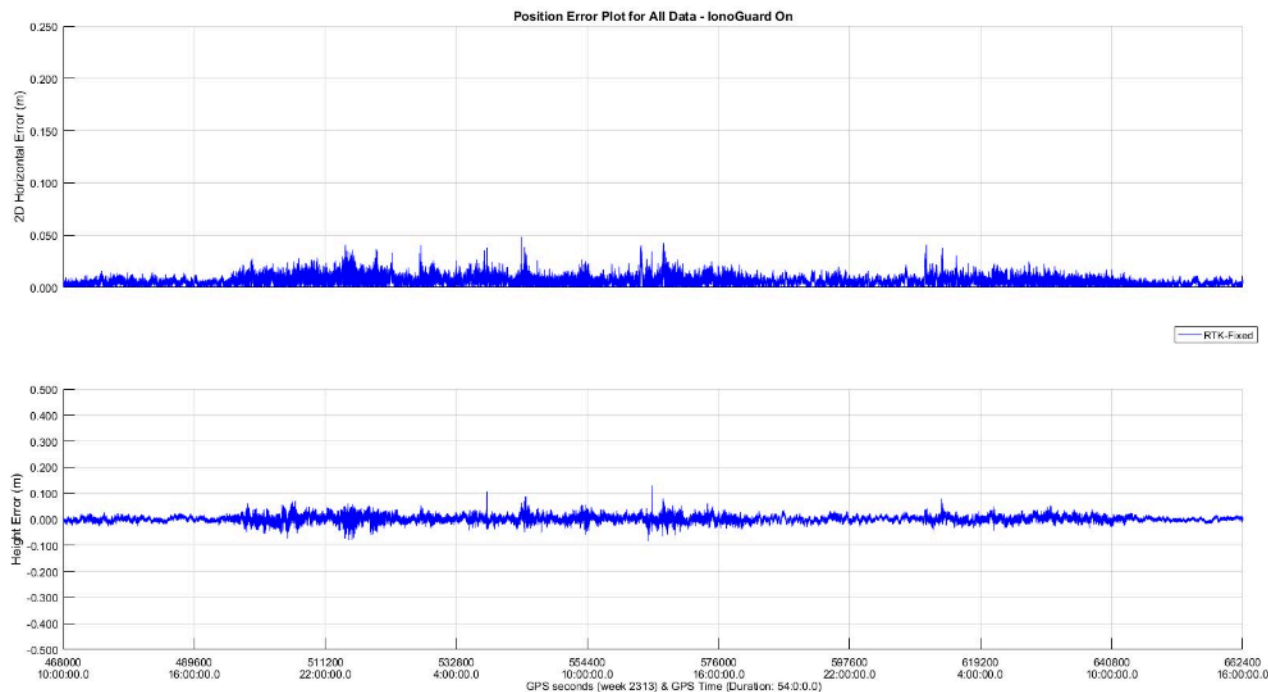
Cycle 25





# Real World IonoGuard Results

Results from May 10/11, 2024 G5 geomagnetic storm



- [IonoGuard Engineer's LinkedIn Post](#)

