

# CATCHES

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## ALL IN ONE SIGHT



**SOUTH**  
Target your success




**1** NS30, NS10 Robotic TS

N1 Android TS **2**

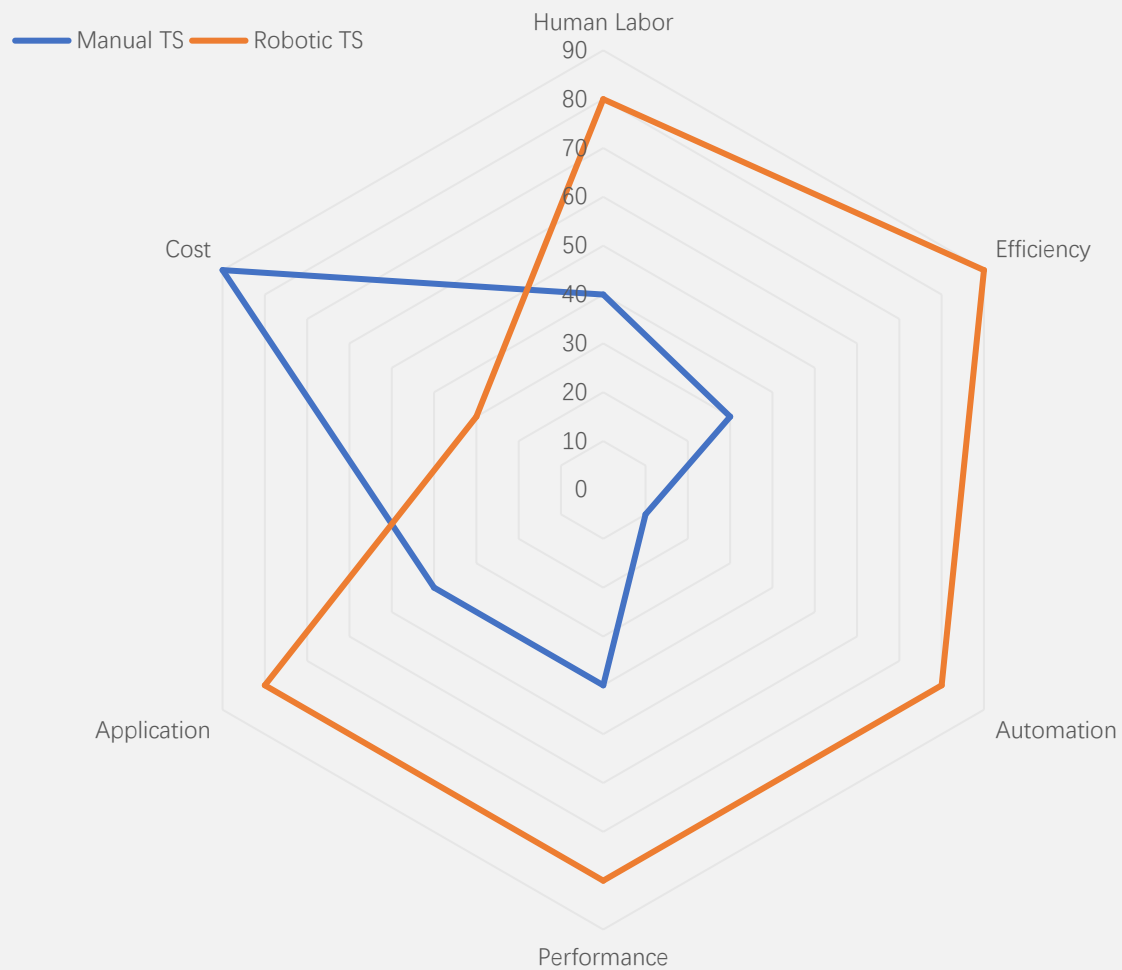
**3** **new** N40 Graphic TS

OTHER THINGS WE HAVE... **4**



**PART 01**  
**ROBOTIC**  
**TOTAL STATION**

# What is the difference?



# Main Features of a Robotic Total Station...

**01**  
**APR**

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Auto Prism Recognition

To recognize and measure the prism automatically in sight of view.

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**02**  
**PS**

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Prism Search

Allows an automatic prism detection within a short time period.

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**03**  
**Lock**

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LocknTrack

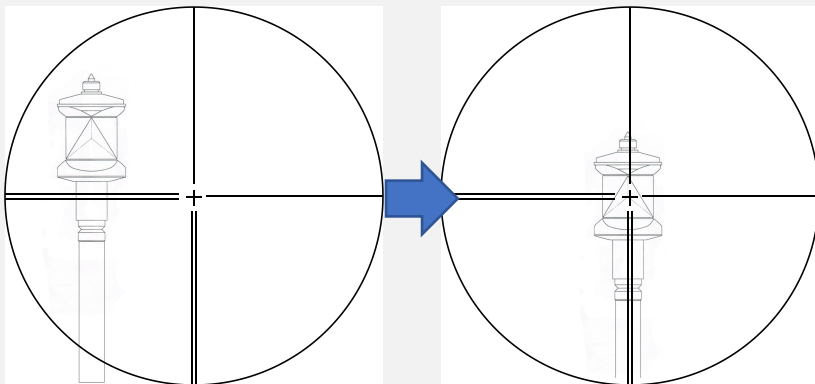
To lock, follow and measure a moving prism.

