STONEX

PRODUCT CATALOG
2025

stonex.it

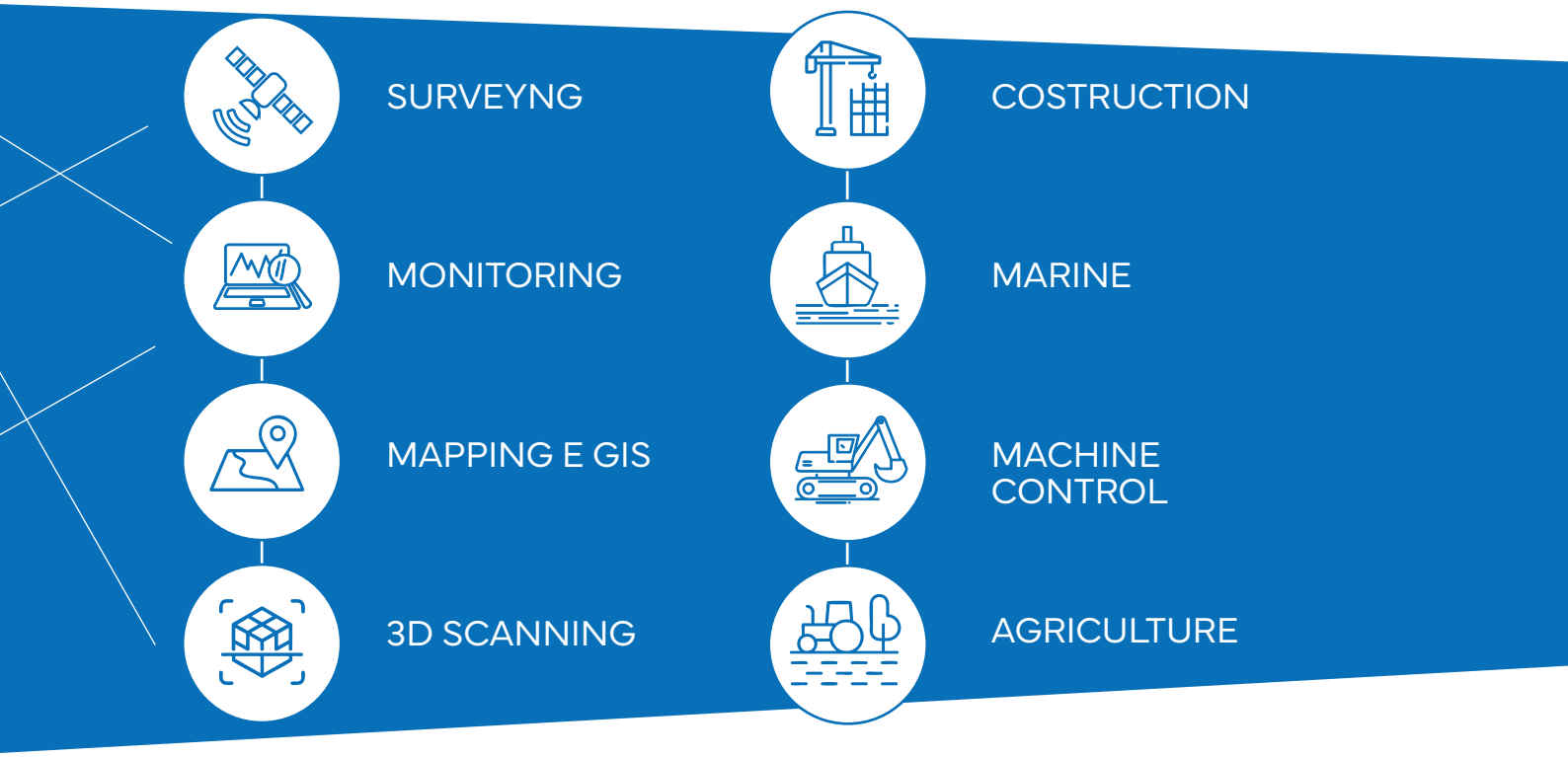
STONEX

PRODUCT CATALOG
2025

ABOUT

THE COMPANY

FIELDS OF APPLICATION



EUROPE HQ

Stonex is an Italian company, based near Milan. With over 200 qualified distributors worldwide, it is one of the world's leading companies in measurement and survey.

Stonex products combine the most advanced technologies with a practical design to simplify your daily work. Everyone's needs are met thanks to a team that is able to handle any pre-and post-sales request.

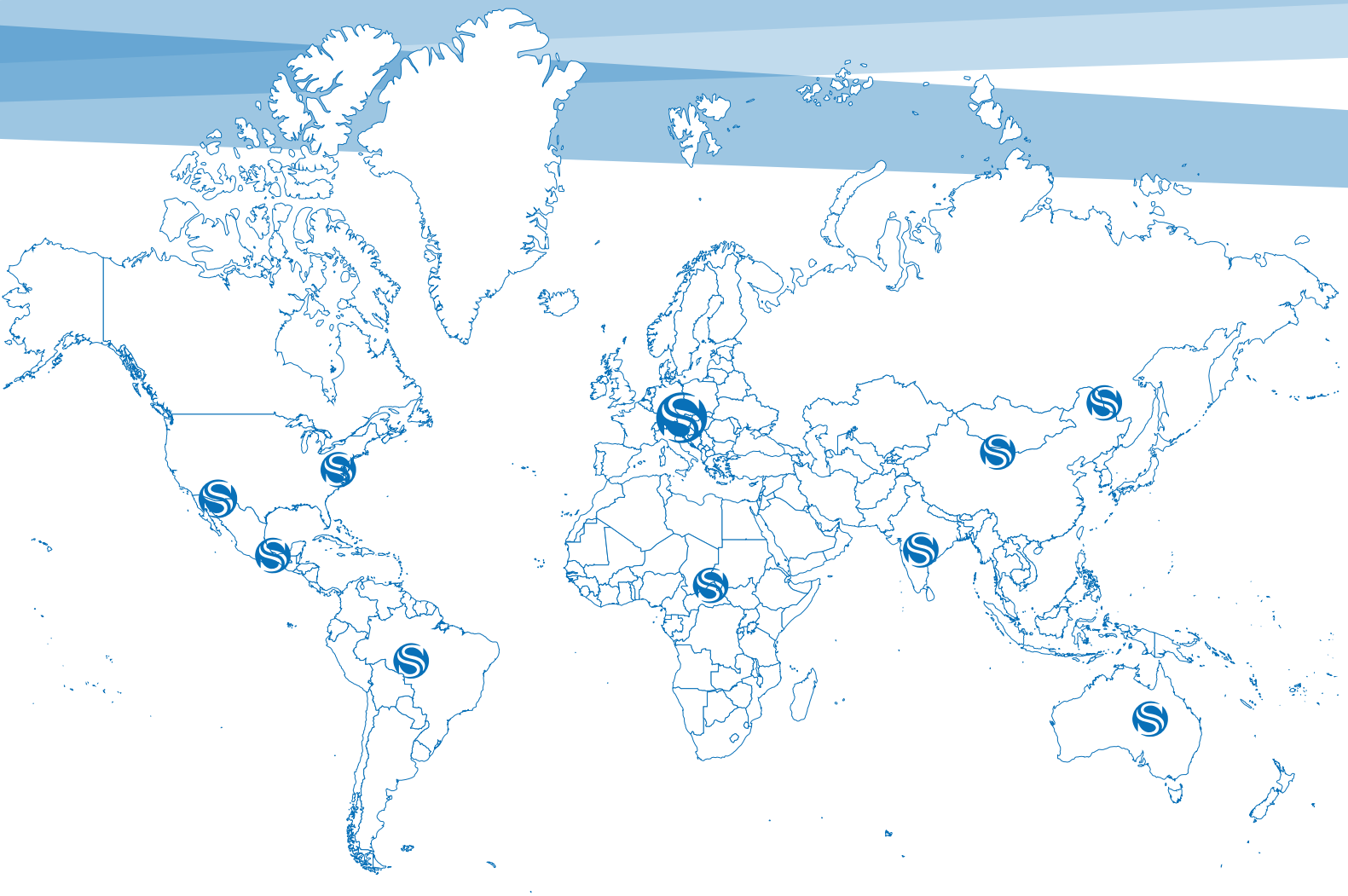
USA HQ

The Stonex Headquarters in North America is located in Concord, New Hampshire.
Since its opening in 2019 Stonex USA has grown more and more thanks to the vast network of distributors throughout the territory.

With the USA Headquarters as a base, Stonex has the opportunity to be closer to the needs of its American customers through greater territorial coverage and strengthening of global business.

A WORLDWIDE NETWORK OF

PROFESSIONAL DEALERS



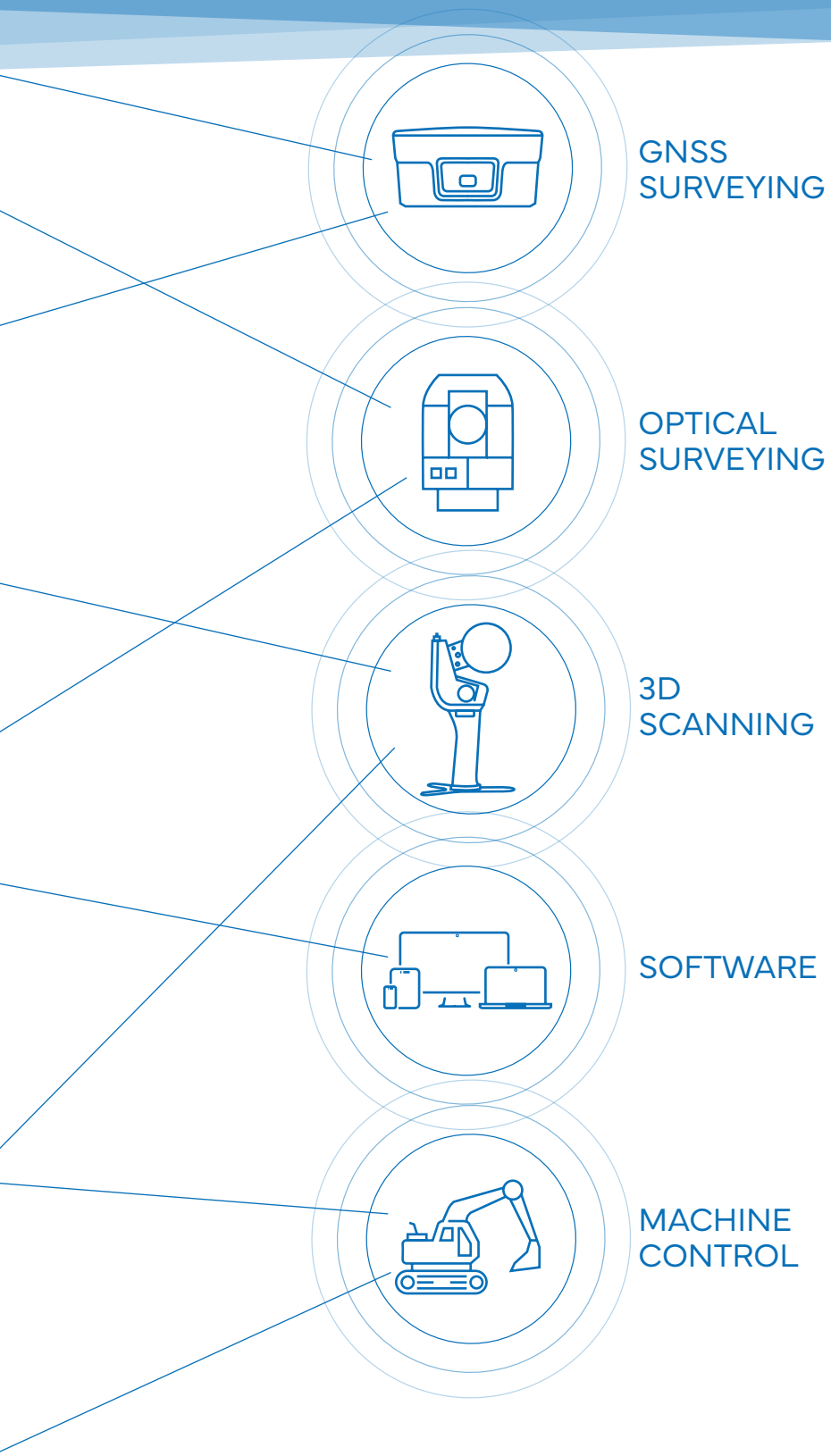
FOLLOW US

ONE PLACE
ONE ACCOUNT
ALL STONEX WORLD

MY STONEX

OUR

PRODUCTS



GNSS SURVEYING

OPTICAL SURVEYING

3D SCANNING

SOFTWARE

MACHINE CONTROL

A STONEX SOLUTION FOR EACH GEOSPATIAL NEED

SURVEYING
GNSS I GIS

SURVEYING
TOTAL STATIONS

SOFTWARE
FIELD I GIS I 3D

STONEX
SOLUTIONS

3D SCANNING
HANDHELD I TERRESTRIAL

MACHINE CONTROL
EARTHMOVING I DRILLING & MINING
PILING I AGRICULTURE I MARINE SYSTEMS

CONTENTS

GNSS SURVEYING

SOFTWARE

OPTICAL SURVEYING

3D SOLUTIONS

MACHINE CONTROL

SURVEY GNSS

POWERFUL SOLUTIONS FOR ALL SURVEYING JOBS

STONEX offers a broad range of GNSS receivers to meet your needs. Stonex receivers combine the world's most advanced technology with practical, integrated designs to simplify your daily work.

Designed to meet the requirements of professional surveyors, Stonex's GNSS portfolio includes a full range of options, allowing users to choose the best solution for their individual needs.

S999

S850

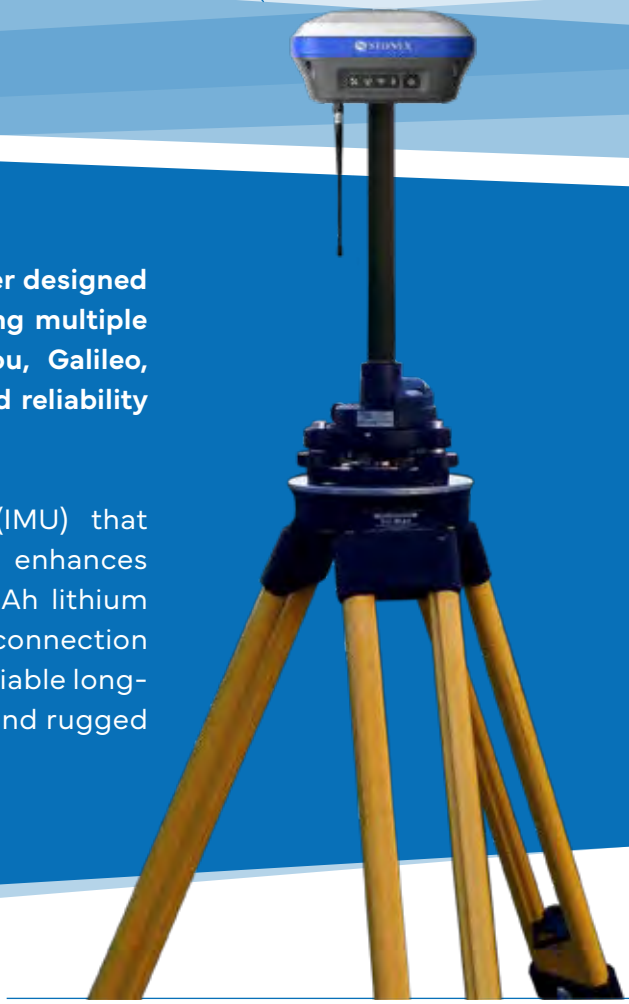
S880

S900+

S990+

COMPACT GNSS SYSTEM

S850



The Stonex S850 is a compact and advanced GNSS receiver designed for precision surveying in various environments. Supporting multiple satellite constellations including GPS, GLONASS, BeiDou, Galileo, QZSS, and IRNSS this device ensures optimal accuracy and reliability for all surveying needs.