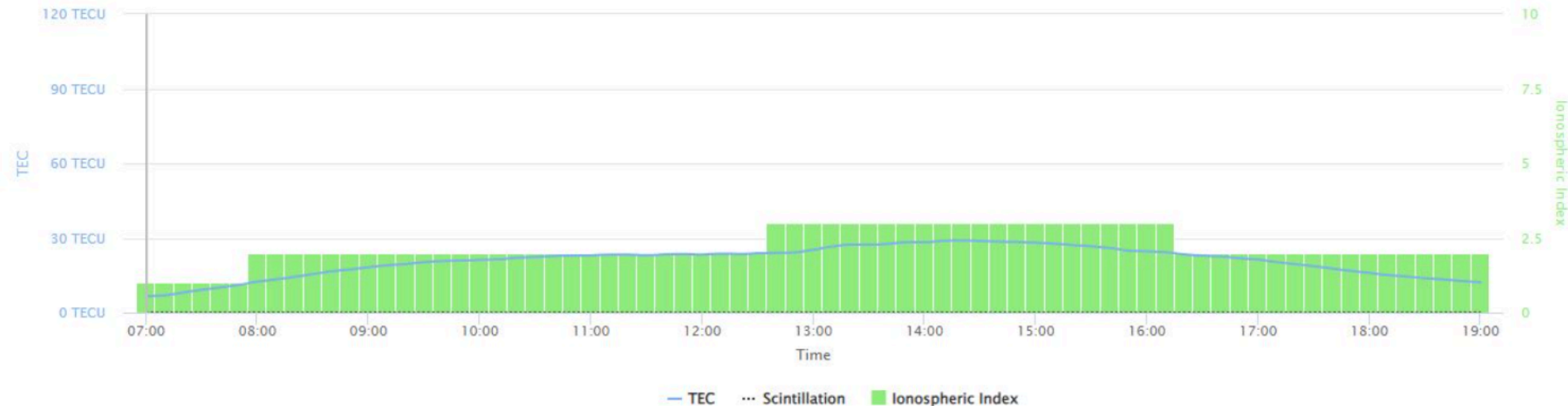


# Planning Ahead

## Trimble Planning

[Settings](#)[Satellite Library](#)[Charts](#)[Sky Plot](#)[World View](#)

### Ionospheric Information



# How to Implement IonoGuard



**R980, R12i  
R12, R10-2**

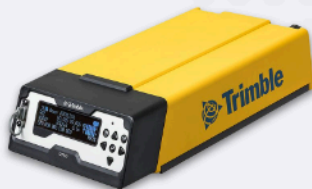


**R780-2  
R780**



**R580**

Upgrade receiver FW to v6.23 (minimum)



**R750**

## General?

Operation Mode

Autobase

Serial Port 2

Select Port Function: ☒ Serial 3 | ☐ CAN 1

1PPS On/Off

Adjust Width ☐ Always On ☐

Event 1 On/Off

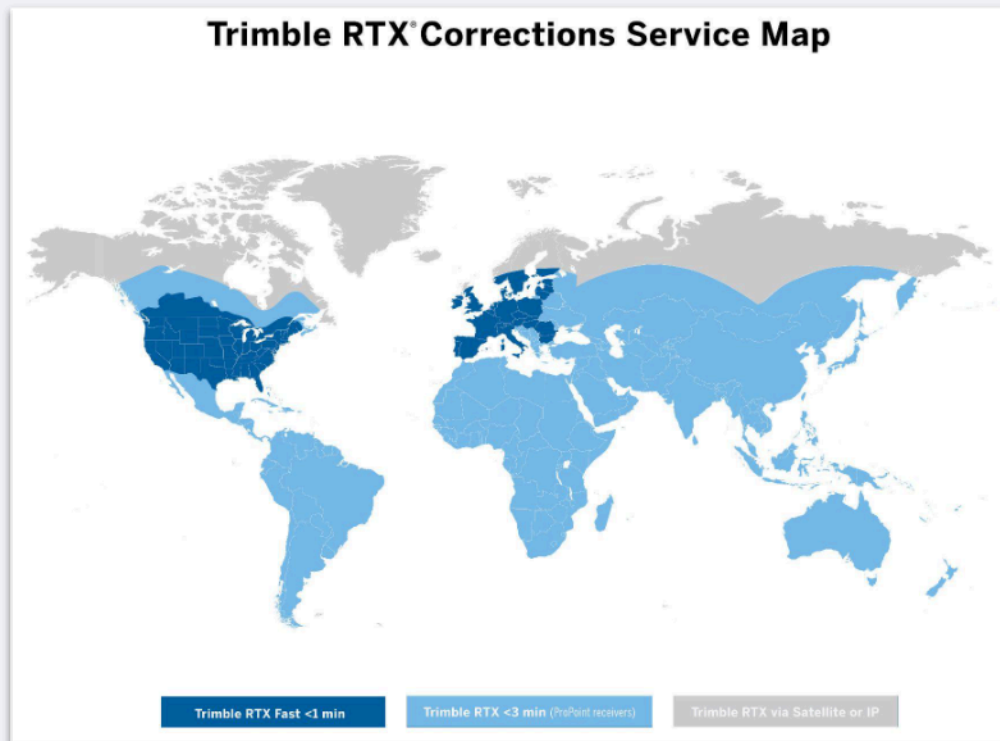
Slope

**Ionospheric Mitigation**

**Note:** The impact of the solar flares/ionospheric interference depends on your device and geographic location.

# 1-Year Trimble CenterPoint RTX Included

- Initial 12-month subscription to CenterPoint RTX correction service included with new receiver purchase
- Global coverage
  - Satellite and Internet delivery options
- Improved accuracy
  - Horizontal 2 cm RMS
  - Vertical 3 cm RMS
- Convergence times
  - Trimble RTX Fast regions < 1 min
  - Non RTX Fast regions < 3 min
  - QuickStart convergence time < 1 min
- Trimble RTX subscription extends xFill feature
  - Caps accuracy drift to CenterPoint RTX accuracy
  - Eliminates xFill time restriction