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# APR (Auto Prism Recognition)

## What is APR?

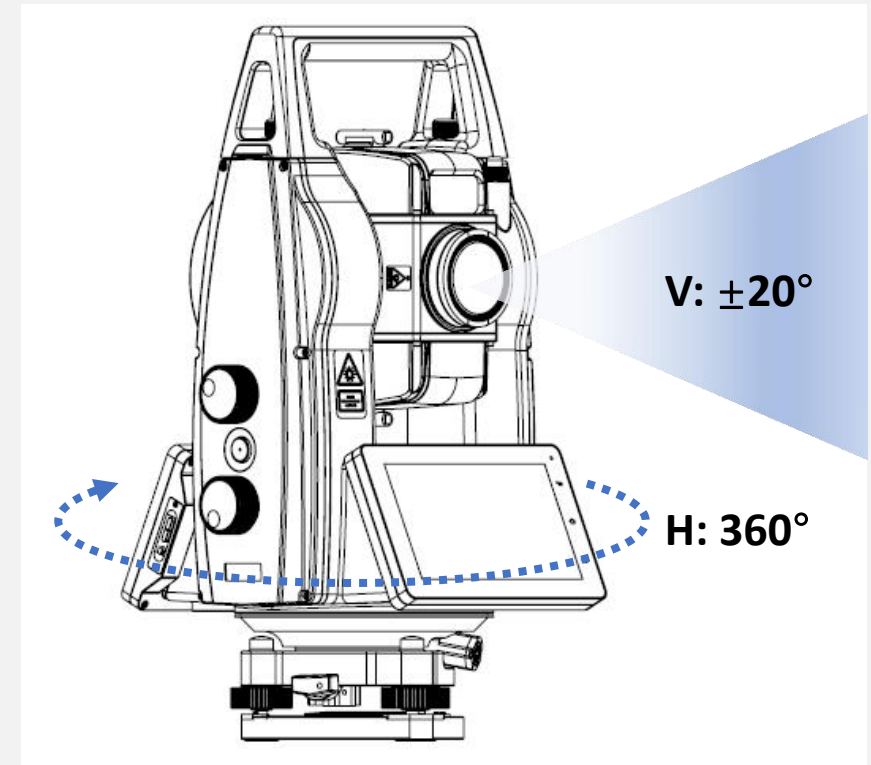
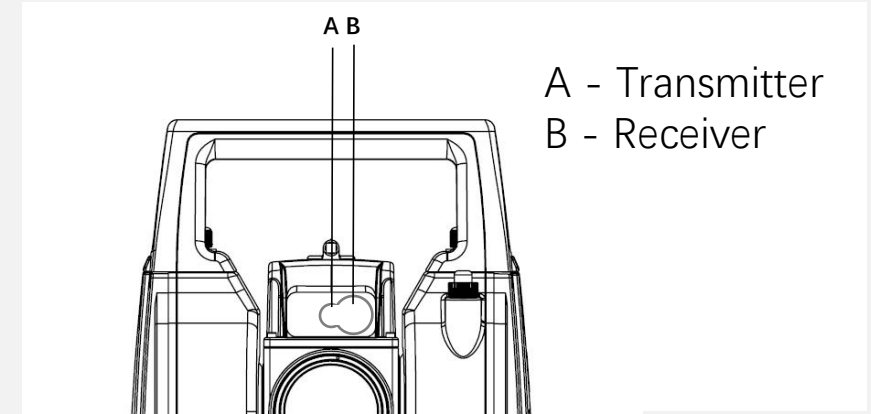
APR is the function which recognize and measure the prism automatically *in sight of view*.



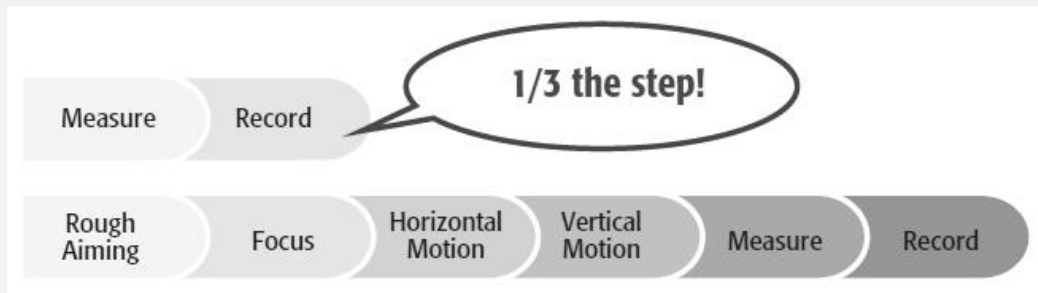
# Prism Search

What is PS?

It is an **automatic prism detection** within a short time period.