Featuring an integrated Inertial Measurement Unit (IMU) that compensates for pole tilt up to 60 degrees, the S850 enhances surveying efficiency. It is powered by a robust 13400 mAh lithium battery for extended field use and includes a USB Type-C connection for quick recharging. With a high-powered 2W radio for reliable long-distance data transmission, the S850 is ideal for remote and rugged applications.

MULTIPLE CONSTELLATIONS

GPS, GLONASS, BEIDOU, GALILEO, QZSS, IRNSS and PPP correction services (HAS and B2b).

IMU TECHNOLOGY

The integrated IMU allows the receiver to automatically compensate for pole tilt up to 60 degrees, boosting surveying speed and efficiency.

HIGH CAPACITY BATTERY AND USB TYPE-C

S850 is delivered with a large capacity lithium battery 13400 mAh.

RADIO

The S850 GNSS receiver features a high-powered 2W radio that ensures reliable data transmission over long distances, making it an ideal choice for remote or rugged applications requiring robust wireless connectivity.

RUGGED RTK

S850 is a durable and waterproof high-precision positioning solution designed for challenging outdoor environments.

S850

WHY CHOOSE THE S850 GNSS RECEIVER?

The S850 GNSS Receiver is the ideal choice for a variety of professionals and applications:

COST-CONSCIOUS PROFESSIONALS

If you're looking for a high-performance GNSS solution that meets your specific needs without exceeding your budget, the S850 offers exceptional value without compromising on quality.

BASE STATION USERS

For those who require a reliable base station, the S850 ensures seamless radio connectivity to your rover, facilitating efficient data transmission and enhancing operational effectiveness.

DRONE INTEGRATION

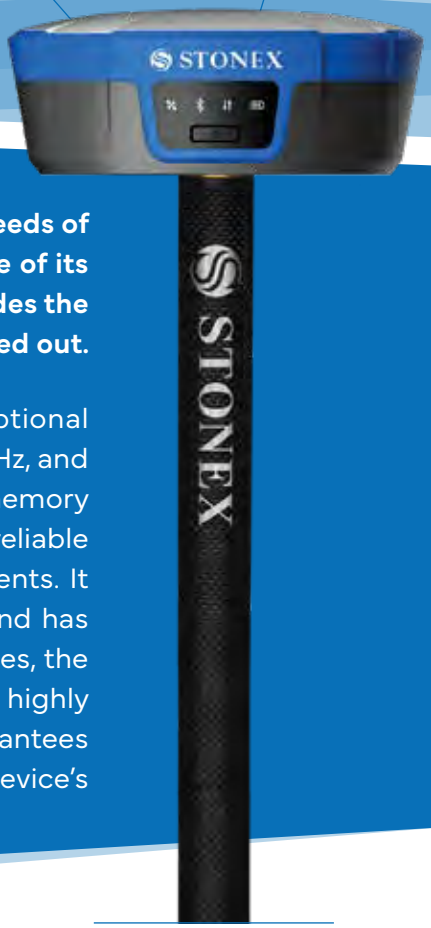
The S850 is designed for easy integration with drones, making it perfect for users who want to enhance their aerial surveying and mapping capabilities.

CONSTRUCTION TEAMS

Built to withstand tough conditions, the S850 is a durable GNSS system that maintains precise positioning accuracy, making it an excellent choice for construction teams operating in challenging environments.

VISUAL STAKEOUT

S880



The S880 is a versatile and advanced GNSS receiver that caters to the needs of various applications, including surveying, mapping, and navigation. One of its key features is the integration of a bottom stakeout camera, which provides the operator with real-time visual assistance to identify the point to be staked out.

The S880 incorporates cutting-edge technology to deliver exceptional performance. It boasts a 2W radio transceiver, a positioning speed of 20Hz, and an integrated IMU, ensuring precise position updates. The device's 8GB memory capacity resolves any storage issues, while the 4G modem ensures reliable connectivity. The S880 is designed to withstand challenging environments. It can function perfectly in temperatures ranging from -40°C to +65°C and has an IP68 rating for water and dust resistance. Despite its robust capabilities, the S880 maintains a lightweight design of approximately 730g, making it highly portable without compromising resistance. The long-lasting battery guarantees uninterrupted operation for at least 10 hours, further enhancing the device's versatility and convenience.

MULTIPLE CONSTELLATIONS

S880 can track and utilize signals from multiple satellite constellations, such as GPS, Galileo, GLONASS, BeiDou, QZSS and IRNSS.

IMU TECHNOLOGY

The integrated IMU allows the receiver to automatically compensate for pole tilt up to 60 degrees, boosting surveying speed and efficiency.

SMALL & LIGHTWEIGHT

The small and lightweight design of the S880 makes it highly portable and easy to integrate into a variety of surveying, mapping, and navigation applications.

2W RADIO

The S880 GNSS receiver features a high-powered 2W radio that ensures reliable data transmission over long distances, making it an ideal choice for remote or rugged applications requiring robust wireless connectivity.

RUGGED RTK GNSS With IP68

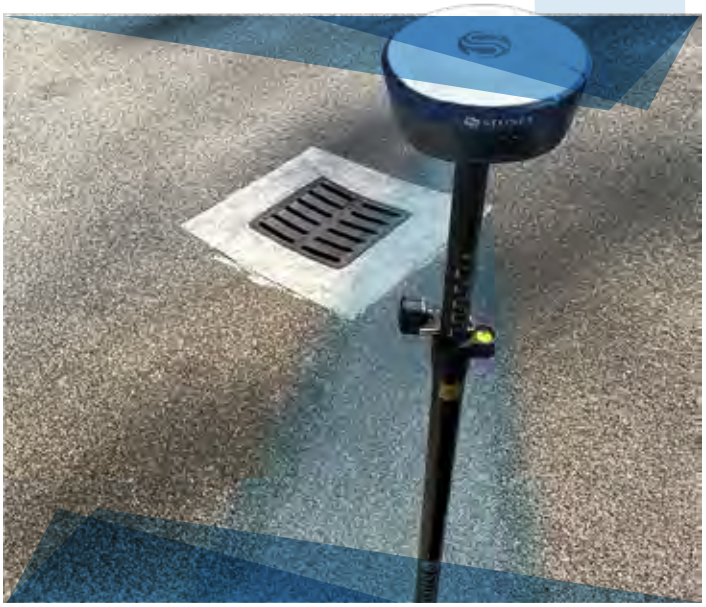
S880 is a durable and waterproof high-precision positioning solution designed for challenging outdoor environments.

S880 AR

STAKEOUT CAMERA IN CUBE-A

The S880 is equipped with a camera that captures the real-world scene. This camera can be used for user-activatable AR stakeout, when needed. The camera provides real-scene navigation, displaying the distance to the target point. Cube-a's interface uses visual tools to guide the surveyor to the exact stake position. There is a graphic element that indicates the direction of the point and the distance. The graphic elements vary depending on the distance that the operator has from the point to be staked out.

cube-a



POWERFUL PRECISION PERFORMANCE

S900+

Stonex S900+ is equipped with a high-performance GNSS board with 1408 channels and can support multiple satellite constellations: GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS.

Through the 4G GSM modem, a fast Internet connection is guaranteed for receiving correction data and carry out precise and accurate surveys. In the incredibly compact design, Bluetooth and Wi-Fi modules allow for always reliable data flow to the controller, while the integrated UHF TX/RX radio makes the S900+ the perfect system for a GNSS Base + Rover. The S900+ is also equipped with optional IMU technology. Quick initialization, tilt up to 60° and corrected coordinates of a point with a single click.

MULTIPLE CONSTELLATIONS

Stonex S900+ with its 1408 channels, provides an excellent on-board real-time navigation solution with high accuracy. All GNSS signals (GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS) are included, no additional cost.

4G MODEM

S900+ has an internal 4G modem that operates with all world signals, a fast internet connection is guaranteed.

IMU TECHNOLOGY

IMU technology is available for this model, with quick initialization the operator can take advantage of all the precision and efficiency of this system.

SMART BATTERIES

The dual slot for two smart hot swappable batteries gives you up to 12 hours of battery life. The power level can be checked and seen on the controller or directly on a led bar on the battery.

RADIO (Optional)

An activation code can enable the integrated UHF on the S900+, with a range of up to 10 km under optimal conditions.

S900+

WHY TO CHOOSE S900+?

If long-lasting in field is what is needed, this GNSS is the right choice. Not only are the batteries extremely capacious but they are also hot-swappable. The batteries available in this model are lithium batteries, and their total operating time can be up to 12 hours.
S900+ GNSS receivers have the IMU System that allows tilted measurement (TILT). Thanks to the IMU technology, the difficult and inaccessible points such as the edges of buildings, are no longer a problem. IMU makes every measurement reliable, in both survey and stake out jobs. Making the acquisition of points extremely fast, up to 40% of fieldwork time can be saved!

What are the performances of the S900+ with IMU?

FAST INITIALIZATION
UP TO 60° INCLINATION
FAST AND PRECISE SURVEY
NO PROBLEM OF ELECTROMAGNETIC DISTURBANCES

HIGH PERFORMANCE WITH IMU

S990+

The Stonex S990+ is a 1408-channel GNSS receiver that features characteristics that improve survey performance in the field. The S990+ receiver is equipped with all major connectivity features, including Bluetooth, Wi-Fi, UHF radio, and a 4G modem.

The internal 10,200mAh battery allows for up to 12 hours of operation and can be recharged via a USB Type-C connector. The IMU system supports tilted measurement (TILT) with quick initialization, enabling the operator to obtain fast and accurate surveys. The color touch display and Web UI provide a quick and easy way to get complete control of the receiver. The 1PPS port is an additional advantage available on this GNSS receiver because it can be applied to scenarios that require precise timing to ensure that multiple facilities work together or to scenarios that use the same parameters for the integration of systems based on precise timing.

MULTIPLE CONSTELLATIONS

The Stonex S990+ is a 1408-channel GNSS receiver that provides an excellent on-board real-time navigation solution with high accuracy. All GNSS signals, including GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS, are included at no additional cost.

IMU TECHNOLOGY

The Stonex S990+ is equipped with IMU technology that allows for fast initialization and accurate measurements with an inclination up to 60°.

DOUBLE FREQUENCY RADIO (Optional)

The Stonex S990+ is equipped with an integrated UHF double frequency radio that supports 410-470MHz and 902.4-928MHz, meeting the needs of each country.

4G MODEM

The Stonex S990+ is equipped with an internal 4G modem that operates with all world signals, ensuring a fast internet connection.

COLOR TOUCH DISPLAY

The Stonex S990+ is equipped with a color touch display that makes it easy to manage the most important functions.

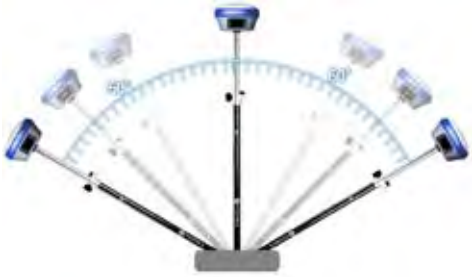
S990+

WHY CHOOSE THE S990+?

This GNSS device is chosen for its precision and accuracy, thanks to its built-in antenna with high gain. This feature makes the results obtained in the field the best among similar-range products. The instrument's capabilities are mainly observed in the performance measurement of RTK accuracy values. Additionally, it has a 1PPS port that can be used in applications requiring precise timing to ensure joint operation of multiple instruments or using the same parameters for integration of systems based on precise timing.

What are the performances of the S990+ with IMU?

NO PROBLEM OF ELECTROMAGNETIC DISTURBANCES
FAST INITIALIZATION
UP TO 60° INCLINATION
FAST AND PRECISE SURVEY



DUAL CAMERA

S999

S999, equipped with 1408 multi-constellation channels, guarantees precise and reliable positioning by supporting all GNSS signals, including GPS, GLONASS, Galileo, QZSS, IRNSS, and BeiDou.

It features an integrated 4G modem and a 1-Watt UHF radio operating in the 410-470 MHz and 902.4-928 MHz frequency ranges, ensuring constant connectivity and an extended working range. The advanced IMU technology enables tilted measurements of up to 60° with rapid initialization, enhancing field productivity by as much as 40%. The S999 receiver is also equipped with two cameras: one for stakeout and one for photogrammetric applications, expanding the system's usage possibilities.

MULTIPLE CONSTELLATIONS

S999 can track and utilize signals from multiple satellite constellations, such as GPS, GLONASS, Galileo, QZSS, IRNSS, and BeiDou.

IMU TECHNOLOGY

The integrated IMU allows the receiver to automatically compensate for pole tilt up to 60 degrees, boosting surveying speed and efficiency.

CAMERAS

S999 receiver is equipped with two cameras: one for stakeout and one for photogrammetric applications.

DOUBLE FREQUENCY RADIO

S999 GNSS receiver has integrated UHF double frequency radio, 410-470MHz and 902.4-928MHz.

RUGGED RTK GNSS WITH IP68

S999 is a durable and IP68 waterproof high-precision positioning solution designed for challenging outdoor environments.

S999

CHANGE THE WAY YOU MEASURE!

VISUAL STAKE OUT

The front camera simplifies point staking by clearly showing the surrounding area, helping you accurately identify the point of interest. As you get closer, it automatically switches to the lower camera for precise framing, ensuring reliable measurements. Cube-a's interface uses visual aids to guide surveyors to the exact staking location. A graphical display indicates both the direction and distance to the point, adjusting as the operator approaches.

MEASURING INACCESSIBLE POINTS

The system allows you to record a video of the area you want to measure. The program extracts several photos that the operator can use to align the points to be measured. Cube-a then immediately provides the calculated coordinates, which can be easily recorded. Measurements can be taken offline as well.

ONLINE POINT CLOUD AND MESH

The acquired video of an area can be exported and uploaded to photogrammetry software (Cube-3D) to generate a three-dimensional model (point cloud and mesh). Alternatively, it can be sent directly from Cube-a to the Stonex VScloud for semi-real-time data processing, resulting in a 3D model (point cloud and mesh). The survey can then be visualized and managed directly on the Android controller within Cube-a (v. 7).

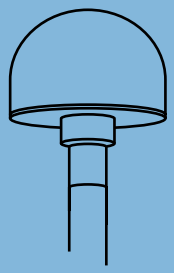
GNSS RECEIVERS
PRODUCT COMPARISON

		S850	S880
CHANNELS		1408	1408
SIGNALS TRACKING	GPS	√	√
	GLONASS	√	√
	BEIDOU	√	√
	GALILEO	√	√
	OZSS	√	√
	IRNSS	√	√
	SBAS	√	√
PPP (B2B PPP, HAS)		√	√
POSITION RATE HZ (UP TO)		20	20
MEMORY		8GB	8GB
BLUETOOTH		√	√
WI-FI		√	√
WEB USER INTERFACE		√	√
RADIO UHF		2 Watt	2 Watt
CAMERA STAKE-OUT		NO	√
CAMERA VISUAL SURVEY		NO	NO
GSM 4G		NO	√
IMU		√	√
1PPS		NO	NO
BATTERY		Integrated	Integrated
WEIGHT		0.98 Kg	0.73 Kg
OPERATING TEMPERATURE		-40°C +65°C	-40°C +65°C
PROTECTION CLASS		IP67	IP68

S900+	S990+	S999
1408	1408	1408
√	√	√
√	√	√
√	√	√
√	√	√
√	√	√
√	√	√
√	√	√
√	√	√
20	20	50
8GB	8GB	32GB
√	√	√
√	√	√
√	√	√
1 Watt	1 Watt	1 Watt
NO	NO	√
NO	NO	√
√	√	√
√	√	√
NO	√	NO
Swappable	Integrated	Integrated
1.30 Kg	1.30 Kg	1.06 Kg
-40°C +65°C	-40°C +65°C	-40°C +65°C
IP67/IP68	IP67	IP68

NETWORK & MONITORING

HIGH QUALITY AND PERFORMANCE GNSS REFERENCE RECEIVERS



STONEX technology for GNSS reference stations and network solutions continues to evolve and meet the rapidly changing demands of GNSS technology. STONEX CORS (Continuously Operating Reference Station) are flexible, adaptable, and offer multiple solutions.

