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David Manzano | Sales & Support Manager

Trimble GIS Bundle Solution

Agenda

- Portfolio
- Technical Solution: What’s New
- Key Message: A New Level of Productivity
- Availability
- Serviceability

Trimble GIS Hardware

- TDC100
- TDC150 RTX
- TDC600
- Catalyst
- Geo 7X RTX
- Nomad 5 RTX
- Juno 5D
- T10

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Comparison between Trimble GIS Data Collectors

	Geo 7X	Juno 5	Nomad 5	TDC100	TDC150	TDC600
GNSS Accuracy	1-100 cm	1-4 m	2-4 m	1-2 m	1-100 cm	2-4 m
Operating System	WEHH 6.5	WEHH 6.5	Android 8.1	Android 6.0	Android 6.0	Android 8.0
Screen Size	10.7 cm / 4.2"	10.9 cm / 4.3"	12.7 cm / 5"	13.4 cm / 5.3"	13.4 cm / 5.3"	15.2 cm / 6"
Screen Type	Color touch	WVGA TFT	Color multi-touch	Color multi-touch	Color multi-touch	Color multi-touch
Used With	TerraFlex, TerraSync, Positions	TerraFlex, TerraSync, Positions	TerraFlex, Penmap for Android, Esri Collector	TerraFlex, Penmap for Android, Esri Collector	TerraFlex, Penmap for Android, Esri Collector	TerraFlex, Penmap for Android, Esri Collector
Satellites	GPS, GLONASS, Galileo, QZSS, BeiDou, SBAS	GPS, SBAS	GPS, GLONASS, BeiDou, SBAS	GPS, GLONASS, Galileo, QZSS, BeiDou, SBAS	GPS, GLONASS, Galileo, QZSS, BeiDou, SBAS	GPS, GLONASS, Galileo, QZSS, BeiDou, SBAS

GNSS Receivers

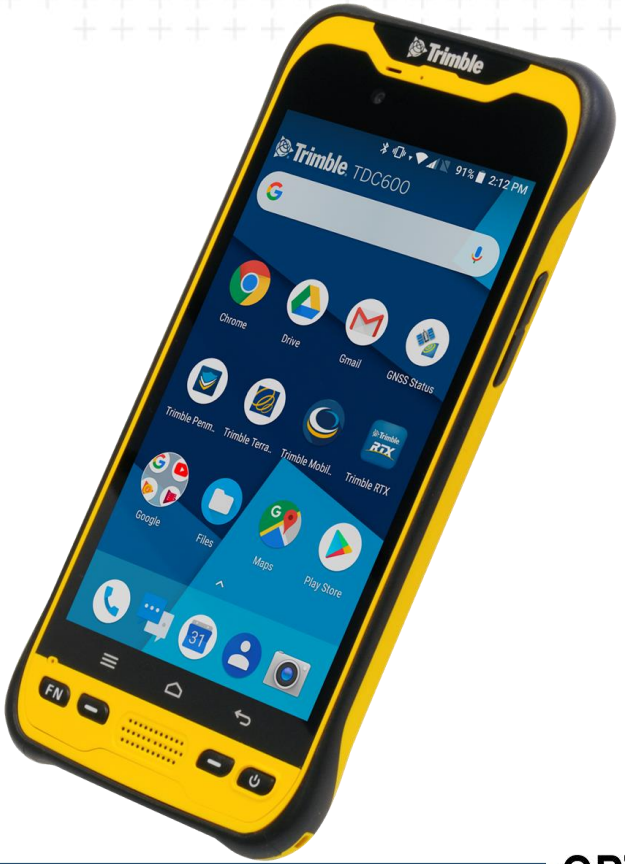
- Catalyst
- R1
- EMPOWER EM100
- R2
- R4s
- R12
- R12i

TDC600 Handheld Receiver

Powerful
- 2.2 GHz Processor
- 4 GB RAM

Android™ 11.0 operating system
- Support Google Mobile Services
  - Play Store, Google Maps, etc...

Two-in-one
- Rugged smartphone
- Mapping grade (<1 m in optimal conditions) GNSS receiver



Trimble Catalyst DA2 GNSS receiver

Introducing a brand new engine at the heart of the Catalyst positioning service

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Simply Precise.