Robotic TS



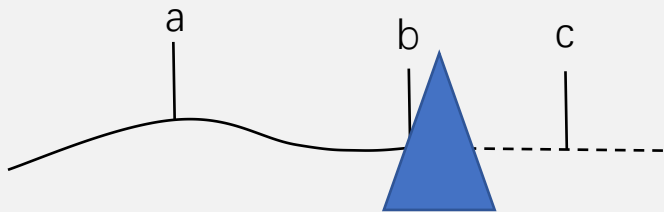
Manual TS

# LocknTrack

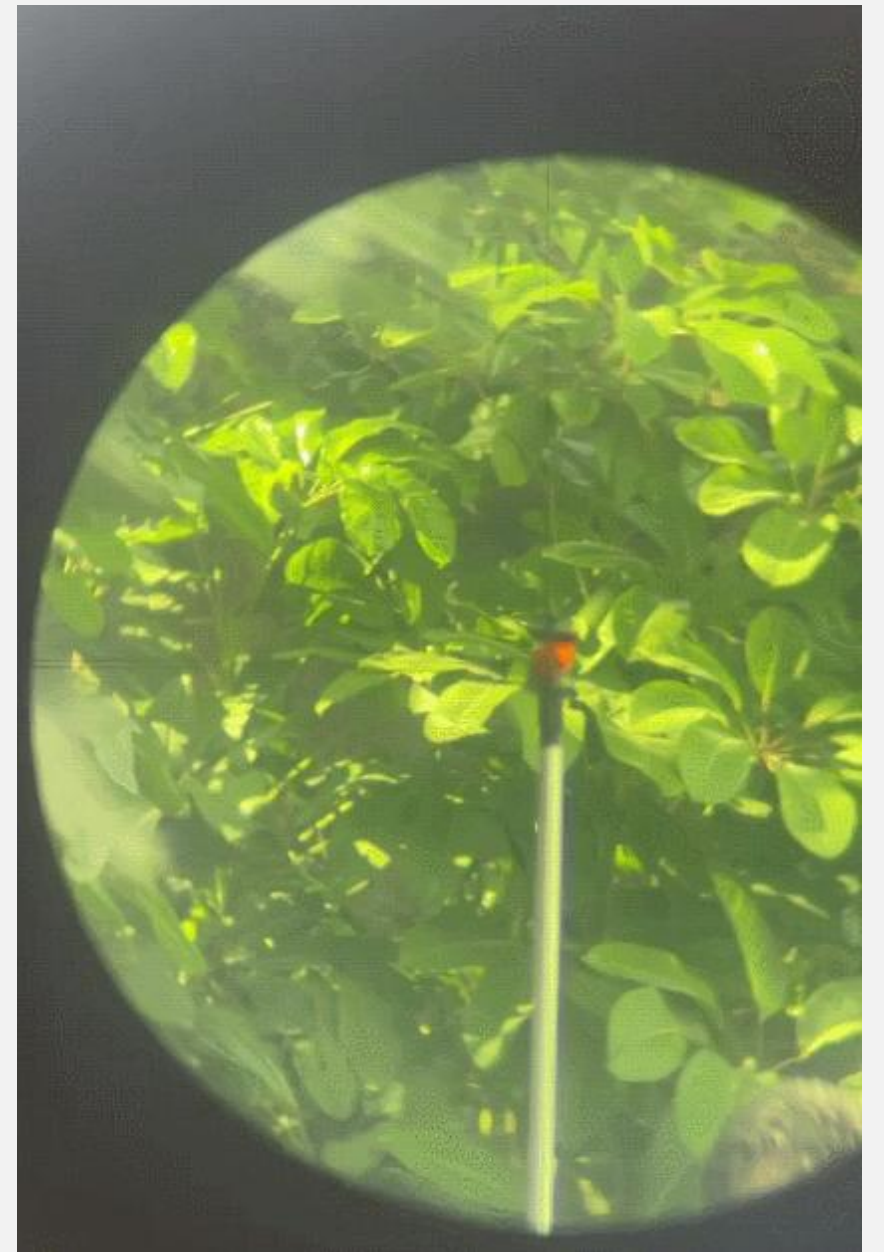
What is  LocknTrack

It enables instruments to follow and measure a moving prism.  
To eliminate the need for standing around and waiting.

## Prism Prediction



- a) A moving prism locked
- b) Prism lost
- c) Prism prediction





# LocknTrack



# What WE HAVE for **robotics**?



NS30



NS10

**SOUTH**  
Target your success

# NS30

## ROBOTIC TS



# Hardware

- APR (Auto Prism Recognition): 1200m
- Prism Search: 300m
- LocknTRack Function
- Hyper-Drive Motorisation
- Long-range Remote Control, 450m



# HyperDrive

- Worm and gear motorisation
- Stable mechanical structure
- Easy installation
- High transmission speed
- Self-locking





- Connect and control your NS30 by **H6 Plus**, in maximum 450m
- Powered by Zigbee
- Flexible and agile for one-man survey system.



# Other Features

- Accuracy: 1" angle, 1+1ppm distance
- 5.0 Inches Color & Touch Screen
- Flexible Data Transfer - USB OTG, Bluetooth
- Easy Access to Network - Sim Card & WLAN available



# Software



Survey Star



Survey Star Pilot

- Powered by **Android 11** O.S, friendly for the 3rd party software development.
- Survey Star onboard (NS30) +  
Survey Star Pilot on H6 Plus.



# Survey Star



Survey Star

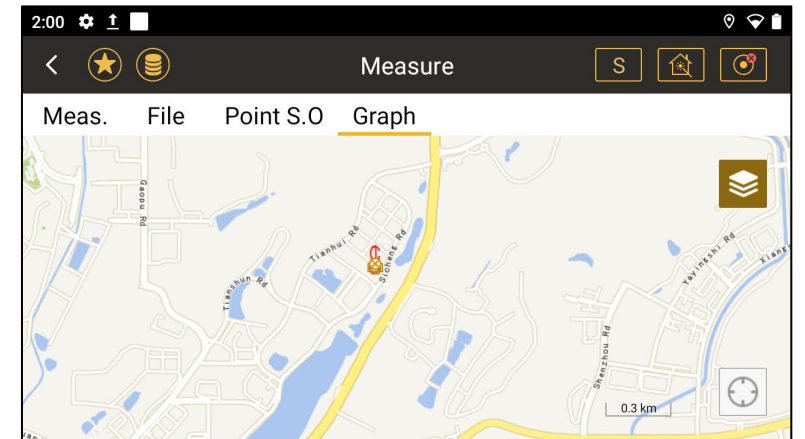
Survey Star helps you collect the data and stake out efficiently by graphical and iconic guidance.

## Map-Driven Workflow

It offers a graphical display of the survey elements with base map

## CAD Stake Out

It helps to handle the data actively with DWG or DXF files (\*.dwg, \*.dxf)