STONEX CORS meet the highest demands for reliability and work in the toughest environments. Professionals put them to work on any type of GNSS applications, from campaign and permanent single base stations to RTK networks, from structural monitoring to offshore positioning, or atmospheric research to seismic studies.

SC650

SC2200

SA1800
3D Choke Ring

SA1100
Mini Choke Ring

GNSS
REFERENCE STATION

CORS receivers can be used for either the start of a new infrastructure network or for an integration into existing networks. It is possible to use CORS receivers as a rover for special applications and with several software solutions according to the customer's request.

The Stonex CORS are GNSS multi-frequency receivers designed to be used either as stand-alone Reference Stations or as part of a GNSS stations' infrastructure. Stonex CORS are typically used as NTRIP server and they are the ultimate equipment for all those jobs that are based on GNSS data acquisition and processing; moreover, the stations also support the recording of raw data with a high frequency of acquisition.

SC650

SC2200

cube-cors

Stonex CORS can output data in proprietary format and all data in standard format (NMEA and RTCM) to be compatible with all types of applications, especially for corrections distribution. Cube-cors is the software designed for remote management of Stonex CORS. With this software, customers can check the status, change parameters and configuration for all receivers in the field. With Cube-cors you can also update the firmware and manage the recording session with a back-up procedure to simplify the management of the receiver infrastructure.

GNSS
ANTENNAS

HIGH PRECISION ANTENNAS FOR ALL SURVEY WORKS

The Stonex family of GNSS antennas are designed to enhance and support the performance of Stonex receivers. The antennas receive GNSS multi-constellation signals.

Each antenna is built to withstand various application and surveying needs. The Stonex antennas can be used in land survey, marine survey, landslide monitoring, infrastructure monitoring (such as dams and bridges) and agriculture applications. They have high gain and wide beam width to ensure the signal receiving performance of satellite at low elevation angle. The phase center of these antennas remains constant as the azimuth and elevation angle of the satellites change. Signal reception is unaffected by the rotation of the antenna or satellite elevation, so placement and installation of the antenna can be completed with ease.

SA1800
3D Choke Ring

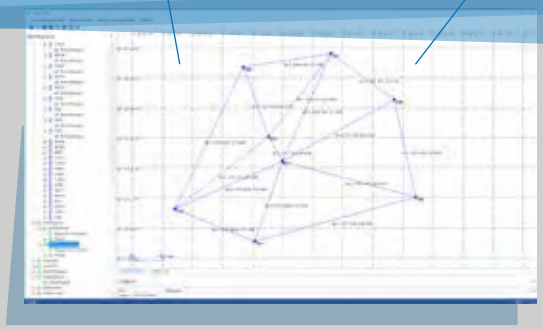
SA1500
2D Choke Ring

SA1100
Mini Choke Ring

SA45
Geodetic Antenna

SA85
Geodetic Antenna

cube-nrtk



Cube-nrtk is a GNSS software designed for managing GNSS station networks. Utilizing data from reference stations in real-time, it calculates a network solution to provide users with accurate positioning. The software offers an intuitive graphical interface for real-time monitoring of network performance and user activity. It efficiently manages the four major constellations: GPS, GLONASS, Galileo, and BeiDou, across three frequencies.

Additionally, it supports various network solutions such as Virtual Reference Station (VRS), Master Auxiliary Concept (MAC), and Flächen Korrektur Parameter (FKP). Cube-nrtk is offered in two versions, Cube-nrtk BASE and Cube-nrtk FULL, allowing users to exploit the software modules according to their specific needs. In particular Cube-nrtk BASE offers all the needed modules to set up a caster solution with single base and nearest corrections, while Cube-nrtk FULL includes all the software modules for the complete network solution. At any moment, it is possible to upgrade from the BASE version to the FULL version.

cube-nrtk

Main Modules

The Cube-nrtk software, in its FULL version, consists of several different modules.
The most important ones are:

GNSSRECEIVERS
A module that enables connection with all receivers within the network.

SSDATAQC
This module allows for a quality check of the data received from the stations. It provides useful information such as the ratio between acquired observations and possible observations, cycle slips, and the mean multipath on the different frequencies acquired.

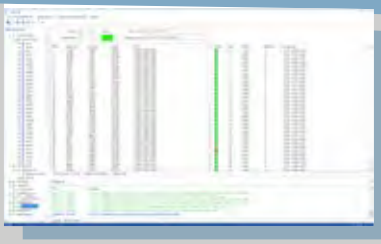
GNSSSUBNET
The main component responsible for network definition and calculation of differential corrections.

GNSSCASTER
A module for distributing differential corrections to users.

STARTKMONITOR
In this module, the coordinates of reference stations are calculated in real-time, and any deviations from the reference coordinates set by the user are displayed.

All those modules can be accessed by the system administrator through both a desktop interface and a Web-UI. Cube-nrtk adopts a distributed architecture concept which is based on the fact that different modules can be installed on multiple servers. This ensures high scalability and the ability to support very large networks and high numbers of concurrent users. Users can apply for registration to the service, and once approved, they can request data from physical or virtual stations. The manager can monitor the status of the network and user activity in real-time, publish information, and view reports.

Software Configuration and Management



The software is configured through a graphical and intuitive interface in a few simple steps:
SYSTEM CONFIGURATION; caster address and port, data storage, automatic start settings.
STATION CONFIGURATION; connection settings, general information, antenna type, coordinates.
NETWORK CONFIGURATION; composition of one or more sub-nets based on the available stations.

The FULL version includes a web interface through which users can register and later request station RINEX or Virtual RINEX files. Additionally, the software includes an online post-processing service. A solution integrity monitoring system is also included in the software. Specifically, it displays ionospheric activity, analyzes station data quality, and provides real-time results for baselines.

GNSS
TECHNOLOGIES

The software supports the following constellations:

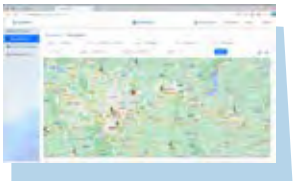
GPS
GLONASS
BEIDOU
GALILEO
The differential corrections provided by the software can be utilized by receivers of any type.

Supported input formats are:

RTCM2
RTCM3
RAW DATA FROM STONEX RECEIVERS AND MAJOR RECEIVER MANUFACTURERS

The software supports the following methods of connecting the receivers:

TCP SERVER
TCP CLIENT
NTRIP CLIENT
SERIAL PORT



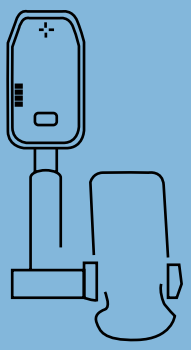
The software supports the following methods of connecting the receivers:

NETWORK SOLUTION: The software supports common differential correction products such as Virtual Reference Station (VRS), Master Auxiliary Concept (MAC), and Flächen Korrektur Parameter (FKP).
REAL STATION: The software provides real-time data from network stations, with the option to automatically receive data from the nearest station (NEAR), chosen by the software based on the rover's position.

Real-time products are distributed through an NTRIP Caster. For users engaged in post-processing, real station data is available in standard RINEX format with sampling down to 1 Hz. Cube-nrtk also provides the option for Virtual RINEX points within the network.

GIS, MOBILE GNSS & CONTROLLERS

SOLUTIONS FOR ACCURATE GEOGRAPHIC DATA FIELD COLLECTION



GIS solutions combine positioning, communications and software to equip the mobile workforce. GIS products greatly improve productivity in hundreds of industries by geo-enabling field workforces with precision, rugged and easy to use products.

Stonex provides a wide variety of applications to the GIS industry. All applications involve the use of innovative STONEX mobile solutions to allow organizations to integrate their field personnel into a bidirectional data flow. Powerful tools for display, query, and selection ensure that field personnel receive the maximum advantage for both the data they already hold and the data they are collecting.

S80G

S590
RTK Rover

S55 & Cube-a

FROM GIS TO TOPOGRAPHY

S590

The S590 is a versatile GNSS receiver featuring a multi-constellation system that supports GPS, GLONASS, BeiDou, Galileo, QZSS, and IRNSS, with advanced PPP correction services available. It delivers centimeter-level accuracy through sophisticated technology that records raw data for post-processing, ensuring precision in demanding applications.

Equipped with cutting-edge IMU technology, the S590 allows for rapid initialization and accurate measurements at inclinations of up to 60 degrees. Connectivity is enhanced with multiple data transmission options, including Wi-Fi, Bluetooth, and external radio. Designed for durability, the S590 boasts an IP67 rating, making it resilient against dust and water exposure, ideal for harsh working environments.

MULTI-CONSTELLATION SYSTEM & PPP

The S590 features a multi-constellation system that includes GPS, GLONASS, BeiDou, Galileo, QZSS, and IRNSS. PPP correction services available (HAS and B2b).

HIGH PRECISION

Centimeter-level accuracy with advanced technology that allows for the recording of raw data for post-processing.

IMU TECHNOLOGY

The S590 is equipped with cutting-edge IMU technology, enabling rapid initialization and accurate measurements even at inclinations of up to 60 degrees.

DATA TRANSMISSION

S590 stays connected with versatile data transmission options including Wi-Fi, Bluetooth, and external radio.

RUGGED RTK

Built to endure, the S590 carries an IP67 rating, ensuring it can withstand harsh conditions such as dust and water exposure.

ROVER RTK WITH RADIO

The S590 is engineered as an RTK rover capable of receiving differential corrections from a network. Additionally, with the Stonex SR02 external radio, it can obtain RTK corrections from a base station that transmits data via UHF radio modem within the 410-470 MHz frequency range. The SR02 radio captures corrections from the base station and relays them to the S590 through Bluetooth using Cube-a technology.

SOLUTION FOR DRONE

The S590 can be used as a base station for drones, significantly enhancing the accuracy and reliability of aerial operations. The base station provides correction data to the drone (rover), enabling centimeter-level precision through Real-Time Kinematic (RTK) positioning. This functionality can be easily activated through the web user interface. The S590 can also be used to measure GCPs to improve the accuracy of the survey framing.

SEAMLESS INTEGRATION WITH SOFTWARE

The S590, thanks to the Cube-connector, a free app for Android devices, can work with popular GIS platforms, enabling users to utilize a wide range of applications for data collection and analysis. With the internal web interface or through the Cube-connector, the receiver can be configured and prepared to receive RTK differential corrections, making it ready to connect to any software for surveying or GIS.

CONTROLLER GNSS RTK

S55G

The S55G is an RTK GNSS receiver controller featuring a three-frequency GNSS board with an impressive 1408 channels, supporting multiple satellite constellations: GPS, GLONASS, BEIDOU, GALILEO, QZSS, and IRNSS. It operates on the Android 12 system, providing a simple and intuitive interface.

The controller is equipped with a remarkable 5.5" TFT display that boasts a resolution of 1920 x 1080 pixels and a brightness of 500 nits, along with a compact QWERTY keyboard. The S55G enables users to work in real-time with RTK corrections while simultaneously recording raw data for post-processing. It also supports the use of an external antenna SA85, which can further enhance the precision of the collected data, allowing users to achieve high accuracy in their field work, approximately < 1 cm.

MULTI-CONSTELLATION SYSTEM

Stonex S55G has integrated a three-frequency GNSS board with 1408 channels and can support multiple satellite constellations: GPS, GLONASS, BEIDOU, GALILEO, QZSS, IRNSS.

ANDROID SYSTEM

The receiver is managed through the Android 12 operating system with a simple and intuitive interface.

HIGH QUALITY DISPLAY

The high quality 5.5" TFT display has a 1920 x 1080 pixels resolution and a brightness of 500 Nits.

RTK AND POST-PROCESSING

S55G can work in real time with RTK corrections and simultaneously record the raw data for post processing.

KEYBOARD & LASER

The QWERTY keyboard features a full-sized layout in a handheld design. Additionally, the controller integrates a laser system.

S55G
WITH LASER POINT

LASER POINT

The integrated laser system of the S55G plays a crucial role in accurately identifying the ground point that is being surveyed or staked out. The laser is red and can be activated and deactivated directly in the acquisition window of the Cube-a software.

DECIMETRIC PRECISION

The S55G is capable of functioning without local RTK corrections by leveraging complimentary PPP correction services based on Galileo (HAS) or BeiDou (B2b), which guarantee decimetric accuracy.

COMPLETE OPERATIONAL CAPABILITY

The S55G is capable of functioning in real-time mode by utilizing RTK corrections sent from a network of GNSS Permanent Stations. Additionally, with the SR02 external radio, the S55G can operate in RTK mode by receiving corrections from a GNSS base receiver through UHF radio. Moreover, the S55G could record raw satellite data, facilitating post-processing in the office.

cube·a

Cube-a is Stonex' solution for professional surveying and GIS, specifically designed for the Android platform. This software includes a variety of features that contribute to its popularity among surveyors, such as an easy-to-use interface, comprehensive support for touch gestures, and multilingual capabilities. Cube-a is a modular application that can be tailored to meet specific needs; users can activate modules for GNSS, Robotic and Classic Total Stations, GIS, and 3D Modeling to address any requirements.

cube·connector

The Cube-connector is an Android application designed to link Android devices with Stonex GNSS receivers. To establish a connection with the GNSS, the Android device must be paired with the receiver via Bluetooth. Once this Bluetooth connection is established, Cube-Connector will substitute the internal device's GNSS readings with those from the Stonex GNSS receiver. With the Stonex S55G, users can effortlessly utilize their GIS/survey software on the Android operating system through Cube-Connector. The application manages all settings and configurations using integrated precision GNSS, making accurate coordinates available for third-party applications.

TABLET GNSS RTK

S80G

The S80G is a GNSS system that offers a range of features and capabilities for efficient data and photo collection in the field. It is a multi-constellation system, meaning it can utilize signals from multiple satellite networks, including GPS, GLONASS, Galileo, and BeiDou.

Furthermore, the S80G is a triple-frequency GNSS system, which means it can receive and process signals from L1, L2, and L3/L5 frequency bands. This triple-frequency capability enhances the system's precision and robustness, particularly in areas with potential signal interference or obstructions. The GNSS board of the S80G is equipped with 1408 channels, allowing it to track multiple satellites simultaneously. The S80G offers RTK (Real-Time Kinematic) and raw data recording capabilities, enabling users to capture high-resolution data and imagery. The S80G system comes with an antenna that is directly connected to the tablet, providing an RTK precision of 2 cm. However, the system also supports the use of an external antenna SA85, which can further enhance the precision of the collected data, allowing users to achieve even greater accuracy in their field work, approximately < 1 cm.

MULTI-CONSTELLATION SYSTEM

Stonex S80G has integrated a triple-frequency GNSS chip with 1408 channels and can support multiple satellite constellations: GPS, GLONASS, BEIDOU, GALILEO, QZSS, IRNSS.

ANDROID SYSTEM

The receiver is managed by the Android 13 operating system with a simple and intuitive interface.

HIGH QUALITY DISPLAY

The high quality 8" display has a resolution of 1280 x 800 pixels with 800 Nits brightness.

RTK AND POST-PROCESSING

S80G can work in real time with RTK corrections and simultaneously record the raw data for post-processing.

RUGGED

Thanks to its IP67 rating, the Stonex S80G can withstand dust, dirt, sand, and water immersions.