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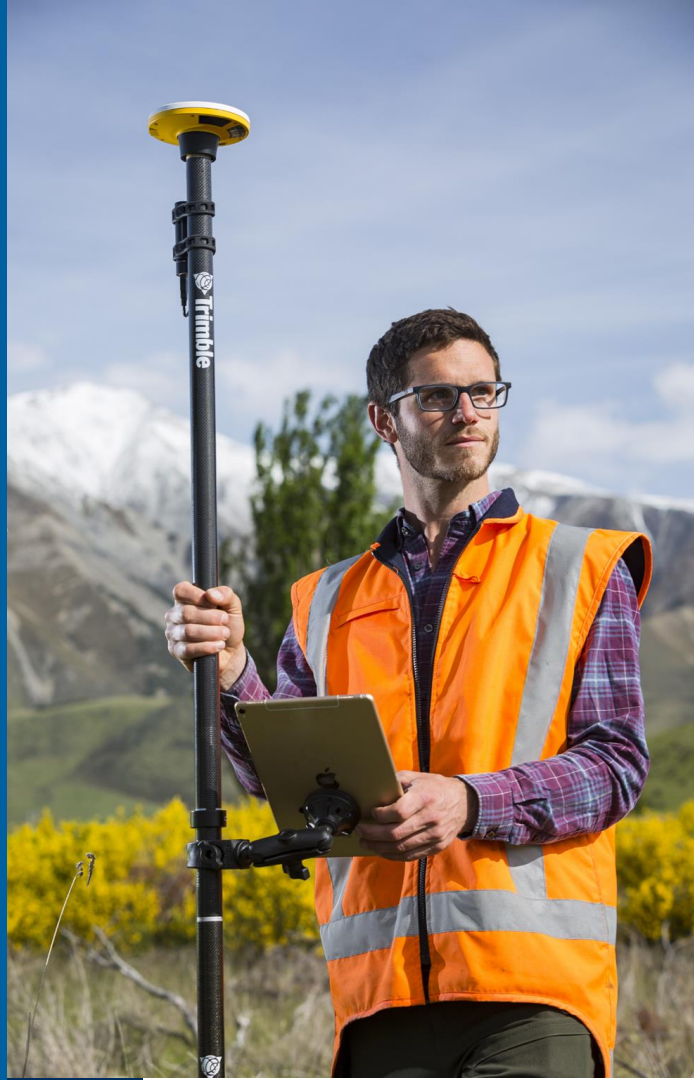
Key Features

- Catalyst
- The Catalyst DA2
- Devices, apps, and workflows
- Updates to Catalyst subscriptions
- Availability



What is Catalyst?

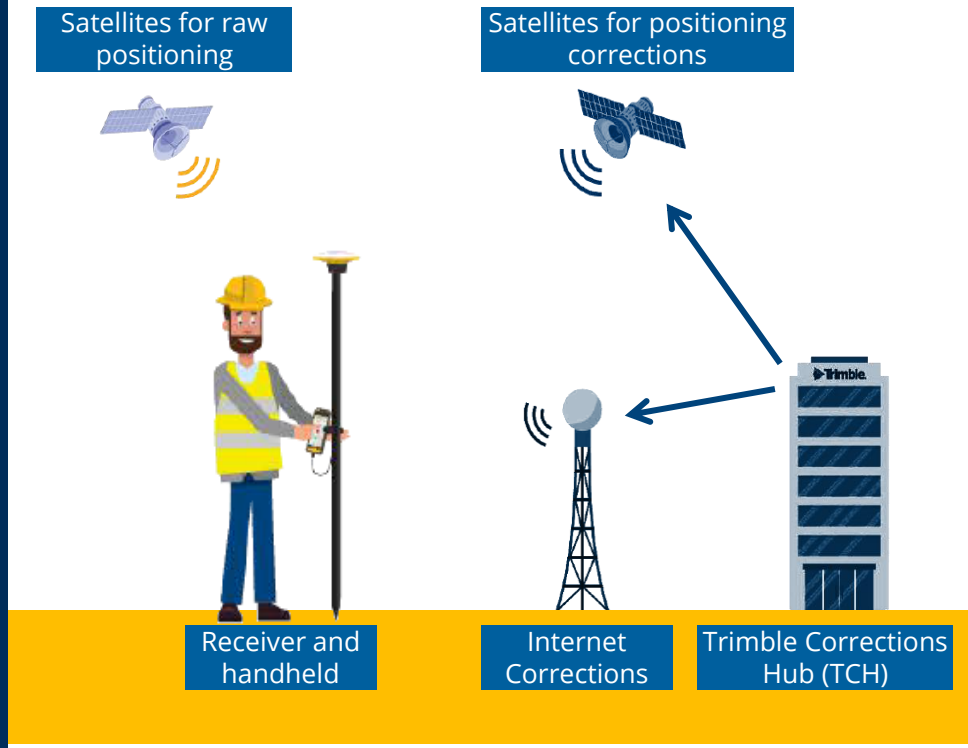
Trimble Catalyst is a revolutionary offering from Trimble that uses a software defined GNSS receiver technology.

The solution enables a customer to subscribe to the Catalyst service in order to enable the GNSS receiver to operate at a level of accuracy related to their subscription level.

Catalyst consists of the DA2 receiver, a power bank of your choice, any Android or iOS device, and your application.

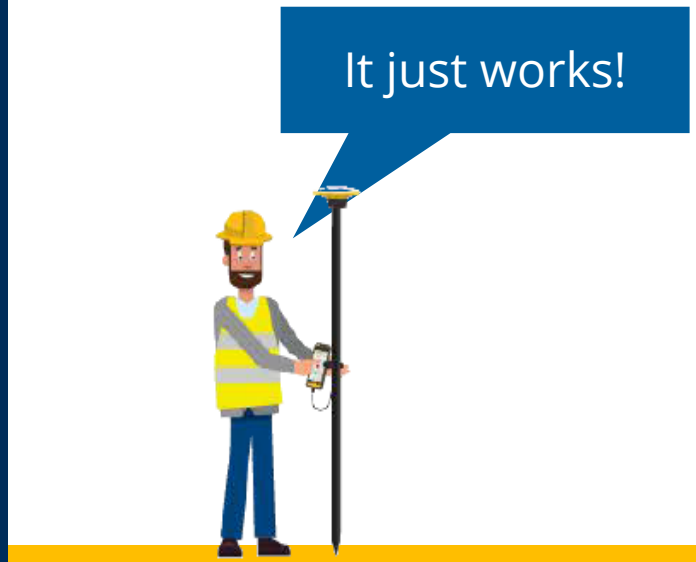
What about “Corrections”?