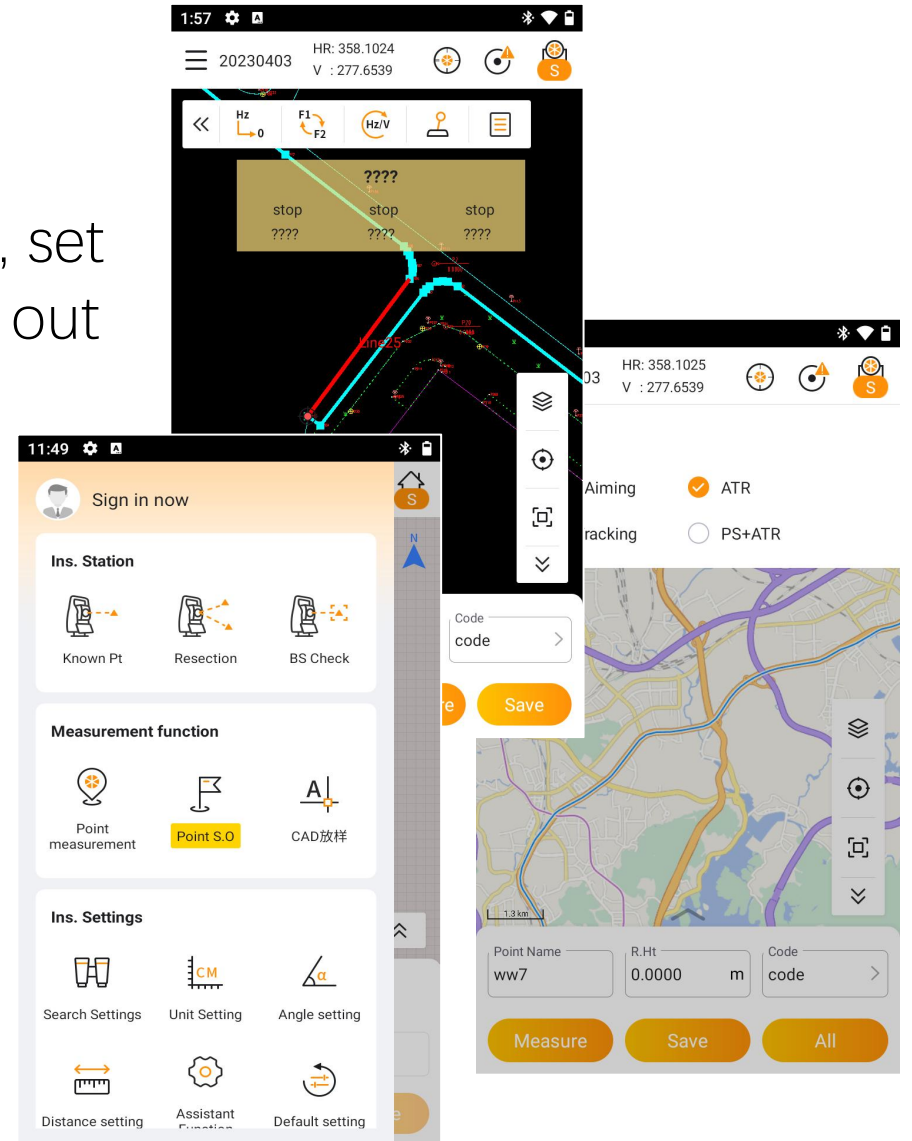
# Survey Star Pilot



Survey Star Pilot

It enables you to change the settings, set up the station, collect data and stake out points easily on your controller.

- ✓ Station Setup
- ✓ Resection
- ✓ Data Collect
- ✓ Stake Out
- ✓ CAD Stake Out
- ✓ Base Map
- ✓ Traverse



# NS10

## ROBOTIC TS



# Hardware

- ❑ Prism Search: 300m
- ❑ APR (Auto Prism Recognition): 1000m
- ❑ LocknTRack Function
- ❑ T-Drive Motorisation, smooth and quiet
- ❑ Long-range Remote Control by Bluetooth, 450m
- ❑ Camera & Guide Light
- ❑ EDM Trigger Key



# T-Drive



Faster Speed: 180°/s  
Change Face within 2.6s

Magnetic Motorization  
No Touch  
No Noise  
No Wear

Less Electronic Interference



## Lock and TRack



Tracking Speed: 5 °/s

Track and lock a prism moving in  
60km/h at 100m

Track + Measure Speed: 10'/s

Track and measure a prism moving  
in 30km/h at 100m.



- Long-range remote control, in maximum **450m**
- Powered by Bluetooth
- Flexible and agile for one-man survey system.



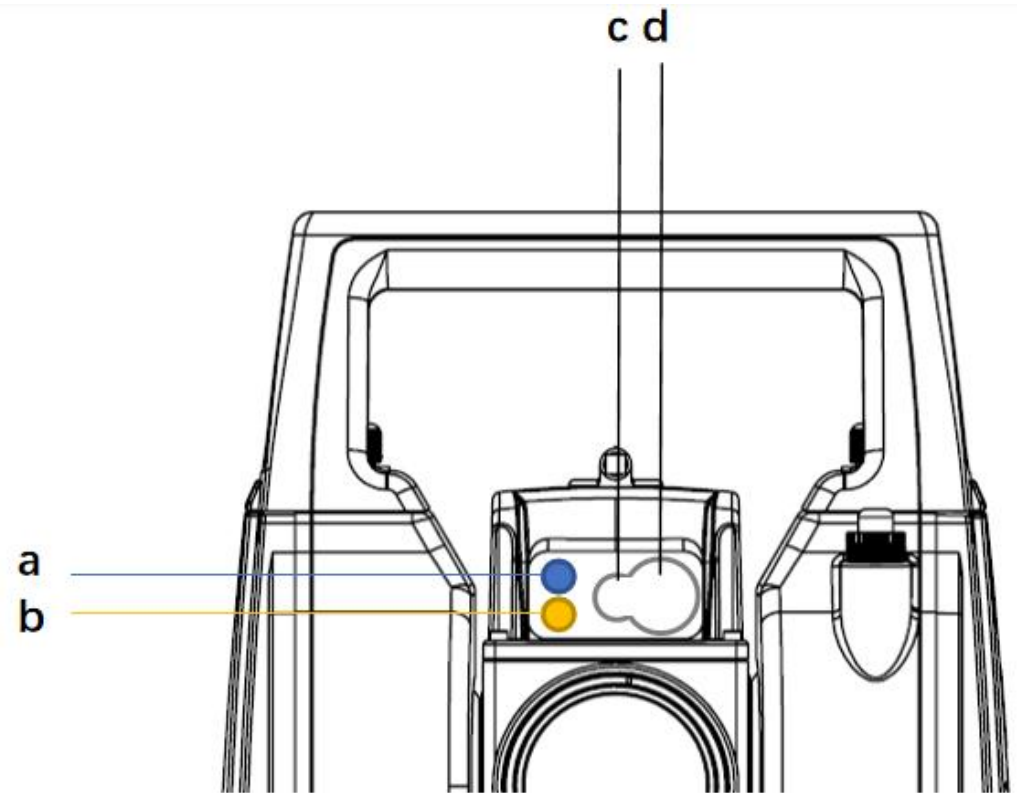
## Camera (5m Pixels)

- ✓ Camera helps you to check the position of target, you can also take a photo to record it.
- ✓ Click the image to rotate and aim the position in real-time.

## Build-in Guide Light



Extremely visible and easy to get into the correct direction when stake out a point.



a - Camera

b - Guide Light

c - Transmitter

d - Receiver



# Other Features

- Accuracy: 0.5" or 1" optional, 1+1ppm
- 6.0 Inches Color & Touch Screen
- Android 9.0 O.S
- Flexible Data Transfer - USB OTG, Bluetooth, Micro USB, RS-232
- Easy Access to Network - Sim Card & WLAN available
- IP65 Waterproof and Dustproof



**What WE CAN DO**  
**WITH ROBOTIC TS?**

A yellow and red surveying instrument is mounted on a tripod in a forest. The instrument has a camera lens and a screen. In the background, a person is visible, holding a device. The scene is set in a lush green forest with tall trees. The text "ONE-MAN SURVEY SOLUTION" is overlaid in white, bold, sans-serif font.