HANDHELD GIS AND POLE-MOUNTED RTK RECEIVER

FREE PPP CORRECTION SERVICES

The S80G can operate even without local RTK corrections, utilizing free PPP correction services based on Galileo (HAS) or BeiDou (B2b) that ensure decimetric precision.

FULL OPERATING FUNCTIONALITY

The S80G can operate in real-time mode, utilizing RTK corrections transmitted by a network of GNSS Permanent Stations. The S80G, through the SR02 external radio, can also work in RTK by receiving corrections from a GNSS base receiver via the UHF radio. Additionally, the S80G can record raw data received from satellites, allowing for post-processing in the office.

cube·a

Cube-a is Stonex' solution for professional surveying and GIS, designed and developed for the Android platform. The software offers several features that make it a popular choice for surveyors, including a simple and intuitive user interface, full support for touch gestures, and multilanguage support. Cube-a is a modular application that can be customized as needed; GNSS, Robotic and Classic Total Stations, GIS, and 3D Modelling modules can be enabled to fulfill any customer need.

cube·connector

The Cube-connector is an Android app developed to connect Android devices to Stonex GNSS receivers. To connect to the GNSS, the Android device must be paired with the GNSS by Bluetooth. Once the Bluetooth connection has been established, Cube-connector will replace the GNSS readings from the internal device with the ones from the Stonex GNSS receiver. With the Stonex S80G, any customer can easily use their software for GIS/Survey in the Android operating system through Cube-connector. The application manages all settings and configurations with integrated precision GNSS and makes the correct coordinates available for third-party software.

RUGGED TABLETS AND CONTROLLERS

Android
S80, UT12P & UT56

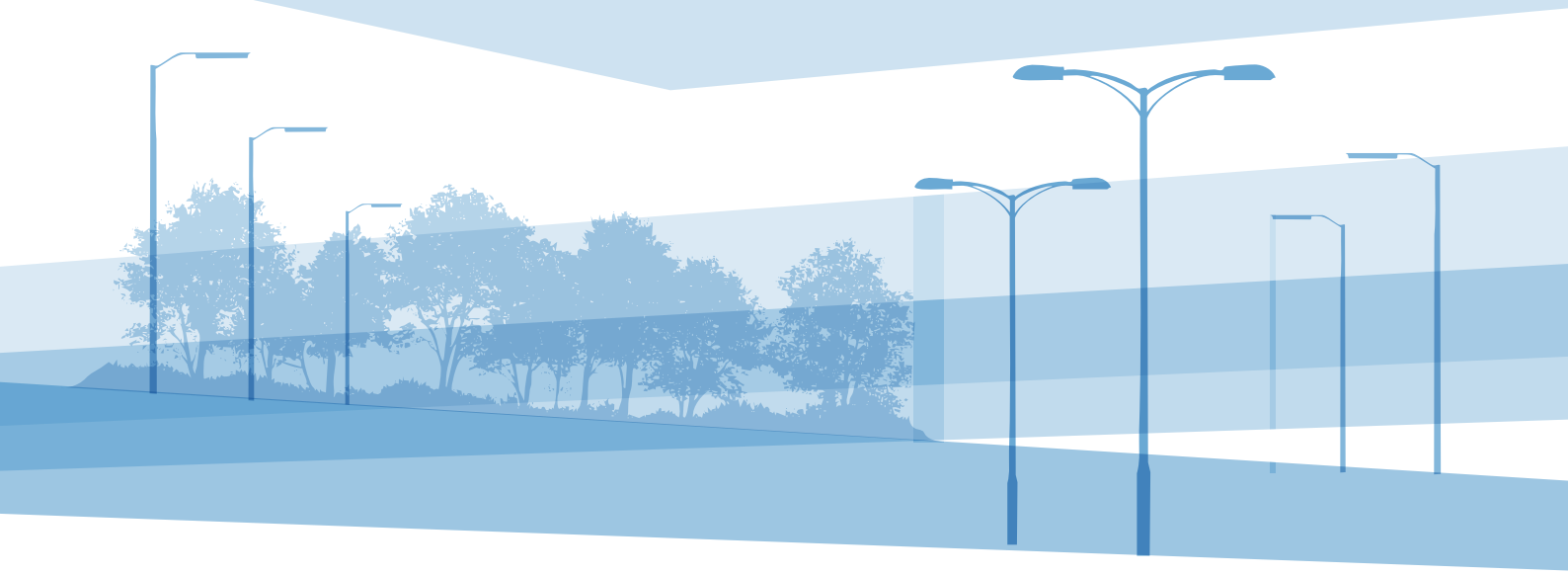
The S80, UT12P, and UT56 stand as dependable Rugged Controllers, delivering high-performance standards. These Android mobile devices excel in field survey management, offering resilience against water, dust, and shocks (IP67), making them well-suited for operation in the most challenging environmental conditions.

S80, UT12P, and UT56 come equipped with a range of technologies, including Wi-Fi, Bluetooth, NFC, GSM modem, and GNSS receiver capabilities.

S80 | 8”

UT12P | 6”

UT56 | 10.1”



Windows
SRT10W

SRT10W is a reliable Rugged tablet with high performance.

This windows 10 mobile device is ideal for managing software applications for field survey and data collection. Resistant to water, dust and shocks (IP67) it is suitable for operating even in the most difficult environmental conditions. SRT10W is equipped with Wi-Fi, Bluetooth and GNSS technologies.

Android
Full Keyboard Survey Controller
S55

Stonex S55 is a handy and light device, it is perfect in situations where you need to regularly use the alphanumeric keyboard.

It is an extremely light but reinforced and protected controller, suitable for working in uncomfortable environments. Its low weight makes it perfect for applications without the use of supports or with light and minimal supports. The perfectly visible but small size screen allows the device to be compact, comfortable and easy to use.

TABLETS & CONTROLLERS

PRODUCT COMPARISON

		SRT10W	UT56
PROCESSOR		1.92 GHz	2.3 GHz
OPERATION SYSTEM		Windows 10 IoT	Android 10
RAM		4GB	4GB
FLASH MEMORY		64GB	64GB
DISPLAY		10.1"	10.1"
DISPLAY RESOLUTION		1280x800	1920x1200
CAMERA		5 Megapixel	13 Megapixel
DATA COMMUNICATION	USB Type C	NO	√
	USB Standard	√	NO
	Wi-Fi	√	√
	Bluetooth	√	√
	HDMI	√	NO
	NFC	NO	√
GNSS		√	√
CONNECTOR FOR GNSS EXTERNAL ANTENNA		NO	NO
GSM		NO	√
CHANGE BATTERY		NO	NO
NR. BATTERY		1	1
WEIGHT		750 g	750 g
SIZE		270x183x15.8 mm	268x183x13.3 mm
OPERATING TEMPERATURE		-20°C +55°C	-10°C +55°C
PROTECTION CLASS		IP67	IP67

S80	UT12P	S55
2.0 GHz	2.2 GHz	2.0 GHz
Android 13	Android 10	Android 12
6GB	4GB	4GB
128GB	64GB	64GB
8"	6"	5.5"
1280x800	1920x1080	1920x1080
16 Megapixel	13 Megapixel	13 Megapixel
√	√	√
NO	NO	NO
√	√	√
√	√	√
NO	NO	NO
√	√	√
√	√	√
√	√	NO
√	√	√
√	√	NO
1	1	1
656 g	360 g	420 g
235x146x14.5 mm	192x94x14 mm	228x96x21 mm
-20°C +60°C	-20°C +55°C	-20°C +65°C
IP67	IP67	IP67

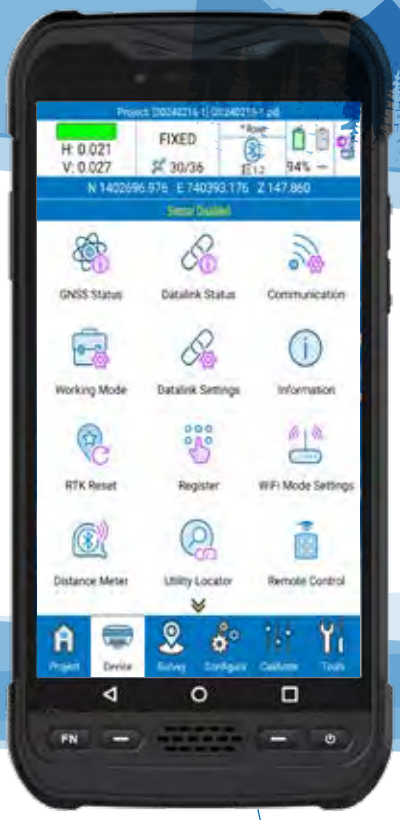
CUBE SUITE

STONEX COMPLETE FIELD & OFFICE SOFTWARE SOLUTION

Cube Suite is the complete software solution designed and developed by STONEX for in the field and in office use.

Work in the field with the software for GNSS RTK, GIS and Total Station surveying. Work in the office with software for data transfer, graphical visualization, analytical data processing and monitoring.

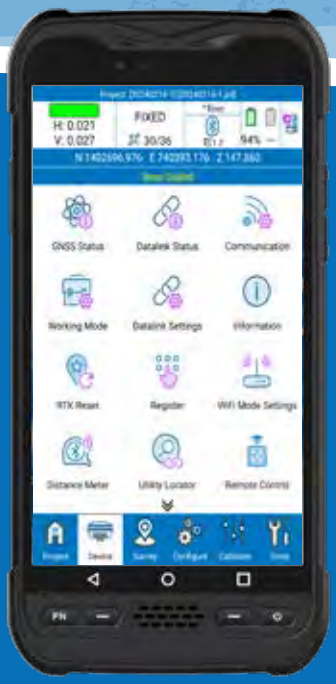
cube·a




cube·manager
STONEX
cube·connector
STONEX
cube·h24
STONEX

cube-a

Cube-a is Stonex's solution for professional surveying and GIS which has been designed and developed for the Android platform. Thanks to the flexibility of the Android environment, we have been able to create a simple and intuitive user interface that makes surveyors ready for any work, saving time and increasing productivity.



Full support for touch gestures and the possibility to install it on Smartphones and Tablets are the keys to the success of Cube-a. It also includes support for many languages and adjusts its interface as from the current system language setting. Cube-a is a modular application which can be customized as needed: GNSS, Robotic and Mechanical Total Stations, GIS and 3D Modelling modules can be enabled to fulfill any customer need.

cube-a

STONEX FIELD SOFTWARE

Stonex field solutions for GNSS RTK and Total Station surveys will make operators' work quick and easy, ensuring high productivity in all jobs requiring precision and efficiency.

Main Modules

GPS

Cube-a is compatible with all Stonex GNSS Receivers. Supports Rover, Rover Stop&Go, Base and Static modes. Various screens provide useful information on the status of the GNSS receiver including the position, the Sky Plot, SNR levels and the base position.

TOTAL STATION

Cube-a has been designed to fully support Total Station survey and mixed GNSS & TS surveys, managing the two sensors simultaneously and in the same survey area. Station position can be set to occupy previously collected GPS points or on unknown positions calculated using the Free Stationing program. Likewise, the GPS reference system can be adjusted to match an existing TS survey in local coordinates. Cube-a supports all Stonex Total Stations via Bluetooth.

Add-on Modules

GIS

GIS functionalities are well integrated in the workflow of standard GPS surveying. Thanks to the Cube-a's ability to collect, not only single points but also to automatically draw vectors passing through the collected points, GIS surveying becomes fast and easy. The request to fill in the GIS data is automatic and automatically follows the point or vector acquisition. Data forms can be freely defined using the integrated Feature Set designer or automatically created by Cube-a starting from a sample DBF file. Import and export of standard shapefiles ensures the compatibility and interoperability of Cube-a with virtually any other GIS software. It is possible to visualize WMS layers in the background map.

3D & ROADS

The 3D module adds a complete set of commands for performing real-time surface modeling. Base points and constraints are selected by layer. Optional constraints include a perimeter, break-lines and holes (closed non-triangulated areas). The surface display mode is selectable from wireframe, filled triangles with edges, shaded triangles with edges or external perimeter with triangulated points. Volume calculations can be easily defined between a model and a horizontal or inclined reference plane. Results, as well as surface data, can be exported to various file formats. Included in this module is the Roads function, which allows the stakeout of the centerlines/base road alignments, and cross sections. The staking modes available are: by continuous interpolation along the alignment and by station points, elevation can be derived from the elevation profile, the nearest cross section, or by interpolation using previous and next cross sections. The graph proposes two types of views: centerline/alignment and cross section.

Main Functionalities

SURVEY

A simple and intuitive survey interface with numerous indicators immediately helps the surveyor to understand what kind of work and in what conditions is taking place. Indicators show various information like solution status, position precision, battery levels, RTK correction delays and more. Intuitive screens allows for an easy change of settings, a view of the collected points, adding new CAD elements and drawings or proceed surveying.

STAKEOUT

A compact interface groups all the stakeout launching commands in one screen for an easier work in the field. Stakeout screens are enriched with both graphical and analytical indicators which guide the surveyor in order to reach the target point. Thanks to this interface, you can read all the information necessary to complete the stakeout work, to select points or to add them and quickly change all settings.

INTEGRATED CAD

Cube-a includes a smart and easy to use CAD feature. The CAD has been designed to work with touch displays and it allows to easily draw points and other CAD entities by mean of a smart pointer which can be moved using one finger and which always transmits to the user a strong confidence of the result achieved. The help of object-snaps like point, mid-point, end-point, intersection and others makes it possible to integrate the survey with new elements directly in the field.

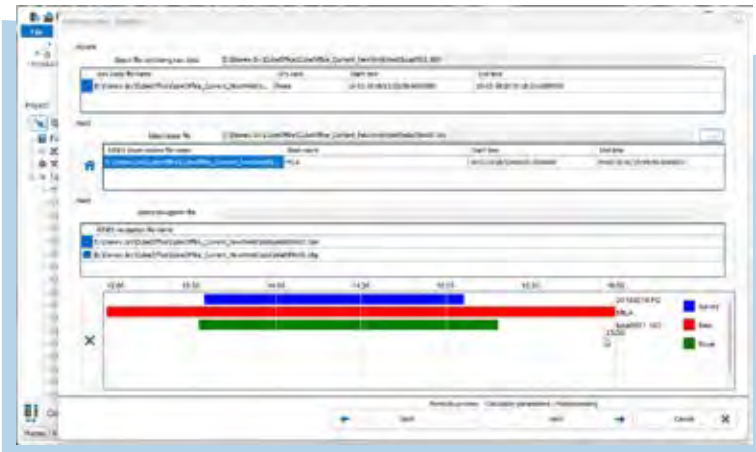
cube·manager

Cube-manager has been developed to work on desktop computers running Microsoft Windows and it implements the tools to download, to manage and to process the data acquired with one of the mobile solutions. Using this software, you can integrate mixed GNSS RTK and Total Station data, process Raw GNSS data in different ways, import and export the data from and to the most popular known formats.