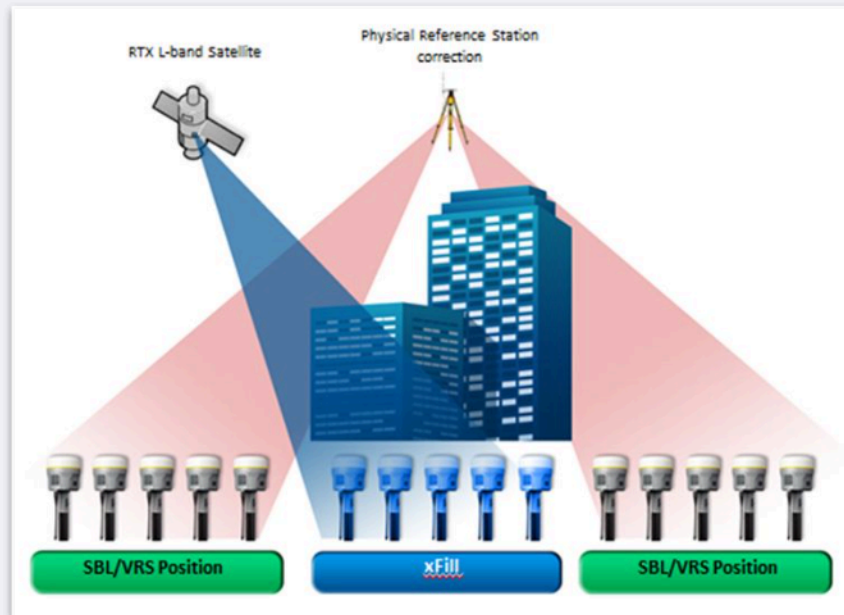
[Learn more about CenterPoint RTX](#)



# Trimble xFill

## Continue surveying without disruption

- Trimble xFill® correction outage technology is a standard feature in the premium platforms since the release of the R10 in 2012
- Fills in interruptions of your primary corrections for up to 5 mins
  - **With CenterPoint RTX subscription you can continue indefinitely at centimeter-level accuracy**
- Trimble technology leverages our worldwide network of reference stations to bridge communication outages via satellite-delivered correction data
- Integrated so well into the Trimble Access workflow that most people don't even know they are using it!





# 02

## Trimble Ecosystem



# Trimble Core Survey Software



**Field**



**Trimble Access  
2024.00**



**Cloud**



**Trimble  
Connect**



**Office**



**TBC  
2024.00**



# Trimble Access Field Software

Specific TA features for R980:

- Internet Base Station Service (IBSS)
- Tilted measurements
- Continuous topo
  - "Stop and Go" method with IMU
- Satellite subsets
  - Independent observations
- Augmented reality with GNSS



Trimble® Access™ Version **2024.00**  
Built to make a surveyors job easier

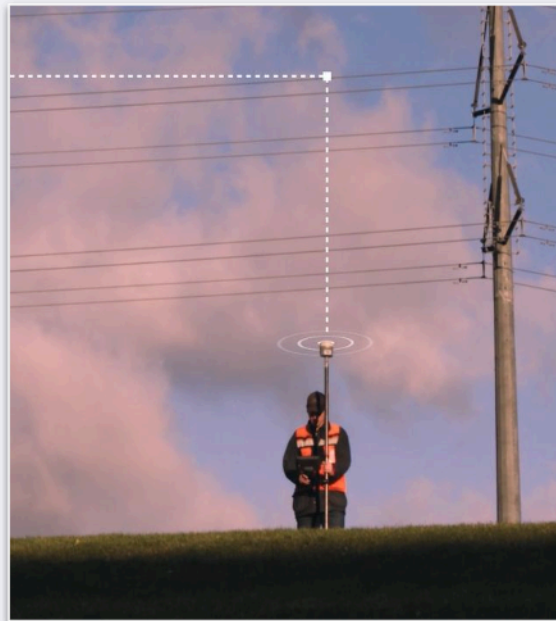
[Trimble Access 2024.00 YouTube Playlist](#)