Corrections are applied to raw GNSS data making positions accurate and reliable.



What about “Corrections”?

Catalyst Subscriptions simply include Corrections



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Android

Versatile

Lightweight

Catalyst Positioning

iOS & Android

Bluetooth Delivery

Versatile

Lightweight

ProPoint Technology

Catalyst Positioning

Catalyst Technology

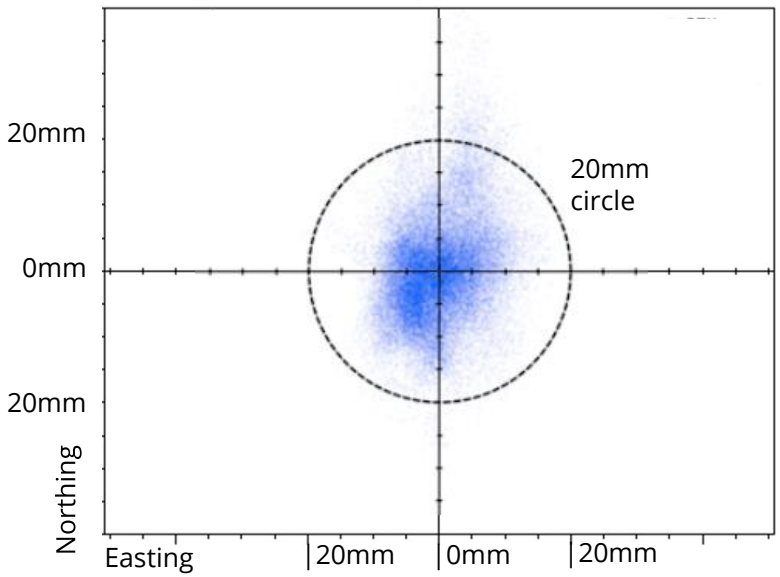
Trimble Catalyst is a revolutionary GNSS concept, simplifying the way that precise GNSS positioning is delivered

ProPoint Technology

Improved receiver performance in challenging* GNSS environments, including operating under tree canopy or near buildings & other urban structures.

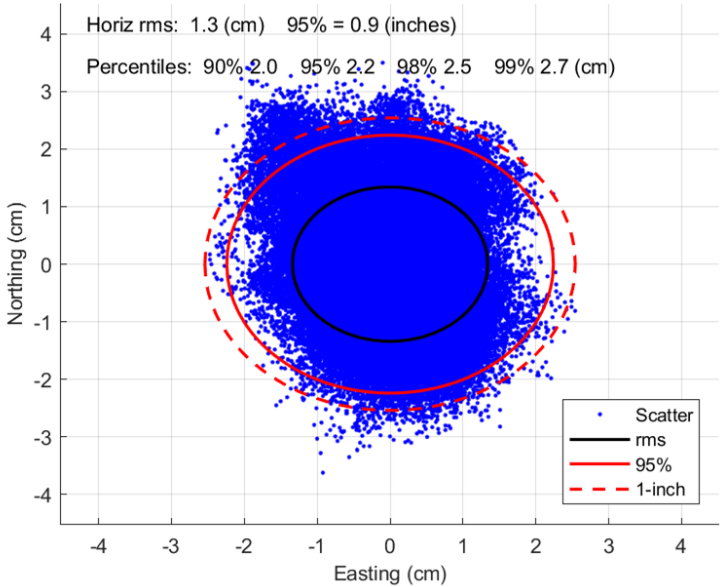
* Challenging GNSS environments are locations where the receiver has sufficient satellite availability to achieve minimum accuracy requirements, but where the signal may be partly obstructed by and/or reflected off of trees, buildings, and other objects. Actual results may vary based on user's geographic location and atmospheric activity, scintillation levels, GNSS constellation health and availability, and level of multipath and signal occlusion.

DA2 Performance Testing: Accuracy RTK



RTK 27km, CMRx Horizontal Error
Convergence time after RTK reset : < 5 sec (typical)

DA2 Performance Testing: Accuracy RTX



RTX accuracy

RTX Fast Convergence: 2 cm in 48 sec (68% percentile)

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Trimble DA2 Corrections Hub Coverage (DA2)

Catalyst subscribers can use Trimble RTX (L-band and IP) with their DA2 using the Trimble Corrections Hub (TCH).