# ONE-MAN SURVEY SOLUTION

# I. The Ultimate One-Man Survey System

## NS30 + H6 Plus

With Controller (H6 Plus),  
Powered by Zigbee, 450m



## NS10 + Tablet

With Tablet (A8003,  
unreleased) Powered by  
Bluetooth, 450m





# MONITORING SYSTEM

## II. Monitoring System



NS10/NS30 + FMOS Monitoring Software + Communication Module+Protective Cover +Data Cloud

## II. Monitoring System



NS10/NS30 + FMOS Monitoring Software + Communication Module+Protective Cover +Data Cloud

## Cases - Deformation monitoring for a steel factory



↑ Over 100+ columns, over 300+ points need to be monitored.



# Result

点名	本次dN(mm)	本次dE(mm)	本次dZ(mm)	累积dN(mm)	累积dE(mm)	累积dZ(mm)	累积dNE(mm)
C8	-0.286	0.504	0.729	-0.366	0.614	1.769	0.715
C7	-0.037	0.241	0.714	-0.367	0.631	1.954	0.73
C6	-0.108	0.397	0.932	-0.198	0.297	1.172	0.357
C5	-0.237	0.517	0.613	-0.327	0.397	1.273	0.514
C4	-0.095	0.422	1.104	-0.675	0.982	2.094	1.191
C3	-0.299	0.319	0.888	-0.639	0.589	2.208	0.869
C2	-0.09	0.336	0.868	0.08	-0.004	2.638	0.08
C1	-0.677	1.125	1.084	-0.947	0.945	0.514	1.337
B10	-0.46	0.707	1.408	-0.19	0.267	2.798	0.328
B9	-0.229	0.379	1.945	-0.819	0.959	2.505	1.261
B8	-0.41	0.681	1.457	0.17	0.011	3.807	0.171
B7	-0.631	0.527	0.464	-0.121	-0.233	1.044	0.263
B6	-1.265	1.853	2.355	-0.045	0.293	3.655	0.297
B5	-0.962	1.332	2.424	-0.442	0.642	4.754	0.779
B4	-0.655	1.143	2.267	-1.235	1.533	2.897	1.968
B3	-0.475	0.819	2.368	-0.265	0.469	4.228	0.539
A3	0	0	0.003	0	0	0.003	0
269399	-0.015	0.034	0.058	-0.125	-0.066	0.118	0.141
A2	0	0	-0.001	0	0	-0.001	0
B2	-0.068	0.077	0.219	-0.188	0.177	0.449	0.258
B1	-0.084	0.177	0.118	-0.094	-0.063	0.458	0.113
C10	-0.108	0.051	0.159	-0.128	-0.009	0.699	0.128
C9	-0.112	0.193	0.032	-0.442	0.223	0.502	0.495

■ Horizontal accuracy 1mm, Vertical accuracy 2mm



# MACHINE CONTROL

### III. Machine Control - 3D Paving System

- **Working Mode:** Use APR LockNTrack to tracking and measure the moving prisms.
- Calculate and compare the coordinates of the contact points and the road surface, to guide the paver lift up or down.



### III. Machine Control - Auto Painting

Lock and track the painting machine with real-time coordinates.







**PART 02**

**N1**

**TOTAL STATION**

# HARDWARE



- 2", 2+2ppm
- 1000m Non-Prism Range
- EDM Trigger Key
- **5.5 Inch** Color Touchscreen
- **Android 11.0** O.S
- Support Bluetooth, USB-Type C, SIM Card, TF Card



# What's NEW?



N1 (2019)



N1 (2022)

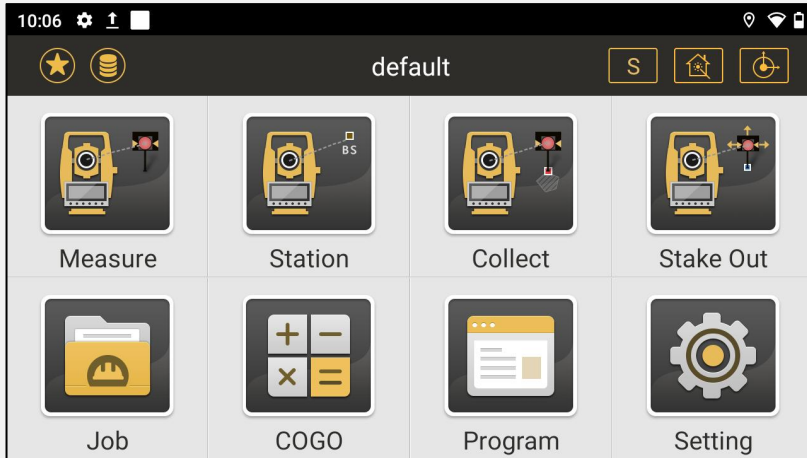


N1 (2023)

	N1 (2019)	N1 (2022)	N1 (2023)
Display Unit	5.0 Inches, 13 Numeric Keys, 4 Functional Keys		5.5 Inches
O.S		Android 6.0	Android 11.0
Data Transfer	RS-232, USB Type C, TF Card, Bluetooth	USB Type C, TF Card, Bluetooth	USB Type C, TF Card (insert), Bluetooth
Network		Micro Sim, WLAN	Micro Sim (insert), WLAN
Other Differences		Handle, Horizontal Tangent Screw, EDM Trigger Key, Battery	