# Trimble Internet Base Station Service

Enabling RTK corrections to flow seamlessly between all surveyors working on a project

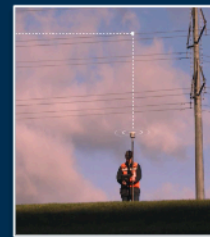
- The Trimble IBSS service provides an easy way for you to stream RTK corrections over the internet from a base station to rover receivers
- RTK corrections are automatically streamed to any rover that is also using IBSS in the same Trimble Connect project
- No configuration of a corrections server is needed
- Service **INCLUDED** for Trimble Access users on Subscription or Current Maintenance
- See more here: [Trimble Access YouTube - IBSS](#)



# Many Benefits of Internet Over Radio



Save time, money and get a better result!



## Save Costs

**Save time** setting up with no need for radio transmission equipment

## Improve Quality

**Greater bandwidth** over internet can provide corrections for **more satellites**

## Improve Range

Radio signals suffer from physical obstructions - mobile internet is has **greater range**

## Improve Reliability

Radio signals suffer from interference, IP has **less transmission loss**

\*Service **INCLUDED** for Trimble Access users on Subscription or Current Maintenance





# The Single Source of Truth for Digital Data to Reside

Accessible, Reliable and Trustworthy



***"Trimble Connect** is a common data environment (CDE) and open collaboration platform that connects the right people to the right data at the right time."*



# Products that already come with Trimble Connect

Included with Most Trimble software applications



- **Trimble Business Center (subscription license)**
- **Trimble Access (subscription and perpetual licenses)**



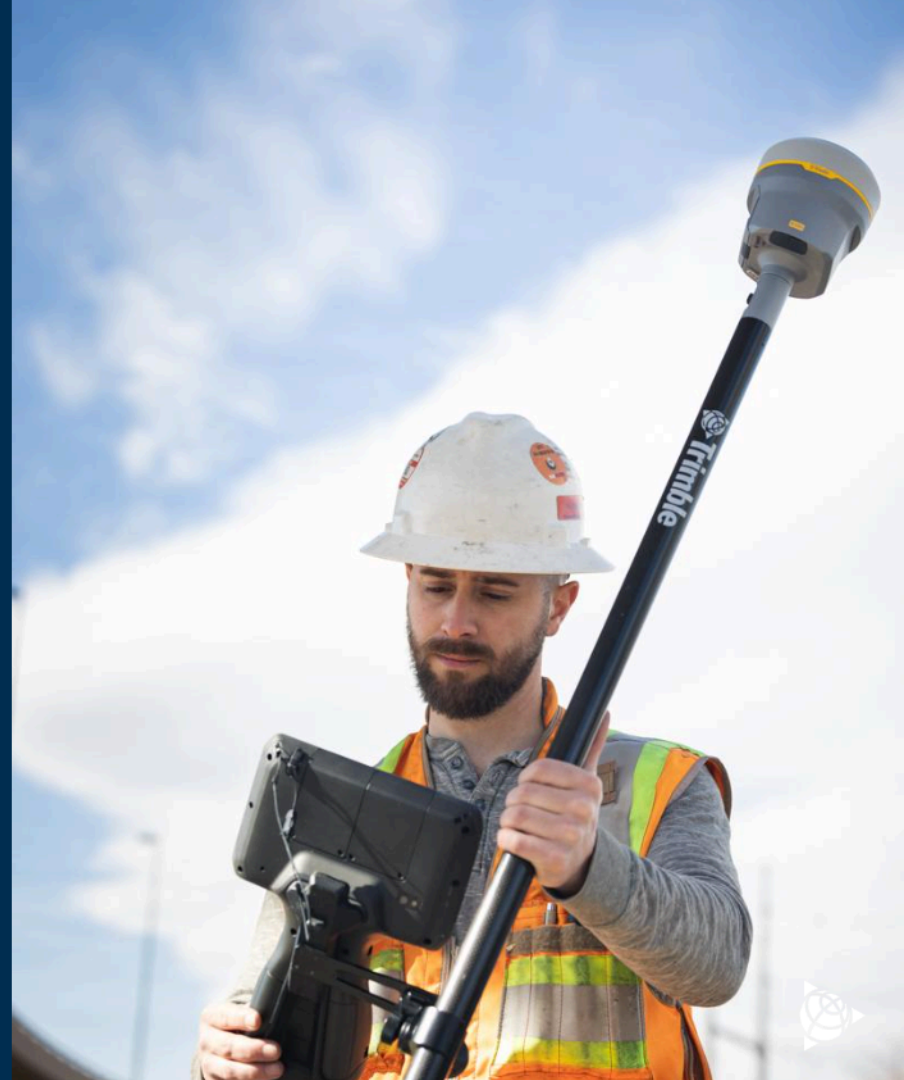
- Trimble SiteVision
- Trimble TerraFlex
- Trimble SketchUp
- Trimble ConnectAR
- Trimble ConnectAR + MR
- Trimble Tekla Structures
- Trimble ProjectSight
- Trimble Quadri
- Trimble StabiCAD
- Trimble Nova
- Trimble VDC Pro+ Solution
- Trimble Fabrication Essentials Solution