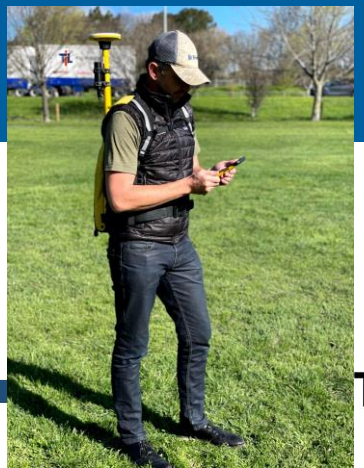
Configurations

Ways to use the DA2 receiver in field

2m Pole

Monopole

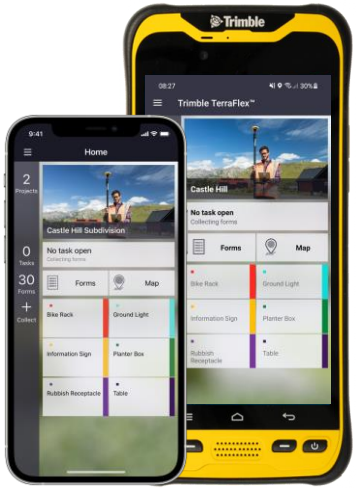
Backpack

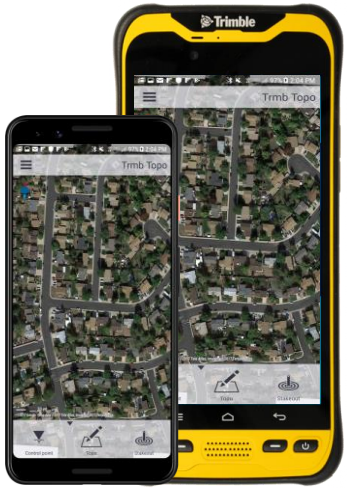


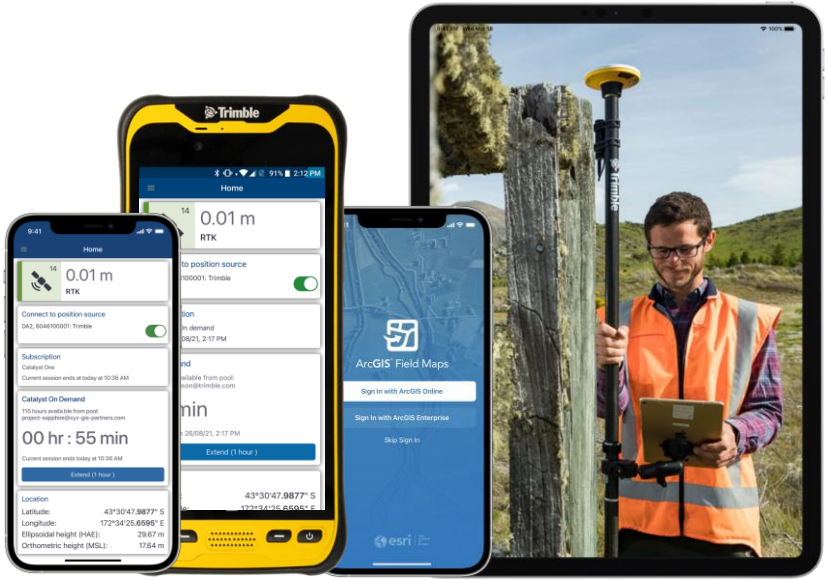
Application Software

- Android 11 “Oreo”
  - Trimble Software
    - Trimble TerraFlex™
    - Trimble Penmap® for Android™
  - Third-party Software
    - Location Services API
    - Esri® Collector for ArcGIS®
    - Android-based 3rd party apps