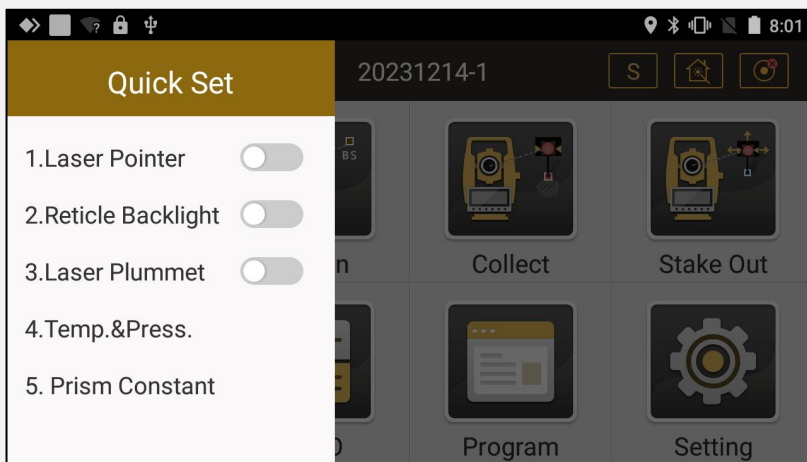


# Powerful Onborad Program - Digitizing Your Work with N1



## Iconic User Interface

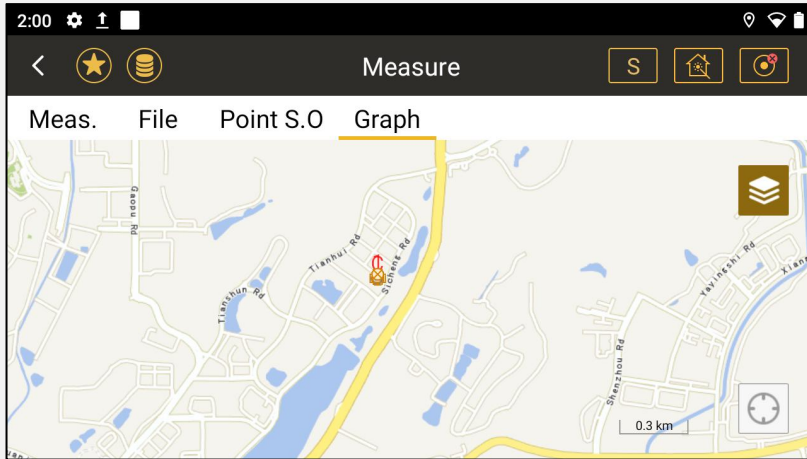
It provides a better understanding for each functions.



## Star Key

Quick Access to the settings

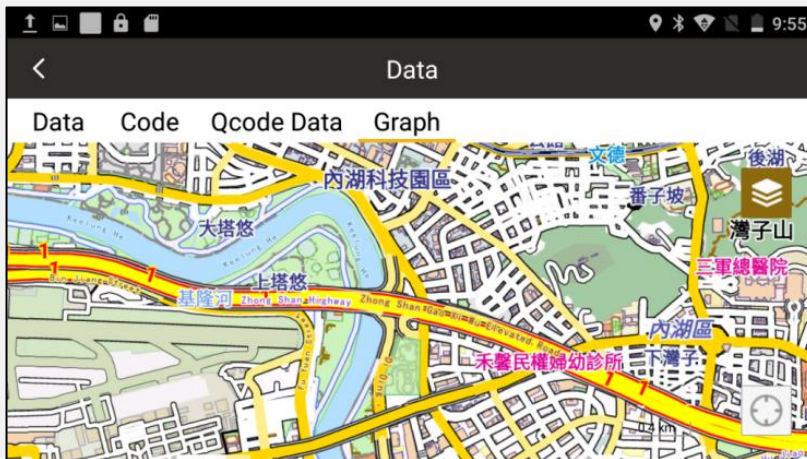
# Powerful Onborad Program - Digitizing Your Work with N1



## Map-Driven Workflow

It offers a graphical display of the survey elements with base map

→ OSM map, auto loaded



→ Manual loaded

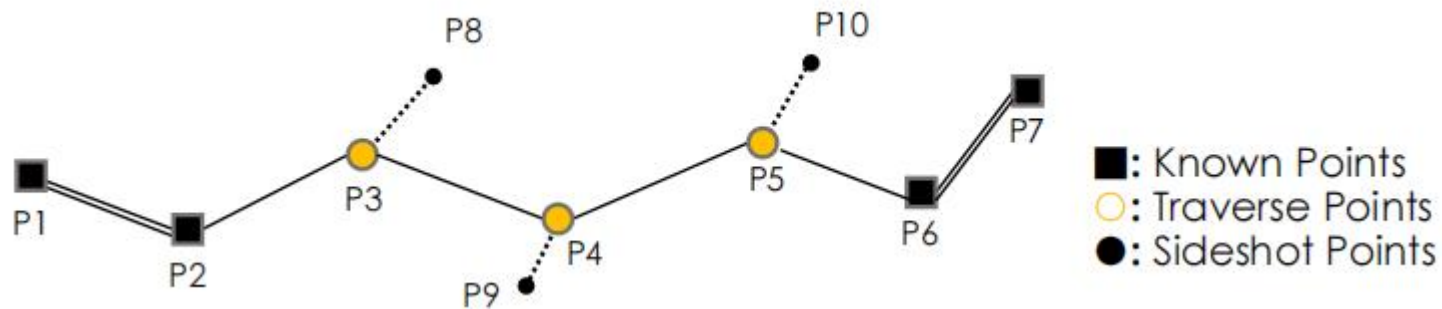
# Powerful Onborad Program - Digitizing Your Work with N1

Station	Target	H disk reading	One way angle value
Left	bs	249°20'37" Meas	075°43'35"
	stn2	325°04'11" Meas	
Right	stn2	145°16'42" Meas	074°27'18"
	bs	070°49'24" Meas	

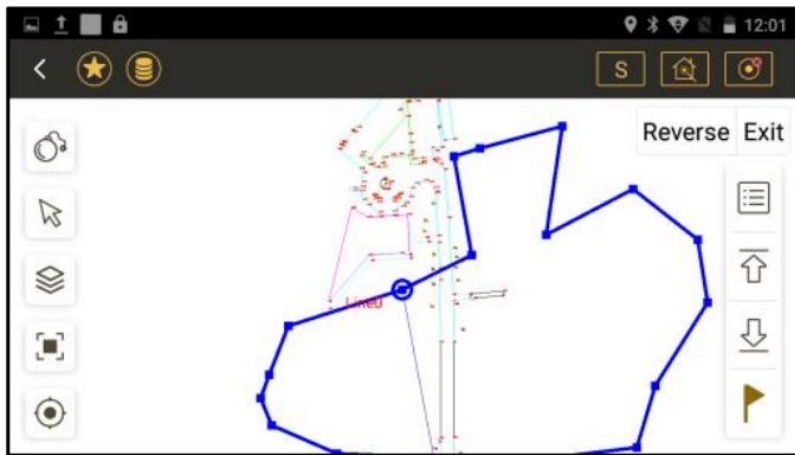
## Traverse

Traverse is used to establish a control point system when you have to work further than the first orientation or when the target is not visible.