This software will help operators providing the best functions for data transferring, graphical visualization and analytical data processing. The software is composed of various optional modules and a free version. Cube-manager is a software for managing data from GNSS receivers and Total Stations, it is composed by modules, each one specialized in a series of functions. Among the functions shared by all the modules, you can have plano-altimetric elaborations, generate 3D models and calculate contour lines. The measurements can be displayed in 2D, 3D and superimposed on raster, satellite or cadastral images. Through a sophisticated internal CAD, you can interact with the data using powerful and complete drawing tools and snap functions, even in 3D. Importing and exporting data are supported in various formats such as DXF, DWG, KML, CSV and others.

cube·manager·p

The P is the Cube-manager's module dedicated to the post-processing. It offers the possibility to perform correction calculations with maximum accuracy. In addition to the basic features of the software, this module provides functions for the calculation of Stop&Go post-processing, Static post-processing for single and multiple bases, Kinematic post-processing, and least-squares Network Adjustments. Cube-manager-p is constantly updated to improve its performance.



cube·connector

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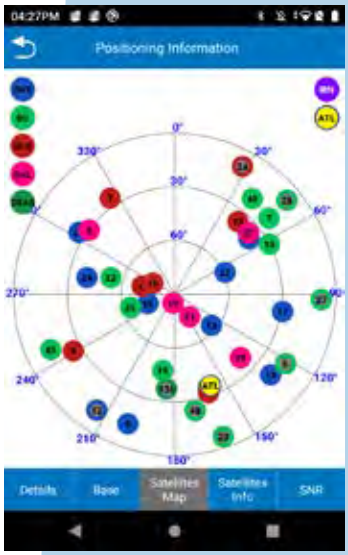


Cube-h24 is a suite of software design for monitoring application, it gathers information about a chosen site and allow surveyors and engineers to remotely evaluate the collected data. This software is developed for Microsoft Windows and Linux OS, it offers the possibility to download, manage, and process the data collected thanks to the use of one or more sensors, in the monitoring site.

The presence of a Web interface enriches the functionality of Cube-h24, allowing the user to configure working parameters, check and publish the calculation results. This software will help operators, providing the best functions for data transferring, graphical visualization, and alarm system management.

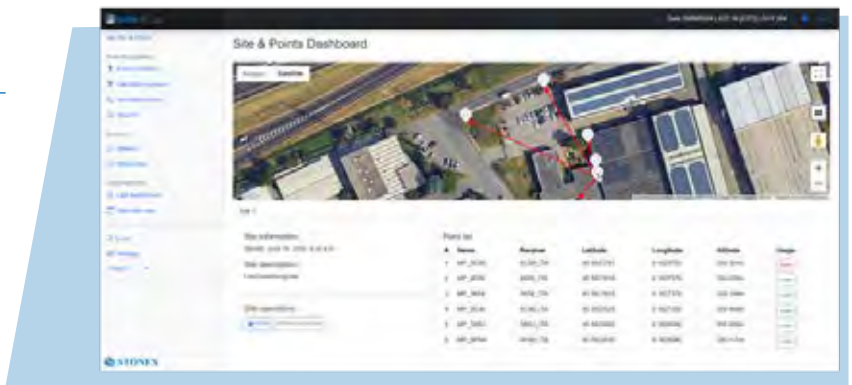
GPS

Cube-h24 GPS has been designed to manage GNSS cors receivers in order to control the movements of points, in natural places or artificial structures, considered to be at risk of stability. The materialization of the points is made with appropriate solutions, to ensure the sensor stability, to reach maximum accuracy with low level noise. Cube-h24 GPS is a software dedicated to the processing data. It's the solution to automate the process of post-processing, reading RTK data and saving to database.

MULTI OPERATION SYSTEM
MULTI OPERATIONS PARALLEL
ROBUST ENGINE

Main features:

WEB BASE APPLICATION
DESIGN SURVEY SCHEMA
SCHEDULER FOR AUTOMATIC CALCULATIONS



TS

Cube-h24 TS is software dedicated to the remote management of TS for monitoring.
The software can be installed on a variety of devices, but to ensure maximum 24/7 performance it is delivered together with a rugged hardware solution.
It is able to communicate with the TS via both Bluetooth and serial cable, in order to measure the desired targets on specific schedule, covering all the aspects of the surveying measuring procedure and upload the measurements to a database or FTP server.

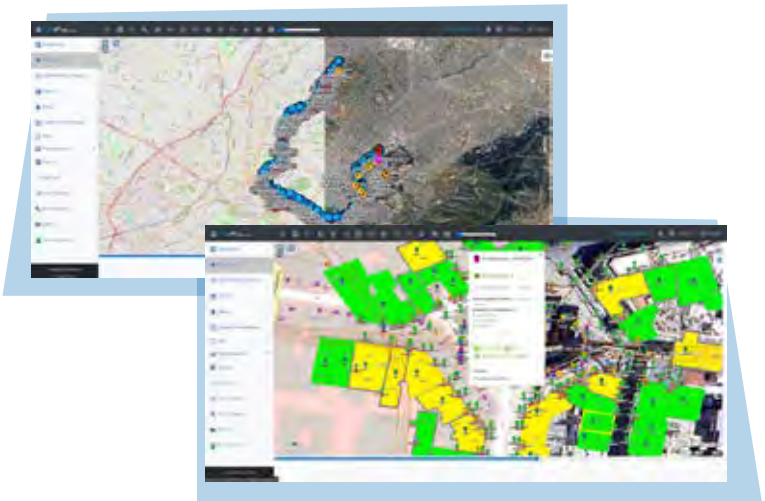
MULTI OPERATION SYSTEM
VERY LIGHT APPLICATION
MULTI LANGUAGE
SUITABLE FOR PERIOD OR CONTINUOUS OPERATION

Main features:
TS CONNECTIONS (BT AND SERIAL CABLE)
MULTI STATIONING STRATEGIES
MULTI MEASUREMENT SETTING
SCHEDULERS
DATA UPLOAD TO SERVER
REMOTE CONTROL
ALARM AND REPORT

WEB

Cube-h24 web is the data publishing platform. It's a web base application design for specialist and final customers. It allows multiple projects to be managed and provides the correct information for interpreting site events to be monitored. Using this platform, engineers can inspect measurements from variety of topographic, geotechnical and environmental sensors.

MULTI LEVEL USERS
MULTI SITES
ROBUST DATABASE FOR LONG DATA SERIES
MULTI CUSTOMIZABLE ALARMS
MULTI SENSORS INTEGRATION



Main features:
VIEW VECTOR DISPLACEMENT HISTORY
VIEW VERTICAL DEFORMATION HISTORY
CUSTOM CHART
ALERTS
AUTOMATED REPORTING SYSTEM

Supported sensors
SURVEY INSTRUMENTS
GEOTECHNICAL SENSORS (PIEZOMETERS, LOAD AND PRESSURE CELLS, TILT SENSOR AND OTHER...)
METEOSTATION
GEOLOGICAL DATA

TOTAL STATIONS

HIGH TECHNOLOGY AND QUALITY

STONEX Total Stations are simple and durable, designed and built to meet all Customer's needs, enabling ease of use for everyone in full autonomy.

Fast, intuitive, reliable, and precise, STONEX Total Stations are optical precision tools designed to support high-quality professionals in all types of topographic jobs, ensuring high performance for surveying and engineering.

R180

R120

R25LR

R20

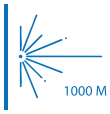
R60

WITH ENDLESS DRIVES AND TRIGGER KEY

R25LR

High accuracy and an extensive reflectorless range are the perfect combination that makes Stonex R25LR the best friend of every professional surveyor. Whether it's cadastral, mapping, staking out, or high-precision monitoring works, within the R25LR series, you will find the solution that fits your needs.

The R25LR comes standard with integrated onboard field software, a complete suite of applications. External controllers can be linked to the Stonex R25LR through Bluetooth wireless connection-no limitation will impede your working process. The Stonex R25LR features endless friction drives for continuous horizontal and vertical rotations, eliminating the need for knobs and clamps with limited movements. This ensures a more comfortable use of the station. The trigger key on the side of the instrument allows you to start measurements very easily.



LIMITLESS DISTANCE MEASUREMENTS

By using digital phase laser ranging technology, R25LR guarantees high accuracy long range measurements: 1000 m in reflectorless mode and up to 5000 m using a single prism, with millimeter accuracy.

FAST, ACCURATE, RELIABLE

Measuring distances in one second with 2 mm accuracy makes any job extremely cost-effective and reliable.
The wide range of application software allows completing the surveyor's tasks directly in the field.

ONE DAY OF CONTINUOUS FIELD WORK

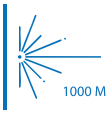
Thanks to the low power consumption circuit design and to the two high-capacity batteries R25LR gives the opportunity to continuously work for around 13 hours. No concern for data storage: the improved 4GB internal memory and the SD card up to 16GB store a huge amount of data.

HIGHLY ACCURATE AND EFFICIENT TOTAL STATION

R20

The R20 range is composed of 3 versions, the R20 1000 m model with 2" angular accuracy, the R20 1000 m model with 1" angular accuracy and the R20 600 m model with 2" angular accuracy. The three models offer optimum performance up to 5000 m with prism and 1000 m or 600 m reflectorless.

The entire R20 range is equipped with a high-performance, illuminated reticle telescope that provides the best quality of observation, whatever the environmental conditions. The programs on board of these models of total stations make them suitable for any work in construction, cadastral, mapping and staking, through a user-friendly interface. Thanks to the presence of Bluetooth connection, it is possible to connect an external controller, giving the possibility to use a customized field software.



LIMITLESS DISTANCE MEASUREMENTS

By using a digital phase laser ranging technology, R20 guarantees high accuracy measurements: 1000 m or 600 m (depending on the model) in reflectorless mode and up to 5000 m using a single prism, with millimeter accuracy.

FAST, ACCURATE, RELIABLE

Measuring distances with high angular accuracy make any job extremely cost effective and reliable. The wide range of application software allows to complete the Surveyor's tasks directly in the field.

ONE DAY OF CONTINUOUS FIELD WORK

Thanks to the low power consumption circuit design R20 gives the opportunity to continuously work for more than 22 hours.

ANDROID TOTAL STATION

R60

The R60 is a device with a 5.5-inch touch screen and the Android operating system, which provides users with a smartphone-like experience in terms of ease of use and familiarity. With the Android OS, operators can easily access a wide range of features and functions, making their work more efficient and productive. Additionally, the system's versatility and customization options make it an ideal choice for those looking for a flexible and adaptable operating system.

The R60 features Cube-a software, which allows for a new horizontal view and integration with GNSS surveys. The operator can use background maps and exchange functions between the TS and remote controller (GNSS) with Bluetooth, without the need for cables. The R60 is available in two versions, one with an accuracy of 2" and endless drives, and the other with an accuracy of 1" and lock drives. With a prism, the instrument has an accuracy of 2 mm + 2 ppm, and it can measure reflectorless up to a range of 1000 m.

ANDROID 11 OS

The Android 11 operating system provides a multitude of possibilities for operators, allowing for easy touch management of jobs and the ability to work with convenient background maps. This operating system enhances the user experience and provides a user-friendly interface.

UP TO 1000 M REFLECTORLESS

The R60, available in both 1" and 2" versions, can obtain highly accurate long-range measurements. It can measure up to 1000 m without a prism and up to 5000 m with a prism, all with millimeter precision. This level of accuracy makes the R60 a reliable and efficient tool for a variety of applications, from construction and surveying to engineering and beyond.

CUBE-A ON BOARD

Cube-a software, pre-installed on the R60 Android total station, offers a range of features designed to improve the efficiency and accuracy of surveying work. Among these features is direct I/O support for TS and Bluetooth support for GNSS, enabling the integration of data from various sources.

TOTAL STATIONS

HIGH TECHNOLOGY AND QUALITY

ANDROID ROBOTIC TOTAL STATION

R120

R120 is a robotic Android total station that provides exceptional precision with an angular accuracy of 1" (2" available) and an electronic distance measurement (EDM) accuracy of 1 mm + 1 ppm. It operates effectively up to 1000 m (800 m for 2" version) in reflectorless mode and features a rotation speed of 60° per second. This instrument combines the capabilities of a robotic station with excellent cost-effectiveness.

The R120 is designed with a 5.5-inch color touch screen and runs on the Android operating system, making it user-friendly and similar in interface to a smartphone, which enhances data exchange capabilities. The onboard Cube-a software allows operators to seamlessly integrate GNSS tasks with surveys performed using the total station. Communication and data transfer between the station and the controller are facilitated via a Bluetooth connection. Additionally, the R120 has an integrated modem, enabling the operator to connect to the internet and send and receive topographic data.

DC SERVO MOTOR

The R120 Robotic Total Station boasts maximum rotation speed of 60 degrees per second, ensuring accurate and controlled rotation. It can switch between Face 1 and Face 2 in just 2.9 seconds, enabling efficient and rapid measurements.

HIGH MEMORY CAPACITY

R120 has 4GB of RAM and 64GB of internal storage, providing a good balance of memory for multitasking and storing files.

4G MODEM

R120 can fully utilize its SIM card port and integrated modem. The operator can connect to the internet to send and receive topographic data.

ANDROID AND CUBE-A ON BOARD

The Android System multiplies the possibilities for operators who can have touch management of jobs and work with convenient background maps. Thanks to this operating system, it is possible to use the total station in a simple and intuitive way, as if it were a smartphone.

cube-a

The R120 is equipped with the Android operating system and comes pre-installed with the powerful Cube-a program. This onboard software allows operators to easily integrate data from GNSS and surveys conducted with the total station. Communication and data exchange between the station and the controller (GNSS) is made simple with a Bluetooth connection. This means that with the total station, surveys carried out with GNSS, can be loaded through an external controller via Bluetooth. These surveys then can be completed within the total station. With Cube-a, users can navigate the program easily and efficiently, accessing all the classic functions of a total station while enjoying the added benefits of the Android operating system. This integration allows for seamless and streamlined workflows, saving time and effort while achieving the highest level of accuracy.

Fast360

The state-of-the-art robotic total station features a cutting-edge 360° prism search technology that allows users to locate their target quickly and accurately from any angle. This advanced capability enables surveys to be completed with greater speed and precision, all while enjoying the convenience of a fully automated system. If the lock is lost, the total station, thanks to Fast360° technology, can quickly find the prism. This can be done through the Cube-a, simply by pressing a command, or by manually managing the search through an interface with joystick functionality.

APC

R120 is designed with automatic prism centering technology that takes the guesswork out of surveying. With this advanced system, users can easily and quickly center their prism with minimal effort. Thanks to the total station's automatic centering feature, surveying processes can be streamlined and made more efficient. Users can simply position the total station near their target and let the system take care of the rest. The automatic prism centering technology will quickly and accurately locate the prism and center it for the most precise measurements possible.

OnePole

The OnePole Solution is a surveying system that combines the high accuracy of prism measurements with the ability to measure points that are not visible from the Total Station (TS) using GNSS technology. While a TS requires reference points that must be visible from the station, an RTK GPS receiver can quickly determine its position with centimeter-level accuracy using data from satellites. The OnePole Solution allows for the simultaneous use of TS and GNSS and can easily switch between the two with a simple tap on a button. Additionally, the system reduces prism search times through auto-aiming to the current GNSS position.

HIGH PRECISION ROBOTIC TOTAL STATION

R180

The R180 is a highly accurate and fast Android robotic station. It features a rotation speed of 180°/sec and an EDM accuracy of 1 mm + 1 ppm, with a range of up to 1000 m without a prism. The R180 is available in two versions, 0.5" and 1" second. For both models, the quietness and smoothness in prism searches and rotations are among the most observed and appreciated features.

Equipped with the Android operating system, the R180 has Cube-a as onboard software. This enables users to navigate online and interact with the touch screen in an easy and familiar way. The Cube-a onboard software includes all the classic functions of the program, as well as the integration of jobs done with GNSS and surveys done with the total station. This allows operators to achieve complex and professional work in a short time and with high accuracy. Additionally, the R180 has a camera and a light guide to further facilitate field work.

TDRIVE MOTOR, FAST AND SILENT

The R180 Robotic total station boasts a rotation speed of 180°/sec, making it one of the fastest in its product category. Not only is it speedy, but it is also impressively quiet, with noise levels among the lowest in its class. Additionally, the Tdrive technology, with a very high speed motor, allows for high-speed pursuit, even with a prism installed on moving vehicles. Not using gear technology ensures frictionless movement, greater durability, and less maintenance.