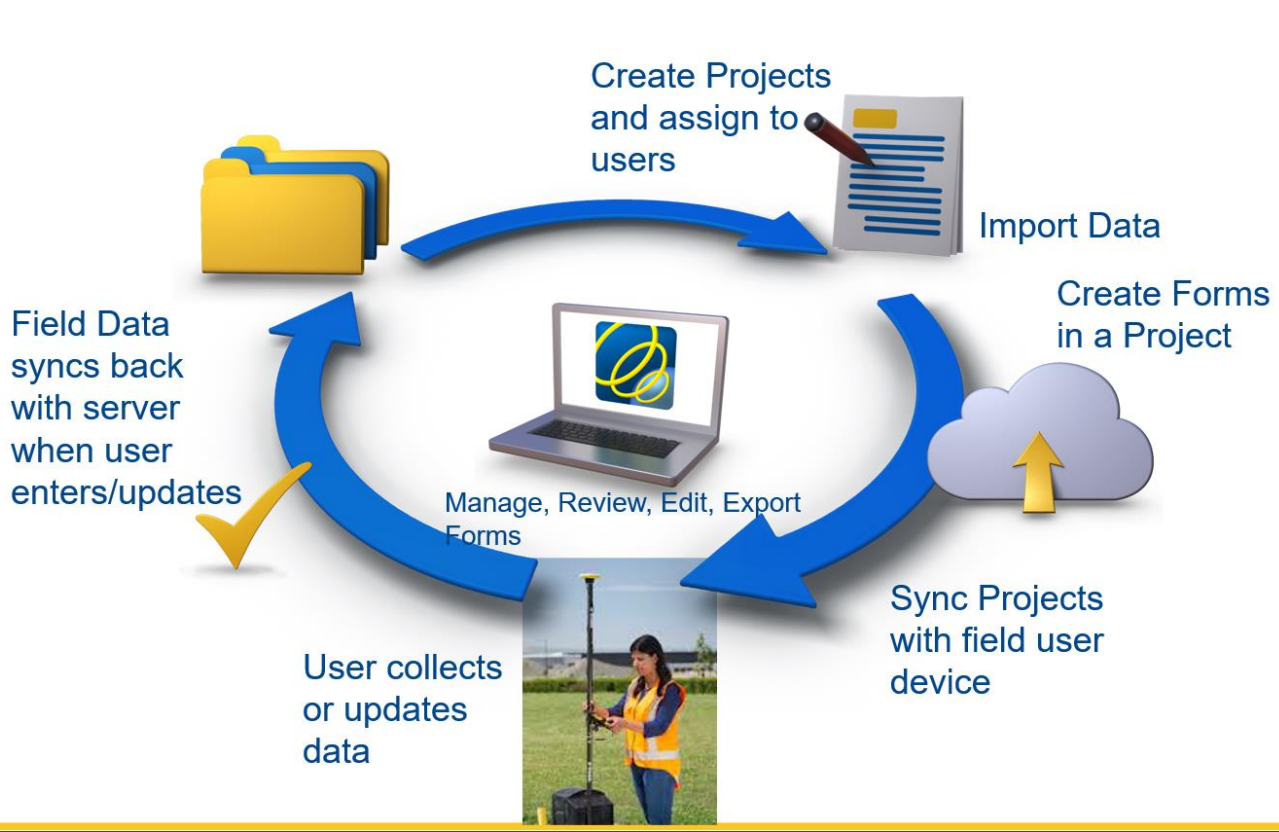
Field Application Software



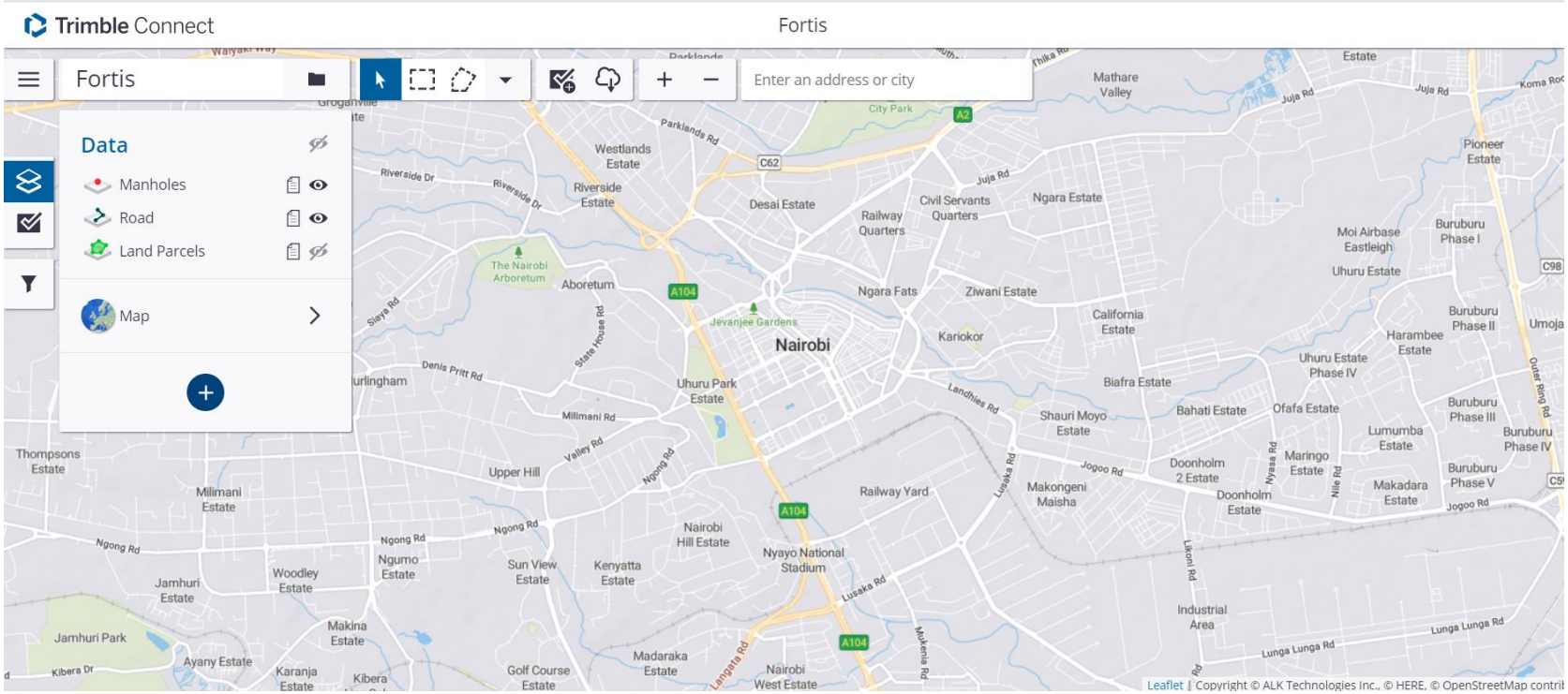




Trimble TerraFlex Workflow



Organize Your Field Projects



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