Measure - Adjust - Result

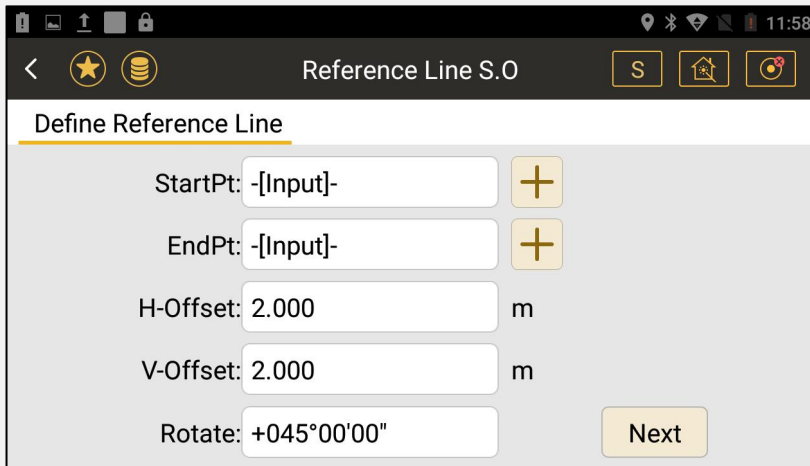


# Powerful Onboard Program - Digitizing Your Work with N1



## CAD Stake Out

The only thing you need to do is import the CAD files to your N1 total station.



## Reference Line

Reference Line application can be used to stake out or measure points relative to a line.



**PART 03**

**new** **N40**

**TOTAL STATION**

# HARDWARE



- 1" / 2" optional
- 1500m Non-Prism Range
- 4.0 Inch Color Touchscreen
- EDM Trigger Key
- Camera & Guide Light optional
- Auto Instrument Height optional



# What's NEW?

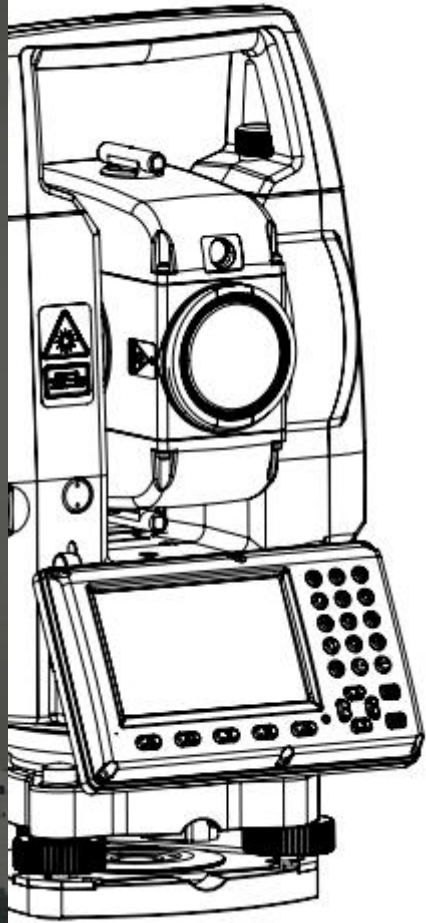


N40

N40 (2023 Version)

Display Unit	3.0 Inches, 30 Keys (Functional + Alphabets & Numeric)	4.0 Inches, 26 Keys (Functional + Numeric)
O.S	-	Android*
Data Transfer	USB Flash Disk, Mini USB, SD Card, Bluetooth, RS-232	USB Flash Disk, Micro USB, SIM Card, Bluetooth, RS-232
Network	Not available	Sim Card, WLAN

# What's NEW?



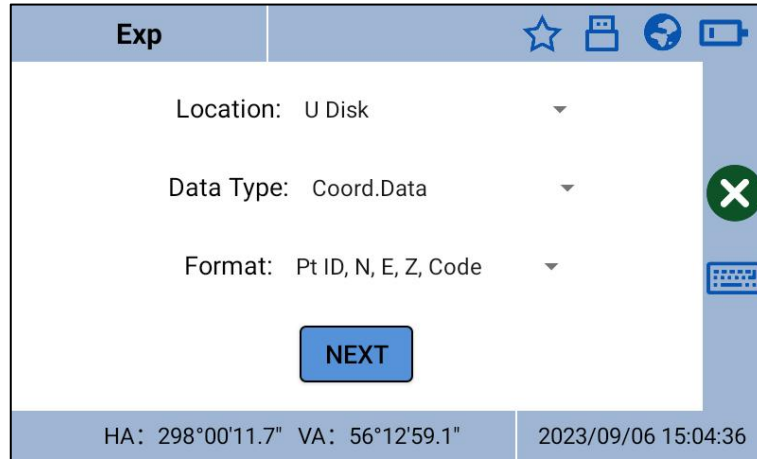
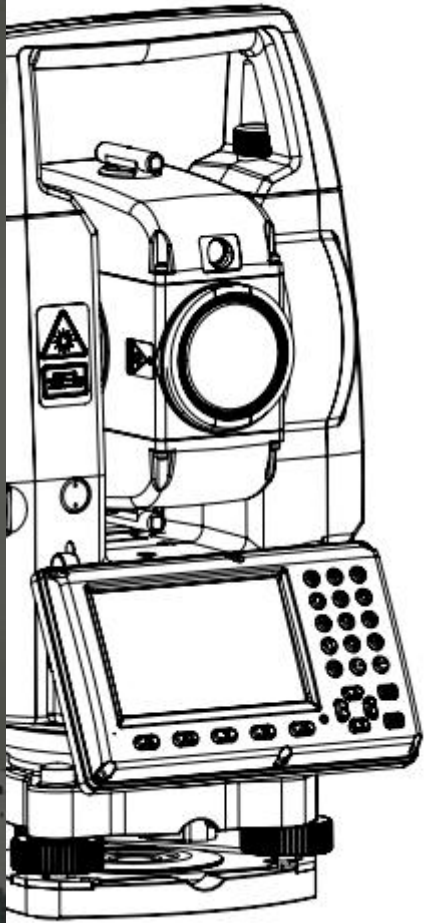
SOUTH		Coordinates	
Job	Meas	1 New	V 46°51'10"
Data	STN	2 Open	HR 356°08'58"
COGO	Collect	3 Delete	N
Setting	StakeOut	4 Save as	E
Adjust	Road	5 Recycle Bin	Z
14:55		16:13	