HIGH ACCURACY AND PROFESSIONAL RESULTS

This instrument is top-of-the-line. Its detailed engineering allows for exceptional performance, achieving an accuracy of 1 mm + 1 ppm with a prism, at a measurement speed of significantly less than one second.

LONG DISTANCE REFLECTORLESS

1000 M

R180 guarantees high accuracy long range measurements: up to 1000 m in reflectorless mode and up to 6000 m using a single prism, with millimeter accuracy.

BUILT-IN CAMERA

The R180 is further enhanced by the addition of a built-in camera, which can be utilized thanks to the presence of two 6-inch screens. This camera allows you to view the points operator have surveyed on the large screens, or to use the image to help with collimation.

ANDROID AND CUBE-A ON BOARD

R180 is equipped with an Android operating system and has Cube-a installed on board. The 6-inch touch screens allow you to have complete control of the station.

cube-a

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TOTAL STATIONS

PRODUCT COMPARISON

	R20 600m - 1000m	**R25LR**
ANGLE ACCURACY	1" / 2"	2"
PRISM MEASUREMENT	5.000 m	5.000 m
PRISM ACCURACY	2 mm + 2 ppm	2 mm + 2 ppm
REFLECTORLESS MEASUREMENT	600 m - 1000 m	1.000 m
REFLECTORLESS ACCURACY	3 mm + 2 ppm	3 mm + 2 ppm
DISPLAY	2 Color	2 LCD
OS	Proprietary	Proprietary
BLUETOOTH	√	√
USB	√	√
SD CARD	NO	√
RS232	NO	√
MEMORY	> 80.000 points	4GB
GUIDE LIGHT	NO	NO
H-V MOVEMENTS	Lock drives	Endless drives
OPERATION TIME	22 hours	12 hours
WEIGHT	5.6 Kg	6.0 Kg
OPERATING TEMPERATURE	-20°C +50°C	-20°C +50°C
PROTECTION CLASS	IP65	IP55

R60	R120	R180
1" / 2"	1" / 2"	0.5" / 1" / 2"
5.000 m	3.500 m	6.000 m
2 mm + 2 ppm	1 mm + 1 ppm	1 mm + 1 ppm
1.000 m	1.000 m	800 m - 1.000 m
3 mm + 2 ppm	3 mm + 2 ppm	2 mm + 2 ppm
1 Color touch	2 TFT touch	2 LCD touch
Android	Android	Android
√	Long Range	Long Range
√	√	√
NO	√	NO
√	√	√
32GB	64GB	32GB
√	NO	√
Lock/Endless drives	Motorized	Motorized
9 hours	5 hours	6 hours
6.5 Kg	7 Kg	9.5 Kg
-20°C +50°C	-20°C +50°C	-20°C +50°C
IP55	IP55	IP65

3D SCANNING

3D SCANNING EVERYWHERE

Stonex 3D Scanners are the best solutions for any application. Very attractive systems, offering the benefits of best-in-class data accuracy, good detection range, high point density, and versatility.

The use and integration of different technologies make them capable of satisfying any need. Their ease of use is designed to maximize the customer experience and ensure excellent results.

NUVO

XVS

X40GO

X70GO

X120GO

X200GO

X100

XFLY

PRODUCT FEATURES

SLAM

Stonex offers a wide range of SLAM products, capable of generating high-precision point cloud data. All the devices are equipped with LiDAR, a camera for texture information along with an inertial navigation module.

The integrated structure includes storage system and built-in replaceable batteries. Mapping results are visible in real time from the GOapp. GOpost can perform post-processing of collected data, generate high precision colored point clouds, produce panoramic images and integrate GNSS data. The uniqueness of Stonex SLAMs is in the stability and strength of the algorithm, which is able to reconstruct complex scenarios that are not trivial for this type of technology.

RAPIDITY AND REDUCED WORKLOAD

No more multiple scan station, just move around the scene to collect the entire 3D point cloud, without time consuming cloud to cloud alignment.

REAL TIME PREVIEW

See your scanning progress in real time using the dedicated Android App directly in the field. X200^{GO} also provides a real-time view of the coloured cloud.

AUTOMATIC CONTROL POINT MEASUREMENT

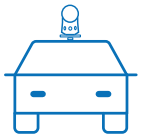
When capturing data, the device is able to collect reference points too. They can be matched with known control points to georeference or compensate the scans, or to check the final quality of your survey.

STRONG ALGORITHM, RELIABLE DELIVERABLE

Data processing can be done in a few clicks, obtaining the best result for the situation, even processing batches of scans. In the case of special environments, the processing parameters can be edited to maximise the quality.

GEOTAG COLLECTION

Directly in the field you have the possibility to take pictures or add notes related to your position. Those information will be availble and consultable inside the point cloud.



WIDE RANGE OF ACCESSORIES

Stonex SLAMs are equipped with a very interesting range of accessories, which facilitate its use in the field and cover different scenarios. Backpack, shoulders hook or vehicle mount platforms allow to cover long trajectory effortlessy.

X-WHIZZ MODE

X70^{GO} and X200^{GO} models merge mobile and stationary surveying. The advantageous SLAM solution that allows you to survey large areas in a very short time, they combines a stationary mode to scan with higher resolution. Mount the device on a monopod and stand still in key areas for a few seconds. It is the perfect trade-off for those who need speed and detail in a mobile survey.

X200^{GO}

The rotating head has 32-channel sensor with 300 meters range and 3 returns. Embedded GNSS board and two 12 Mpx cameras, which provide texture information and panoramic images. Colour information is available in real-time and mapped results are generated immediately inside the scanner: choose if you want to improve their accuracy postprocessing with GOpost software. The high precisions IMU makes the product versatile, even for use on UAV drone.

X120^{GO}

The system has a rotating LiDAR head with a 16-channel sensor and a range of 120 metres, with 360°x270° point cloud coverage. Equipped with three 5Mpx cameras to generate a 200° FOV horizontal and 100° FOV vertical, capable of synchronously obtaining texture information and producing colour point clouds and partial panoramic images.

X70^{GO}

It integrates a 360° rotation head with 70-meters range LiDAR , a 12 MPx visible-light camera which provides texture information, and a visual camera that guarantees stronger real time preview with GOapp. Mapping results are generated immediately inside the scanner, right after scanning: choose if you want to colour them and improve their accuracy, postprocessing with GOpost software.

X40^{GO}

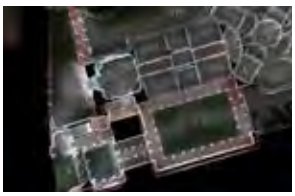
Equipped with the same sensor as the X70^{GO}, the lidar does not have a rotating head but its orientation is designed to maximise coverage. The 12 Mpx camera has a wide FOV for point cloud colouring. An affordable and simple product, the ideal for interior surveys and layout generation.

SLAM

SIMULTANEOUS LOCALIZATION AND MAPPING

STONEX SLAM technology delivers more range, more points per second and best in class on board processing algorithms to reach unmatched speed of capture and reliability even in the more demanding environments.

APPLICATION



BIM & REAL ESTATE

Gather a complete 3D model of civil or industrial structures with a simple walk-through, from which your project deliverables will be effortlessly extracted.

FACILITY MANAGEMENT

Document any information, exploiting the panorama images, the X-Whizz mode or the geotag function with pictures of details or annotations.

TANK INSPECTION

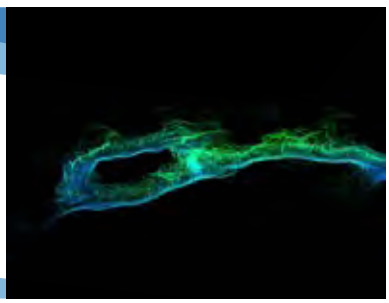
Quickly and safely generate data for tank analysis, documenting verticality, roundness, integrity and deformations.

FORESTRY

Document the state of forests to know the positions of trees, the size of trunks or to quantify the vegetation cover.

TUNNEL & CAVE

Even extreme environments underground can be detected, processing tunnel scans with a dedicated algorithm.



PROCESS YOUR DATA AS YOU WISH

Collect and process your data thanks to Stonex solutions. Thanks to the bundled software it is possible to acquire data easily and carry out basic post-processing operations For those who need to carry out complex operations it is possible to use Cube-3d

BUNDLED SOFTWARE

GOapp

GOapp is dedicate mobile application for Stonex SLAM scanners, to manage projects, real time point cloud display, image preview, firmware upgrade and other operations. The APP runs on Android and iOS operating system.

GOpost

Windows post processing software which performs optimization processing, colouring of point clouds and creation of panoramic images. You can also import control points to georeference the point cloud.

3D SOFTWARE

Cube-3d

Cube-3d is a complete software for 3D data management, built by two modules for photogrammetry and for scanner data. The former processes images (or videos) to generate accurate digital maps and 3D models with extreme precision; the latter provides tools to align point clouds. **View More at page 80.**

PointCab

Thanks to the collaboration between Stonex and PointCab, you can manage your point clouds with it. PointCab Origins is your Swiss army knife when it comes to the evaluation of point cloud data – working with all laser scanners and compatible with all CAD and BIM systems.

SLAM

ACCESSORIES

Expand the capabilities of our Lasers with dedicated accessories.

PLATFORM/EXTENSION

	X40GO	X70GO	X120GO	X200GO
BACKPACK	n/a	√	√	√
RTK MODULE	n/a	√	√	Integrated
PANO CAMERA (INSTA X4)	√	√	√	Panoramic images integrated
VEHICLE	n/a	n/a	√	√
UAV – DJI M350	n/a	n/a	n/a	√
SR02 RADIO	n/a	n/a	n/a	√

RTK MODULE

There are several reasons why the RTK module is worth using. First, it places your point cloud in a global coordinate system, but it can also be useful in large surveys to improve the composition of the final 3D model. Indeed, RTK module can help the system, adding GNSS info to LIDAR and IMU. If the GPS does not have a satellite connection, such as indoors, the system will rely on LIDAR and IMU to locate itself.

RECEIVER	
Satellite Signals Tracked	GPS L1, L2
	GLONASS L1, L2
	GALILEO E1, E5b
	BDS B1, B2
Fixed RTK (RMS)	Horizontal: 1 cm + 1 ppm
	Vertical: 1.5 cm + 1 ppm
Data Update Rate	20Hz
Time Accuracy	20ns
Speed Accuracy (RMS)	0.03 m/s
Modem	LTE FDD: B1/B3/B5/B8
	LTE TDD: B34/B38/B39/B40/B41
	GSM: 900/1800MHz

PHYSICAL SPECIFICATION	
Weight	1.8 Kg
Size	196 mm × 80 mm × 39 mm
Operating Temperature	-20°C to +50°C (-4°F to 122°F)
Waterproof/Dustproof	IP54

ANTENNA	
Size	27.5 mm × 56 mm
Weight	15.3 g
Optional	SA85 for backpack/vehicle mount

POWER SUPPLY	
Type-C USB	20V
Aviation socket	12V-20V

TABLET HOLDER

You can use your tablet docket to the device to have one to have one hand free while surveying. The tablet mounted on the back of the scanner allows you to always have eyes-on scan real time preview.

PHYSICAL SPECIFICATIONS	
Min Width	1,75" (4,44 cm)
Max Width	4,5" (11,43 cm)

BACKPACK

A solution to mount X70^{GO}, X120^{GO} or X200^{GO} on your back and to combine it with the RTK module. Extended surveys will become a simple walk. In case of X120^{GO}, alternative to the option of RTK module is the SC600^{+} receiver.

PHYSICAL SPECIFICATIONS	
Material	Nylon, aluminum
Size	250x 250x 1000mm
Weight	1,7kg (frame only)

CONFIGURATION
X70^{GO} - RTK module - SA85
X120^{GO} - RTK module - SA85
X120^{GO} - SC600^{+} - SA85
X200^{GO} - SA85

SC600^{+} RECEIVER	
Satellite signals tracked	GPS: L1C/A, L1C, L2C, L2P, L5
	GLONASS: L1, L2, L3
	GALILEO: E1, E5a, E5b, E6, ALTBOC
	QZSS: L1C/A, L2C, L5
	IRNSS: L5
Fixed RTK (RMS)	Horizontal: 8mm+1ppm
	Vertical: 15mm+1ppm
Modem	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/ B20/B25/B26/B28
	LTE TDD: B38/B39/B40/B41
	UMTS: B1/B2/B4/B5/B6/B8/B19
	GSM: B2/B3/B5/B8
UHF frequency range	410 – 470 MHx
	902.4 - 928 MHx
UHF band width	12.5 KHz /25 KHz
UHF max range	3-4 km in urban environment
	Up to 10km with optimal conditions

SLAM

PANO CAMERA

Enhance your SLAM survey by adding important properties such as the 360° panoramic photography.

PANO CAMERA SPECIFICATIONS	
Model	Insta360 X4
Resolution[1]	16.6 MPx
Operating time	135 min
Weight	203 g

[1] After processing with GOpost

SHOULDERS HOOK

Distribute weight of X120[GO] and X40[GO] over both shoulders, freeing your hands. Adjustable in both height and angle, it is easy to put on and take off.

PHYSICAL SPECIFICATIONS	
System Weight	3.2 kg
Size	300mm x 300mm x 640mm

VEHICLE MOUNT

Securely mount your X120^{GO} or X200^{GO} on a vehicle to collect data on urban environments. Choose between suction cups or magnets and drive up to 20 km/h.

PHYSICAL SPECIFICATIONS	
Frame material	Aluminum
Weight	6.3 kg
Size (docking excluded)	250mm×180mm×660mm
Docking mode	Suction cups or magnets
Suction cups load	Horizontal: 60 kg
	Vertical: 40 kg
Suction cups operating temperature	-20°C to +70°C

POWER	
Operating time	4h
Capacity	3 Ah
Voltage	20V-30V

CONFIGURATIONS
X120GO - RTK module - SA85
X120GO - SC600+ - SA85
X200GO - SA85

TELESCOPIC POLE

Hold the X70^{GO} on the monopod for a stationary survey in key areas with the X-Whizz mode. The quick-lock swivel system makes the pole quick and easy to extend to different heights, up to a maximum of 1,60 meters. Its handle ensures a firm, ergonomic grip during use: maximum efficiency and comfort are guaranteed.

ACCURATE & RELIABLE

XFLY

XFLY series integrates high performance Inertial Navigation System with camera and LiDAR for point cloud generation. Different customer's need can be met by the choice of Hesai LiDAR XFLY120, XFLY300 or other sensors.

The processing platform contains a Wi-Fi interface, an embedded cellular modem for RTCM corrections, data logging software and a gigabit Ethernet network. Equipped with a high-performance INS, it delivers clean point clouds even at high AGL. As a small, lightweight and low-power system, it allows the user to fly longer, adapting to the needs of any project. The post-processing software provides fully automatic point cloud generation.

200m AGL

Fly up to 200 meter above ground level.

ACCURACY

Thanks to high performances GPS-Aided INS, 3-5 cm point cloud accuracy can be achieved.

CAMERA

24 MP camera adds RGB information to the data. Camera comes to the customer already calibrated and with these boresighting values already saved onto the device.

FLY & DRIVE

Different mounts are offered to support the assembly onto well-known UAVs and other platforms, like cars. Among the compatible UAVs: DJI - M300 - M350, Inspired Flight IF1200A / IF800 Hexacopter, Freefly Alta X, Freefly Astro, WISPR Ranger Pro 1100, Sony Airpeak S1.

PPK/RTK Dual/Single GNSS

Depending on customer's application, choose whether you want single or dual GNSS antenna. For who wants to avoid post processing, Real Time Kinematic solution is also available.