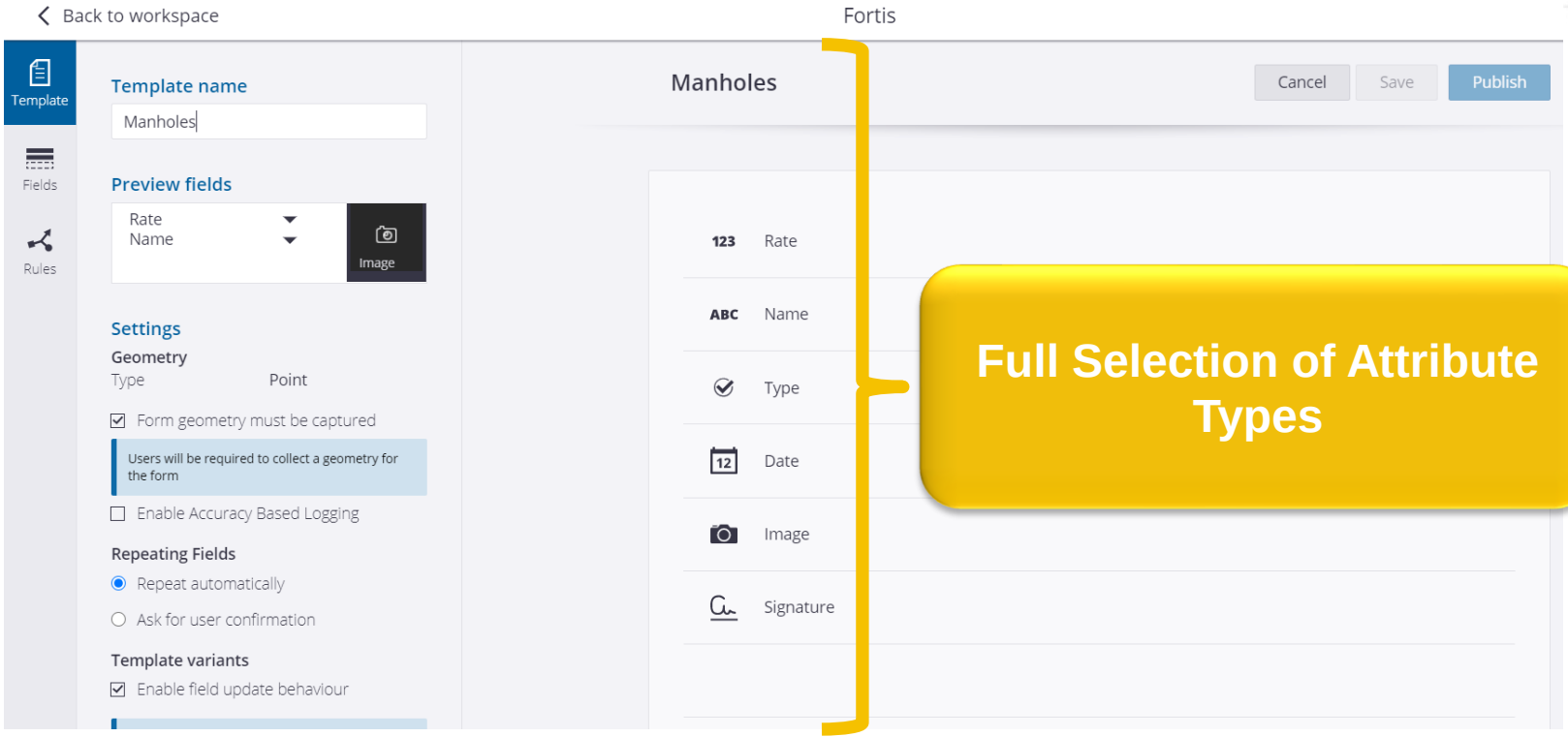
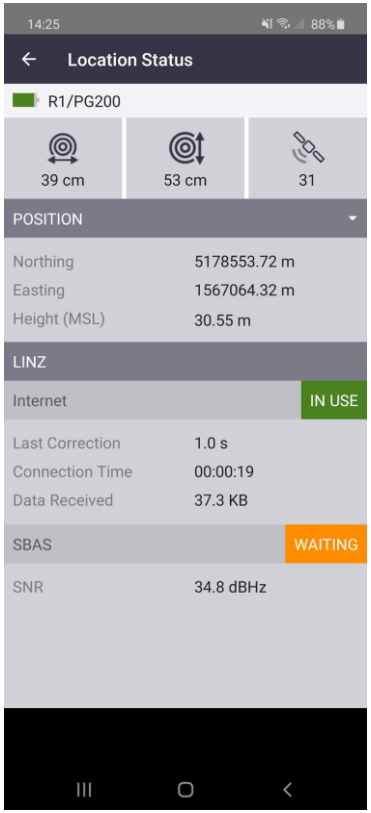
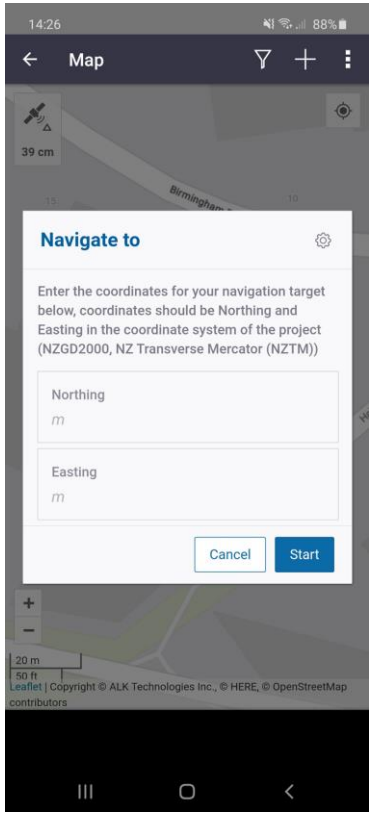
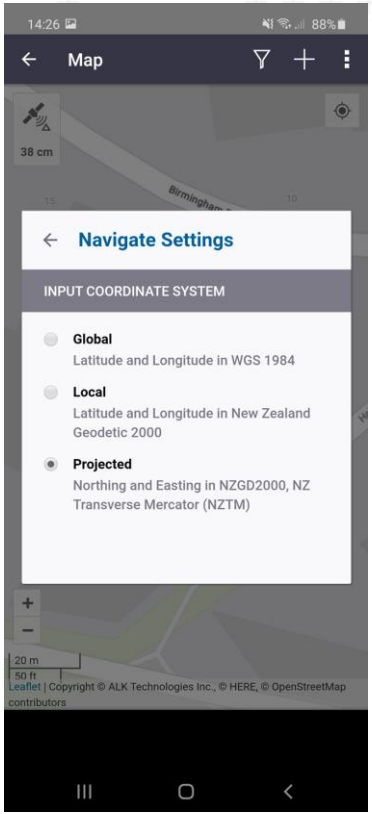
Easy Digital Form Creator