Business Premium now available for Survey customers



# 03

## Hardware Models, Configurations and Accessories



# Trimble R980 Hardware Variants

Hardware Variants	Description
Dual-Band	GNSS Receiver - R980, Broadband 450-900 MHz radio (with accessories)
450 MHz radio only	GNSS Receiver - R980, Broadband 450 MHz radio (with accessories)
Non-radio	GNSS Receiver - R980, No UHF radio (with accessories)

Note: 450 is limited for special compliance circumstances



# What's In The Box

- FRU - The Receiver
- Transport Case TSC7/TSC5/T100
- UHF antenna - for radio versions
- Battery (x2)
- Office USB data/power cable
- USB data download dongle
- Quick release adapter
- Quick Start Guide, WEE statement, warranty card, and accessory card





# Perpetual Configurations

## Base and Rover

### Base and Rover Options

All Constellations  
Tilt-IMU and xFill

## Rover

### Rover Option

All Constellations  
Tilt-IMU and xFill

## Base

### Base Option

All Constellations  
No IMU - No xFill

## Base and Rover Lite\*

### Base and Rover Options

All Constellations  
No IMU - No xFill

## Rover Lite\*

### Rover Options

All Constellations  
No IMU - No xFill

## Upgrades

Tilt-IMU  
Rover  
Base  
xFill



# Support

Please contact your local distributor with any questions or concerns.

If the local distributor can't help you they will do the following:

- Escalate to the Trimble support team
- If the issue is still not resolved it goes to the product manager
- Engineering/Various groups



# Warranty and Service

## 12-month Standard Warranty on R980

- 1-year standard warranty
- Additional protection plans for coverage past the standard warranty available to purchase
- Please talk with your local distributor for more information

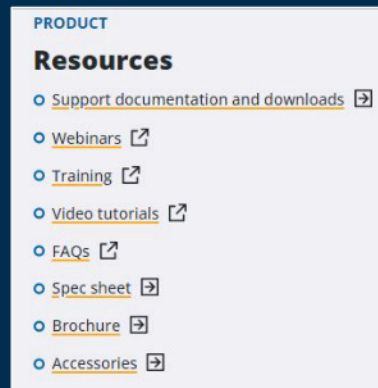
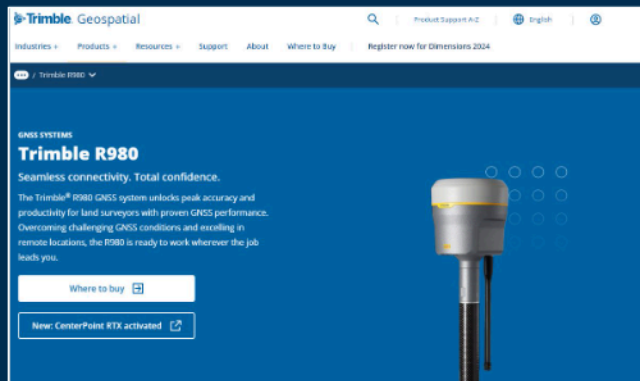


**The Trimble R980  
is Available Now!**



# Resources

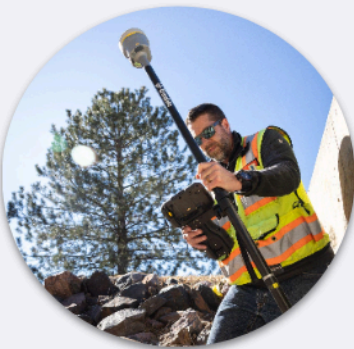
✓ Web page: [geospatial.trimble.com/r980](https://geospatial.trimble.com/r980)