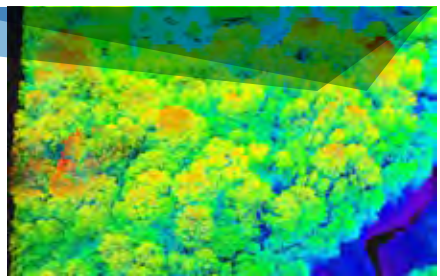
XFLY

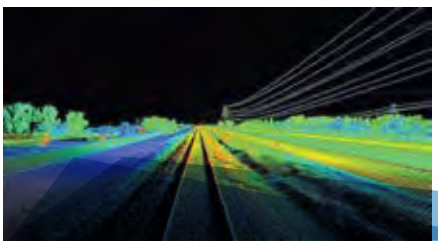
FLYPOST

The software observes and corrects misalignments between the INS and LiDAR, and georeferences the data into a geographic coordinate system. The post-processed INS trajectory, LiDAR scan files and camera images are converted to point clouds in LAS format for further processing.

CONSTRUCTION SITE

FORESTRY





RAILWAY

POWER LINES

NEW GENERATION PHOTOGRAMMETRY

XVS

The system uses a technology based on the integration of high-resolution images, inertial systems and a complex algorithm: capturing a scenario with XVS, 3D model will be generated through photogrammetric techniques. Walking and capturing the scene in motion, a real-time interface will guide you in the data collection, suggesting the speed of your movement and if necessary returning to an area to have enough image overlapping.

Thanks to Visual SLAM system (Simultaneous localization and mapping), your trajectory is displayed in real-time on a tablet. The Inertial Measurement Unit (IMU) sensor helps the algorithm to generate a continuous image block. The best result will be obtained automatically. Back in the office, the procedure to generate the 3D model is fully automatic, through a desktop PC. Data coming from XVS can be integrated with video from UAV drone or any camera for a complete reconstruction of the area.

ACCURATE

Smart algorithm makes it possible to choose the best images and increase the accuracy of the derived model. If the capture is very close to the element (around 1 m) and closing where you started-loop closure-the accuracy is 2-3 mm.

HD TEXTURES

Based on advanced high-resolution images, it allows reconstructing the texture of the scanned material with great clarity and realism.

SCALED AND LEVELLED RESULTS

Through the automatic detection of targets and the use of inertial systems, scaled and levelled results can be obtained.

EASY TO USE

Because of its practicality and ease of use, it can be used by multiple people within a company or institution, without the need for prior knowledge of 3D scanners. The field application will guide in through the data collection.

VERSATILE

A variety of urban scenarios can be documented using XVS scanner, as infrastructures, accident reconstructions, gas/water connection works, building faces and others. The geometric accuracy and colour realism in the results, make it a companion also for archaeological, architectural and geological work.

ACCESSORIES

LIGHT

POLE

XVS

VISUAL SLAM TECHNOLOGY

Visual simultaneous localization and mapping technology determines the position and orientation of a camera in relation to its surroundings, while mapping the environment around it. Through subsequent images, points are tracked to triangulate their 3D position; this information is simultaneously used to approximate the camera pose. The advantage, compared to standard photogrammetry, is that at the end of the survey you leave the site with the certainty that the frames have the correct overlap for building the point cloud.

BUNDLED SOFTWARE

XVSAPP

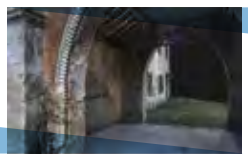
The provided software has a simple interface and helps the user by indicating how to behave in critical steps and alarming in case the object is not captured correctly. Camera parameters are fully customizable, adapting them to the surrounding environment. Suggested tablet is Microsoft® Surface PRO, not included in the bundle.

Data collected in the field can be sent to a server for advanced data processing. This service will return point cloud or mesh formats, which you can use in Cube-3d or any third-party software.

APPLICATION

URBANISM

INFRASTRUCTURE



RESTORATION

ARCHAELOLOGY

GEOLOGY

LIGHT & FAST

X100

Its multi-line lidar technology and ability to achieve complete coverage of the surrounding area enable it to calculate 3D models for a wide range of applications and scenarios, both outdoors and indoors.

The scanner comes with its own X100app field app, making it easy to control the device. Thanks to the scan converter, the data is compatible with Cube-3d and Stonex Reconstructor, as well as third-party software. The X100 is the perfect tool for quick topographic surveys, scans of building facades and data collection for floor plans; a quick 360° scan takes as few as 45 seconds. The built-in panoramic camera allows you to add true colour to your scans.

SMALL AND LIGHT

The scanner can be easily used by a single person thanks to its small size and weight of approximately 3kg.

WIRELESS CONTROL

Through the dedicated APP it is possible to control the device remotely. Scan with one click and check quality via real-time preview.

PANORAMIC HRD CAMERA

Add colour to your scan.

SELF CALIBRATING

± 5 degrees tilt supplement angle for precise leveling. Monitor scanner leveling via electronic bubble available on the app.

FAST SCAN & DOWNLOAD

A 360° one-stop scan requires only 45s. Data are saved on USB dongle directly. Post-processing begins after field work!.

X100
APPLICATION

X100 is the perfect instrument for efficient and precise work in a wide range of applications:

LAND & EXCAVATION
Terrain Elevation Models, Volume calculation, Tunnels, Profiles and Contours.

ARCHITECTURE & REAL ESTATE
Floor plans, Sections, facade scanning.

EMERGENCY MANAGEMENT
Assestment and support of Emergency Response Planning.

BUNDLED SOFTWARE

X100APP
X100 has a dedicated Android app for field data collection. Through the app it is possible to manage the survey quickly and easily.

X100 MANAGER
X100 Manager is a dedicated tool for X100 data converting. Scans are coloured, filtered from noise and converted into the most popular formats, such as .las and structured .e57.

3D SOFTWARE

STONEX RECONSTRUCTOR
The Stonex Reconstructor software allows you to manage and align point clouds acquired through laser scanners or other sensors, clouds produced by photogrammetry and in general any point cloud. Complete and clear workflows will guide you during the processing and the expandable modules are able to meet different needs, covering many fields, such as: surveying, mining, construction, architecture, cultural heritage, BIM, galleries etc.

REVOLUTIONARY & VERSATILE

NUVO

NUVO is an innovative and easy-to-use mobile mapping system, based on camera and photogrammetry reconstruction. The integrated GNSS and Visual camera ensure trajectory continuity and accurate results. The modular and upgradable solution can suit different customer needs, allowing surveying both on foot or with a vehicle and making mapping a one-person job.

The main breakthrough lies in the ability to recognise road features directly in the field, allowing real-time assessment of the conditions and, eventually, adding any information for GIS surveys and BIM reconstruction. The large amount of information collected can be processed though a cloud service, obtaining 3D models, panoramas and the detected features for asset inventory.

MODULAR SOLUTION

The system can be upgraded in terms of both hardware and features, with the aim of meeting the various need of customers.

REGENERATIVE VISUAL SLAM

A complex algorithm takes into account GNSS signal as source in the trajectory definition. If the signal is lost, the visual camera information is used to ensure continuity and ensuring the same accuracy.

DETECTION & SEGMENTATION

The AI based system is able to detect road elements for asset inventory. Once recognized, their shape is segmented with the purpose of obtaining complete CAD/BIM or GIS information. All this, directly in the field!

AUTOMATIC PROCESSING SYSTEM

Data collected in the field can be sent to a server for advanced data processing. The service will return point cloud or mesh formats, panorama images with trajectory and the detected/segmented items.

NUVO
CITY MAPPER

NUVO comes with a dedicated application interface for the complete management of the system, from data collection to processing. The platform is accessible through a web browser, and an offline- enabled app on Android devices.

REAL TIME DATA WITH LIVE IMAGE PREVIEW

Keep an eye on the survey preview, with the possibility of changing the camera settings.

TRAJECTORY ON THE MAP

Alternatively to the camera view, you can choose to open the map to know your current position and the trajectory you have covered.

DETECTION AND SEGMENTATION

Sidewalks, manholes, street signs, street-lamp and many other elements can be detected and segmented directly in the field. The AI based system sets no limit to the items that NUVO will be able to recognise.

CLOUD PROCESSING BIM AND GIS FORMAT

You don't have to worry about processing the data, just select the projects and with a few clicks you get all the deliverabled needed, including shape files and IFC format.

3D SCANNING
TECHNICAL SPECIFICATIONS



	X100	XVS	XFLY
TYPE	Tripod - Lidar	Handheld VISUAL SLAM	UAV Lidar
RANGE	0,5 – 120 m	0,4 – 40 m	XFLY120: 120 m XFLY300: 300 m
ACCURACY	Up to 6 mm	Up to 3 mm	±3 cm
PTS/SEC	320.000	-	640.000
FOV	268°x360°	65°	XFLY120: 31°x360° XFLY300: 40.3°x360°
POWER SUPPLY	Battery (2 replaceable)	USB Type-C 3.0	Skyport
WI-FI	√	-	√
DATA TRANSFER	USB	USB Type-C 3.0	256GB USB dongle
DIMENSIONS	125x113x275 mm	151x120 mm	XFLY120: 20.8x14.2x17 mm XFLY300: 20.8x14.2x15.2 mm
WEIGHT	3,2 Kg	740 g	XFLY120: 1.7 kg XFLY300: 1.23 kg
OPERATING TEMPERATURE	0°C +40°C	0°C +40°C	n\a
IP	IP54	n\a	n\a
CAMERA RGB	72MP	5MP	24MP
OUTPUT	LAS, E57	PLY, OBJ, LAS	PLY, E57, LAS

NUVO
TECHNICAL SPECIFICATIONS

SLAM
PRODUCT COMPARISON




	X40[GO]	X70[GO]	X120[GO]	X200[GO]
LIDAR				
Min-Max range	0.1-70 m @80%	0.1-70 m @80%	0.5-120 m	0.5-300 m
Relative accuracy		6mm[1]		
Scanning Point Frequency	200,000 pts/s	200,000 pts/s	320,000 pts/s	1st ECHO: 640,000 pts/s 2nd ECHO: 1,280,000 pts/s 3rd ECHO: 1,920,000 pts/s
FOV	360°H, -7~52°V	360°H, -7~52°V	360° x 270°	360° x 270°
CAMERA				
N° of pixels	12 Mpx	12 Mpx, RGB camera 12 Mpx, Visual camera	15 Mpx (3 cameras, 5 Mpx each)	24 Mpx (2 cameras, 12 MPx each)
Diagonal FOV	210°	210°	200°	210°
Focal length	1.26 mm	1.26 mm	2.05 mm	1.26 mm
Resolution	2704X2288 px	4000X3000 px	2592x1944 px	4000X2000 px
SYSTEM				
Data storage	512GB SSD	512GB SSD	SD card 32GB (Expandable)	512GB SSD
Communication	Wi-fi, USB type-c	Wi-fi, USB type-c, Lemo	Wi-fi, USB type-c, Lemo	Wi-fi, Bluetooth, USB type-c, Lemo
ELECTRICAL SPECIFICATION				
Power consumption	18W	20W	25W	26W
System supply voltage	20V	20V	20-30V	20V
Operating time3	1.7 h (single battery)	1.5 h (single battery)	2.5 h (1 battery set)	1.2 h (single battery)
External power		USB type-c		
Battery capacity	3000mAh	3000mAh	3350mAh x4	3000mAh
PHYSICAL SPECIFICATION				
Weight	650 g (without battery) 1.16 kg (with battery)	925 g (without battery) 1.45 kg (with battery)	1.5 kg (without battery) 1.95 kg (with battery)	1.4 kg (without battery) 1.9 kg (with battery)
Size [mm]	283.8 x 173.8 x 170	364.5 x 173.8 x 170	372 x 163 x 106	403.6 x 173.8 x 170
Operating temperature	-20°C to +50°C (-4°F to 122°F)	-20°C to +50°C (-4°F to 122°F)	-10°C to +45°C (14°F to 113°F)	-20°C to +50°C (-4°F to 122°F)
Operating humidity	<95%	<95%	<85%	<95%
Waterproof/Dustproof	IP54			

cube·3d

Cube-3d is a complete software for 3D data management, built by two modules for photogrammetry and for scanner data. The former processes images (or videos) to generate accurate digital maps and 3D models with extreme precision; the latter provides tools to align point clouds. It is compatible with cube-a surveys and with any third-party 3D model.

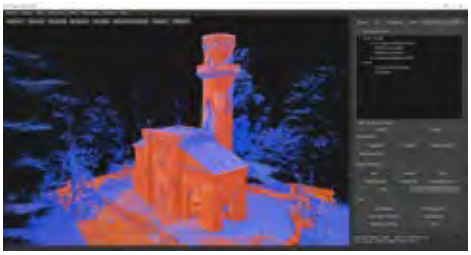
It is possible to draw on point clouds or meshes and merge data imported from traditional survey tools, all in a single software. The data can be then processed and enhanced thanks to the various CAD tools. Among the many features available, most appreciated are the automatic classification, orthophoto, cross-sections and profile lines, volume calculation, and more. Licenses configuration is very flexible, from perpetual to temporary subscription, it adapts to the needs of many professionals.

PHOTOGRAMMETRY MODULE

The program can process, in a single project, images captured by any handy camera, UAV drone, or multiple-camera and create extremely accurate and detailed high-definition 3D models. It can generate a fully geo-referenced, spatially orientated, and complete overview of your site configuration.

Cube-3d automatically detects both GCPs and detail points, allowing the operator to check the position of the detected targets, in the first step of the orientation. With Stonex targets, the time needed will be even shorter, centering is immediate. Alternatively, coded targets are also supported for fully automatic orientation. Even working with RTK drones, it will be easy to achieve centimeter accuracy without GCP.

SCANNER MODULE



Import clouds from Lidar, Laser Scanners, and without limitation from any tool capable of generating them. Full support for Stonex Scanners and a wide range of import formats. Register point clouds in cube-3d and take advantage of all the excellent tools it provides.

MAIN FUNCTIONALITIES

CLASSIFICATION

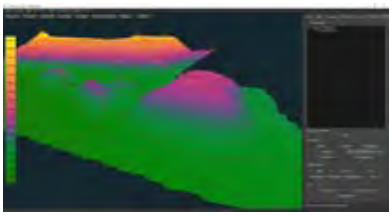
Benefits from an industry-leading classification engine with best-in-class point cloud customization tools that give users fast, easy-to-use, and simple data classification.

ORTHOPHOTO AND X-RAY

It allows to calculate high-resolution, traditional and true, digital orthophotos with cm-grade precision in perfect geo-referenced details. The X-ray feature helps to see through the rooftops, so drawing building walls and similar features on a survey map will be much easier. From 2D X-ray views, generate layouts customising their dimension and position.

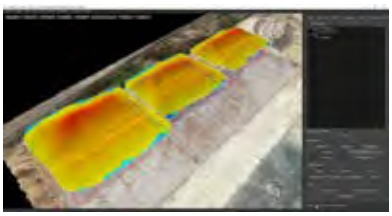
CROSS SECTIONS, PROFILES AND CONTOUR LINES

From point cloud data, it will draw a definition line and calculate single vertical cross-sections or multiple transverse profiles with user-defined intervals. Or it can instantly create topographic maps, and freely explore terrain elevation data in 2D or 3D, thanks to the automated contour lines calculation.



VOLUMES

Calculate volumes, comparing different models for cut&fill. Dedicated tools to move points, increase/decrease heights, flatten, etc... permit the prediction of future surfaces/results of the area.

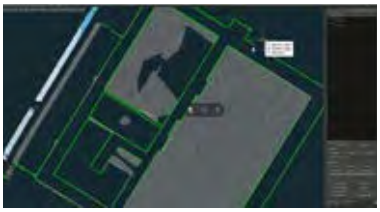


CAD ENGINE

Integrated CAD functions give you the power to work on your project with a complete layer system, snapping tools, drawing options and measurements. No need of any further third-party CAD software.

MEASURE ON PANO IMAGE

Import e57 point cloud with panoramic images and switch among them to measure. The use of the panoramic camera will give you a clearer idea of the environment and you will be able to take measurements more easily.