Easy Position Display



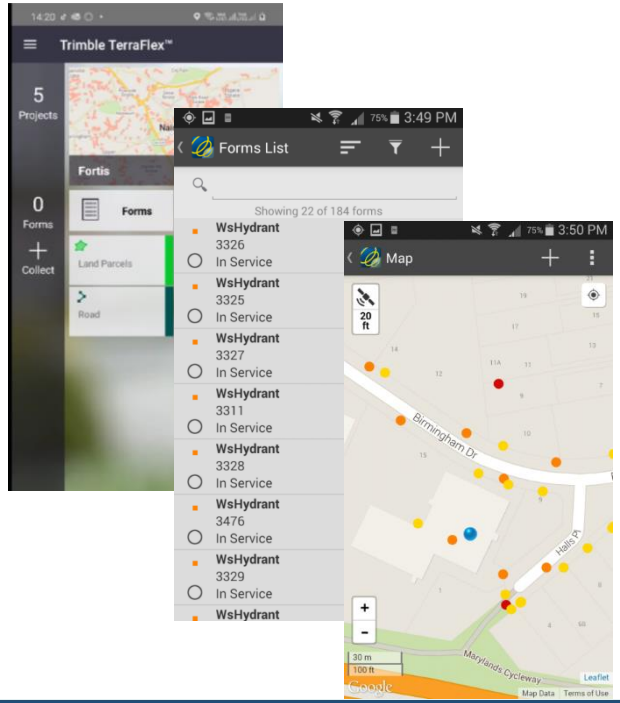




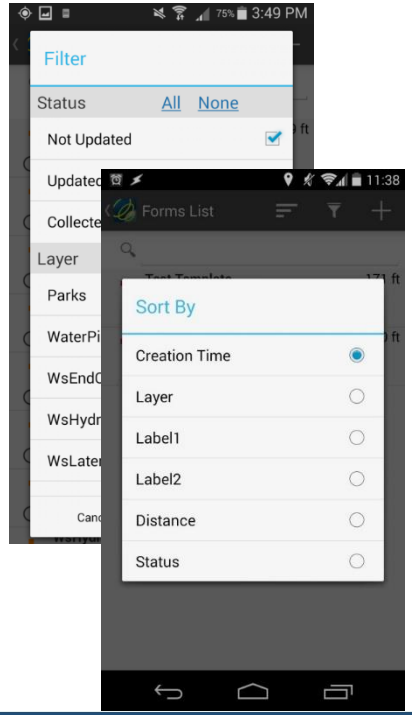
- Display your current location in the project coordinate system
- For Navigation, enter coordinates in Global, Local, or Projected