✓ Contact your local Trimble Distributor: [geospatial.trimble.com/where-to-buy](https://geospatial.trimble.com/where-to-buy)



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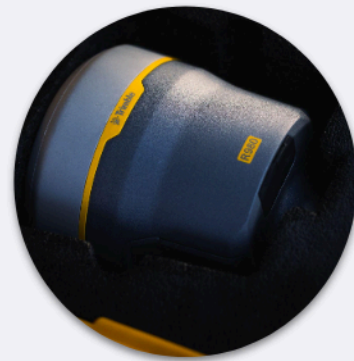
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Flexible radio module  
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Mature cellular  
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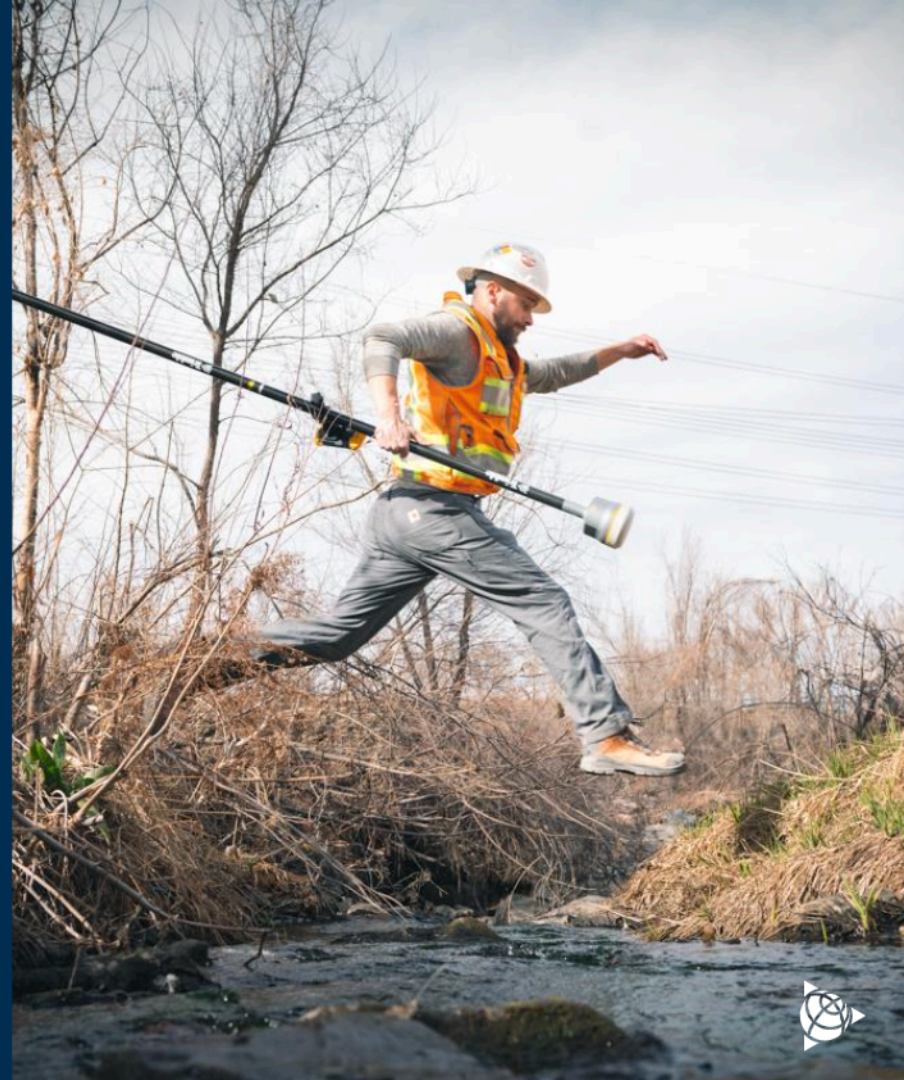
## Flexible Configuration Options

Choose the license type  
to fit your needs:  
perpetual or yearly  
termed



# 04

## Questions?



# Thank You!

Please contact your local Trimble Distributor  
for additional information:

[geospatial.trimble.com/where-to-buy](https://geospatial.trimble.com/where-to-buy)