SOUTH		Coordinate	
Job	Program	Ang. V : 313°55'34.9"	MEAS
Data	Station	HR : 338°10'08.5"	R.HT
COGO	Collect	Dist N : -1.343m	STN
Set	S.O	E : 0.538m	MODE
Adjust	Help	Coord Z : 1.394m	I.HT
HA: 302°37'42.2" VA: 56°11'31.4"		HA: 338°10'08.5" VA: 313°55'34.9" 2023/09/12 11:13:01	

- Logo
- Modular and iconic interface
- Quick Access Icons
- Status Bar (HA/VA)
- Time and Date
- Keyboard

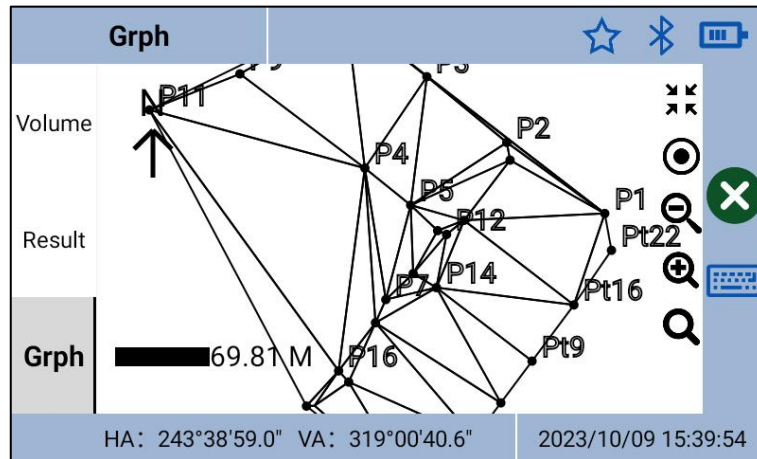


# Brand-New Onboard Program on N40



Export by Internal, by USB Flash Disk, By Bluetooth and by Mails

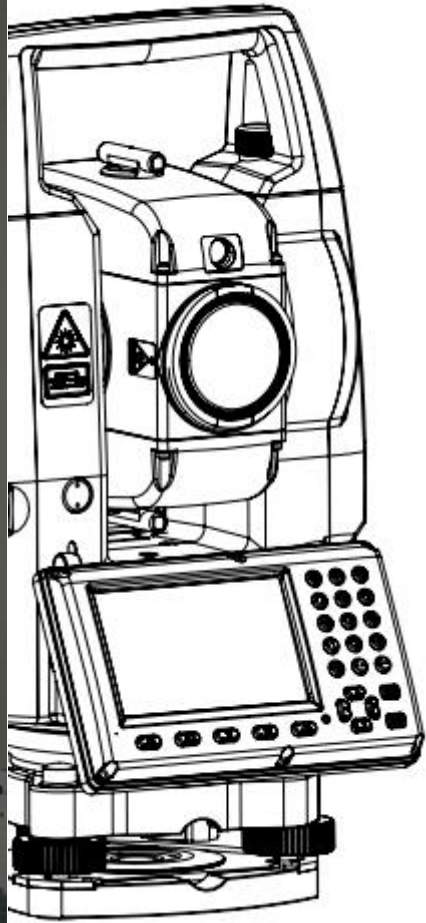
Send the data to your partner immediately when your job is just finished on site.



Graphic Displays

- Draw a simple graph when collecting points
- COGO program with graphic display

# Brand-New Onboard Program on N40



**Verticality** ☆ 🔗 🔋

Colu..

Top Center Coord  + ✕

Bottom Center Coord  + ⌨

Data

CALC

HA: 304°59'26.5" VA: 38°12'27.6" 2023/09/26 14:51:57

**Verticality** ☆ 🔗 🔋

Column

Bottom Center	
N	100.000 m
E	106.584 m
Z	10.000 m
Top Center Coord	
N	100.000 m
E	105.000 m
Z	0.000 m
VD	10.000 m
Offset	1.584 m
Verticality	0.1584

Data

HA: 306°37'46.2" VA: 38°12'00.2" 2023/09/26 14:53:23

→ Verticality

**Flatness** ☆ 🌐 🔋

Calc

Pt A  +

Pt B  +

Pt C  +

Result

Offset Pt C  +

CALC

HA: 79°49'06.6" VA: 61°56'26.4" 2023/10/12 10:52:21

**Flatness** ☆ 🌐 🔋

Calc

Pt to Plane 40.825 m

Resu..

HA: 79°49'06.7" VA: 61°56'26.4" 2023/10/12 10:52:17

→ Flatness

**3 Pts Circle** ☆ 🌐 🔋

Calc

Pt A  +

Pt B  +

Pt C  +

Result

CALC

HA: 67°35'15.2" VA: 327°15'02.1" 2023/10/12 11:07:22

**3 Pts Circle** ☆ 🌐 🔋

PtID

Calc

Code  + SAVE

Result

N	0.3586 m
E	0.4880 m
Z	1.2074 m
R	1.471 m

HA: 67°35'15.8" VA: 327°15'02.2" 2023/10/12 11:07:27

→ 3 Points Circle



**PART 04**  
**OTHER THINGS WE  
HAVE...**

# FAMILY TREE

For Professional  
NaviStation, N1, A1

Robotic TS  
NS10, NS30

For Advanced  
N3, N40, N7/N9

For Constructor  
NTS-330, N6+, N8





THANKS FOR  
WATCHING