Trimble TerraFlex Mobile

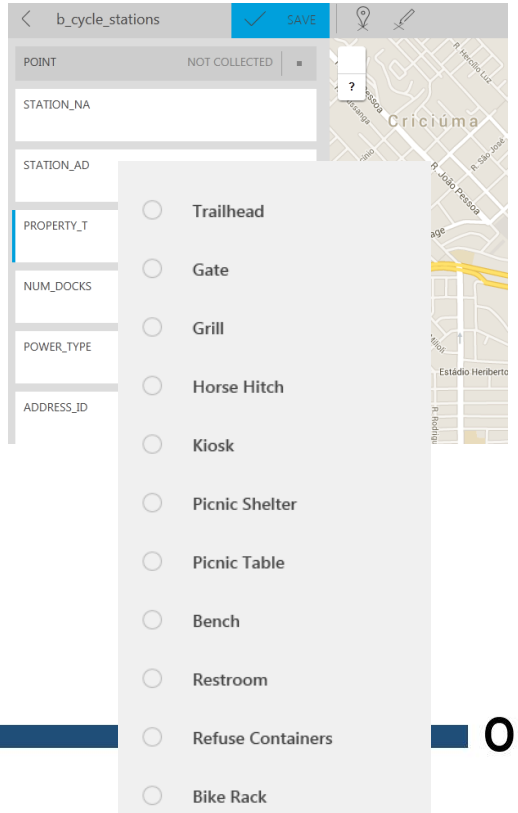
Map View or List View



Sort and Filter



Select and Edit Object Attributes



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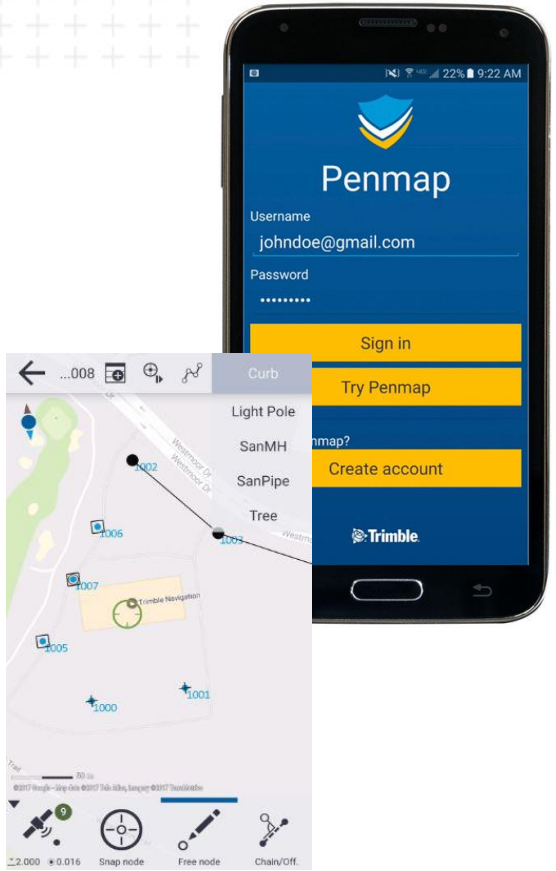
Field Data Capture

- PenMap
  - Trimble® Penmap® for Android™ is a powerful, yet incredibly straightforward cloud-connected
  - It's designed to do all the basics well, and provide an intuitive and effective interface for entering and managing features and attributes.
  - Penmap makes basic cadastral, topo, and other field data collection tasks easy
  - Key Features:
    - Core survey functionality and high accuracy GIS data collection
    - Powerful but straightforward operations
    - Intuitive interface using your own Android device
    - Supports Trimble Catalyst software-based GNSS receiver for on-demand precise positioning
    - Compatible with existing Trimble GNSS R-Series receivers



R1

- Trimble R1
  - Small, rugged, lightweight GNSS receiver for great mobility
  - Flexibility to choose your data collection device (BYOB)
  - Bluetooth connection to Trimble handhelds or consumer-grade smart devices
  - Provides higher-accuracy location data (1 – 2m)
  - Flexible, professional data collection in more places
  - Optional ViewPoint RTX provides sub-meter accuracy via IP or satellite

R2

- Trimble R2
  - Professional solution for GIS & survey applications ranging from submeter to centimeter accuracies
  - Easily collect data by pairing with devices such as smartphones, tablets or Trimble handhelds
  - Fast to setup, easy-to-use, keeping you productive and focused on your work
  - Supports multiple satellite constellations and correction sources for accurate data at any location
  - Compact, cable-free design with integrated antenna

Comparison

GNSS Receivers	R2 GNSS receiver	R1 GNSS receiver	Trimble Catalyst On-Demand Positioning Service
DGNSS accuracy postprocessed*	>1 cm	50 cm	N/A
DGNSS accuracy real-time*	>1 cm	<1 m	> 1 cm
GLONASS-capable	Yes	Yes	Yes
EVEREST multipath rejection	Yes	Yes	Yes
GNSS Antenna	Integrated	Integrated	External
RTX compatible	Yes	Yes (Trimble ViewPoint RTX™)	Yes
Integrated SBAS	Yes	Yes	Yes
Integrated OmniSTAR	Yes (VBS, XP, HP, or G2)	No	No
NMEA output	Yes (Optional)	Yes (Non-RTX)	No
RTCM input	Yes	Yes	Yes
Integrated Bluetooth	Yes	Yes	No
Weight	1.08 kg / 2.38 lbs	0.187 kg / 0.4 lbs	N/A
Battery life	5 hours (varies with temperature)	> 10 hours	N/A
Ruggedness	Withstands 2 m (6.6 ft) drop onto concrete	Withstands 1.2 m (4 ft) drop to plywood over concrete	N/A
Environmental	IP65	IP65	N/A
Operating temperature	–20° C to 55° C / –4° F to 131° F	–20° C to 60° C / –4° F to 140° F	N/A

EM100 GNSS Module

- Add the Trimble® EM100 module to your T7, Nomad 5 or TSC7 to get integrated sub-meter positioning in the field
- Supports RTX (ViewPoint)

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Thank You! Questions?