VECTORIALIZATION

In few clicks, extract lines from plans of your point cloud. Edit the result of the vectorizer, snapping lines, if needed. CAD results will be exported effortlessly.

CUBE - 3D
MODULE COMPARISON

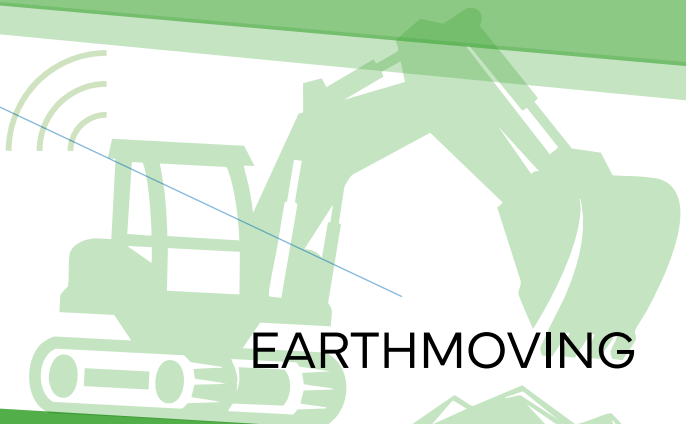
	PHOTO module	SCANNER module
3D MODEL GENERATION FROM IMAGE/VIDEO	√	Upgrade to PRO
MESH GENERATION	√	√
GCP ORIENTATION	√	√
MANUAL REGISTRATION	Upgrade to PRO	√
2D VIEWS & LAYOUTS GENERATION	Upgrade to PRO	√
VECTORIZER ON LAYOUTS	Upgrade to PRO	√
CAD TOOLS ON MESH/POINT CLOUD	√	√
CAD TOOLS ON ORIENTED IMAGES	√	Upgrade to PRO
MEASURE ON PANO IMAGES	Upgrade to PRO	√
CLASSIFICATION	√	√
VOLUME	√	√
ORTHOPHOTO	√	√
CROSS SECTION & PROFILE	√	√
CONTOUR LINE	√	√
FLYTHROUGH VIDEO RECORDER	√	√


3D SCANNING
3D SCANNING EVERYWHERE

MACHINE CONTROL SOLUTIONS
FOR HIGH PRECISION WORKS

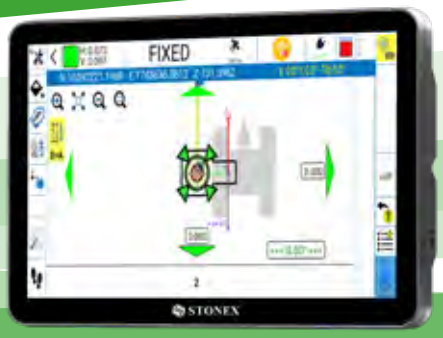
Our world demands technologies that are able to monitor and assure the correct workflow to get the job done quickly and correctly.

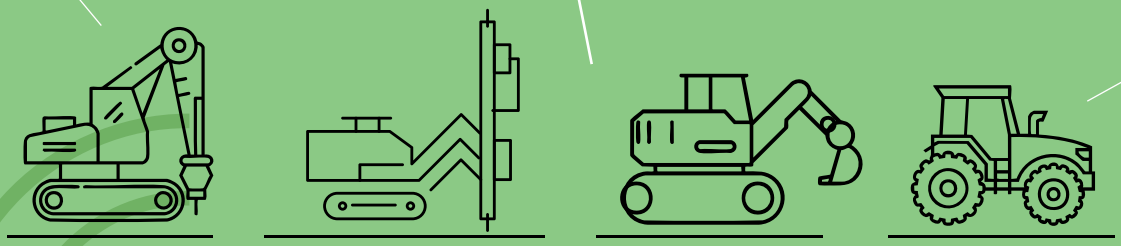
The Stonex team has a deep knowledge in developing solutions, in order to improve the jobsite productivity keeping in first place the Operator's safety.



EARTHMOVING

PILING

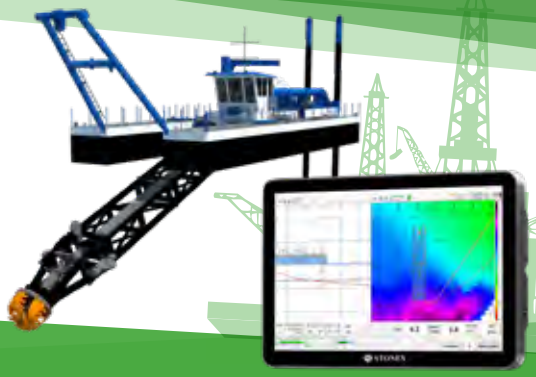




AGRICULTURE

DRILLING
AND MINING

MARINE



SUITE STX-MC

MACHINE CONTROL

EARTHMOVING

Stonex machine control solutions can be installed in most earthmoving machines quickly and easily.

The simple design of the solution allows you to be up and running in no time. Thanks to the Android software developed by Stonex, all the components can easily communicate with each other. The software allows you to manage all phases of excavation and machine movement. The system is scalable as needed. It is possible to install a 1D/2D solution and then easily transform it into 3D.

PROFESSIONAL SOLUTION

Efficient workflow with ON and OFF Machine solutions for complete data management.

ACCURATE POSITIONING

High precision positioning thanks to GNSS Antennas and high quality sensors.

EASY TO USE

Our system is plug & play. Quick to install and easy to use thanks to an intuitive user interface.

HIGH PRECISION SENSORS

The system is equipped with precision sensors that provide accurate data. Our sensors also have a high frequency rate.

ANDROID SOFTWARE

Software developped by Stonex for Android system, optimized for machine control operations.

ROI

Adopting Stonex solutions means reducing production costs. Less operators with high productivity.

SUITE STX-MC

MACHINE CONTROL FOR THE CONSTRUCTION WORLD

STX-DIG

The control of an excavator is a very delicate operation in all phases of work. In order to operate quickly and effectively, it is necessary to monitor all the movements of the machine in a precise manner. The system developed by Stonex is equipped with high-precision motion sensors that provide real-time information on the status of the machine. The information is sent to the Android tablet installed in the cabin. The tablet is equipped with Stonex software developed specifically for the world of machine control. The system is scalable as needed. It is possible to install a 1D solution and then easily transform it into 2D or 3D.

SET DEPTH / SET TILT

SET 3D MODULE

HEIGHT ALERT

STX-GRADE

The dozers and graders are routinely used in the material distribution process and grading. A precision control system allows you to avoid excessive digging and to keep the use of materials under control. The Stonex system for leveling control is equipped with an inclination sensor to measure the status of the blade and one or two laser receivers as needed. The Android tablet mounted in the cabin, via the dedicated app, shows the inclination and elevation in real time and automatically sends the corrections to the machine system. The system is available in different configurations, with laser/s or GNSS receivers.

MACHINE CONTROL

EXCAVATION

STX-DIG

Stonex machine control solutions can be installed in most excavators machines quickly and easily. The simple design of the solution allows you to be up and running in no time.

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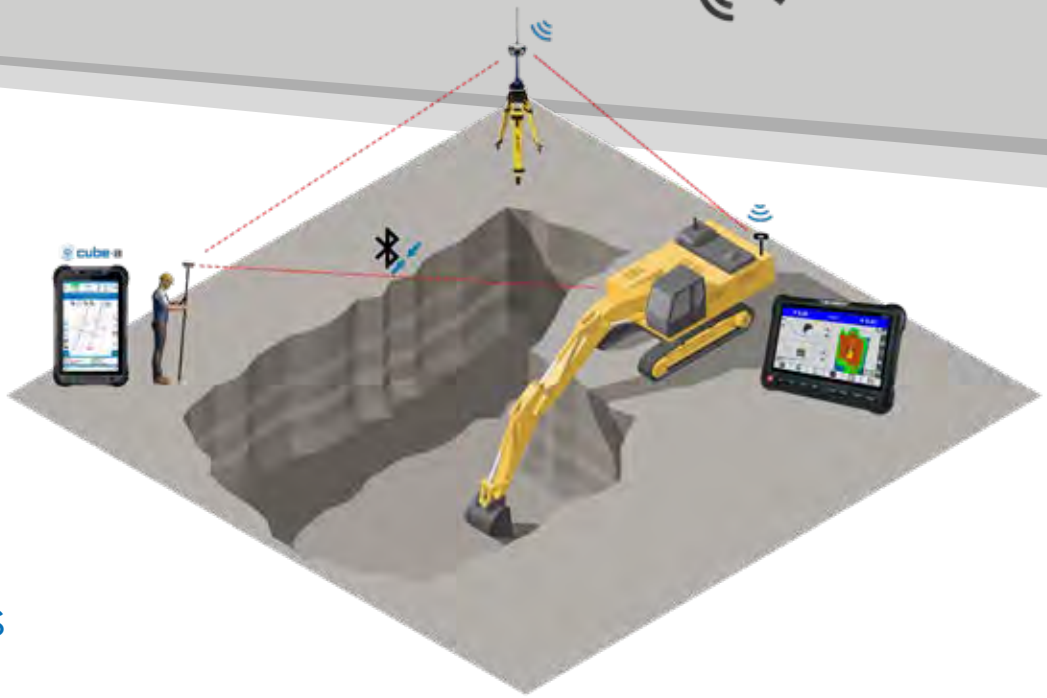


CONFIGURATIONS

1D

The 1D system is the easiest to install and use. It allows you to manage the digging and vertical leveling phases quickly and precisely. It is a perfect starting point for the user approaching the world of machine control for the first time. Suitable for excavators and mini excavators. You can always check the bucket position from the screen in real time. Complex tasks such as underwater digging and blind digging are simplified because you can always keep an eye on the bucket on the screen. You can work with different height references such as an existing surface or a rotating laser.

SUITE STX-MC

2D

The 2D system allows operations to be managed even on the horizontal plane, thanks to the use of a GNSS antenna installed on the machine (heading). It is the simplest solution if you have to work with double slopes. You can create slopes and excavations in any orientation. Just enter the depth of the excavation, the slopes and you can start working. The system uses GNSS antennas like a compass. The system can work with the Touch and Go function or with the laser to transport the working height of the construction site.

3D PRO

3D Pro allows you to manage complex projects thanks to the ability to import geo-referenced projects. The perfect integration of the data collected with field GNSS receivers and the excavation system makes the process very simple and fast. The management of large and complex excavations can be managed with 3D Pro and Cube-a.

	1D	2D	3D pro
Depth	✓	✓	✓
Slope	Single	Dual	Dual
Pipelaying	✓	✓	✓
Grading work	✓	✓	✓
Heigh Allarm	✓	✓	✓
Laser reference	Optional	Optional	Not need
Tilt bucket	✗	Optional	Optional
Pitch&Roll	✗	✓	✓
Compass GPS	✗	✓	✓
GPS positioning RTK	✗	✗	✓
Creation of projects in the field	✗	✗	✓
Project import	✗	✗	✓

GNSS RECEIVERS FOR MC

SMC-ONE

SMC-ONE is a dual antenna GNSS receiver specifically designed for machine control applications. It is equipped with all the functionality you need for a machine control application in one small device. Stream all your sensor and GNSS data over a single Serial, CAN BUS or ethernet connection to your controller.

MULTI CONSTELLATION
All GNSS signals (GPS, GLONASS, BEIDOU, GALILEO, and QZSS) are included at no additional cost.

PITCH AND ROLL
The sensors track the movements of the machine's body, both pitch and roll.

HEADING
Dual antenna for heading.

SMC-TWO

SMC-TWO is a Dual Antenna GNSS receiver specifically designed for OEM Market. It is equipped with all the functionality you need for a machine positioning application in one small device. Stream all your sensor and GNSS data over a single Serial, CAN BUS or ethernet connection to your controller. SMC-TWO delivers accurate, seamless NMEA and CAN data throughout the system.

MULTI CONSTELLATION
All GNSS signals (GPS, GLONASS, BEIDOU, GALILEO, and QZSS) are included at no additional cost.

GALILEO HAS
SMC-TWO supports Galileo HAS service. Get improved user positioning performance in real-time.

PITCH AND ROLL
The sensors track the movements of the machine's body for slope information.

HEADING
Dual antenna for heading.

SUITE STX-MC

S850+
BLACK EDITION

Equipped with an advanced 1408-channel GNSS board and capable of supporting various satellite constellations, including GPS, GLONASS, BEIDOU, GALILEO and QZSS. The Stonex S850+ GNSS receiver is the ideal solution for any surveying work in the field. The receiver's advanced design gives the S850+ excellent signal tracking and interference resistance capabilities. The advantages of portability and speed of operation make the S850+ GNSS receiver particularly suitable for field work in areas with complex terrain. Stonex S850+ also integrates the IMU system that enables inclined measurement (TILT) up to 60°: quick initialization, fast and accurate surveying.

S980+
BLACK EDITION

The color touch display and the ability to connect an external antenna make the S980+ an extremely effective receiver, capable of detecting GPS, GLONASS, BEIDOU, GALILEO QZSS and IRNSS constellations, making it suitable for any job. With a 4G GSM modem, a fast Internet connection is guaranteed, while Bluetooth and Wi-Fi modules always enable reliable data flow to the controller. These features, combined with the built-in 2-5W radio, make the S980+ the perfect receiver as a base station. The S980+ also features optional IMU technology with quick initialization and tilt up to 60° and dual antenna support for heading. S980+ can also be mounted on excavator and used as GNSS in the STX-DIG solution.

MACHINE CONTROL

DRILLING & MINING

Stonex has developed simple solutions for the correct positioning of machines on the construction site. Thanks to our systems it is possible to follow the project coordinates without errors.

In addition to the components installed directly on the machines, our software also handles the traditional staking part if needed. To facilitate the exchange of information between operators, the solutions consist of a part dedicated to the office and a part dedicated to field work. Office and field can communicate thanks to the use of a Cloud platform where they can easily share data, projects and information.

PROJECT AND DESIGN

The Project can be generated, importing the local coordinates from different formats (DXF, TXT). A TARGET POINT file will be produced for the GPS navigation purpose. The Project coordinates include the depth and the tilt information.

MONITORING ACTIVITY

Thanks to a remote connection it is possible to monitor the progress of the work and update the projects in real-time.

VISUALIZATION AND STORAGE

Thanks to our solutions it is possible to assess and store the position of the drilling point.

ANDROID SOFTWARE

Software solutions that work with AndroidTM system.

ROI

Adopting Stonex solutions means reducing production costs. Less operators with high productivity.

SUITE STX-MC

SATELLITE TECHNOLOGY FOR HIGH PRECISION MINING OPERATIONS

Stonex machine control division has designed three solutions for the mining world:

A GPS guidance system for jet grouting capable to determine the correct planimetric position of the columns, the verticality of the drilling tower and the deviations from the designed coordinates.

A system for guiding and positioning digwheel machines for the construction of quarries or tunnels.

MACHINE CONTROL

PILING

Stonex positioning technology provides excellent performance in piling operations, supplying a solid solution to operators.

The main solution (GPS + tablet + software) is able to process large surveys and create projects quickly; the quality of the work is ensured by the correct interaction between the sensors and the software. Our solutions offer a different degree of automation for the pile driving process, to meet the customer's needs and reducing working time.

PROJECT AND DESIGN

The Project can be generated, importing the local coordinates from different form ats (DXF, TXT). A TARGET POINT file will be produced for the GPS navigation purpose.

SURVEY STAKE-OUT

Quick and smart stakeout GPS solution made for any kind of operator. A clear guidance layout aids the operator to find the post position with centimeters accuracy.

MACHINE GUIDANCE

Our solutions fit on any kind of piling machines and drive the operator on the target point (post coordinates) in manual, semi-automatic and automatic mode.

AUTO LEVELLING

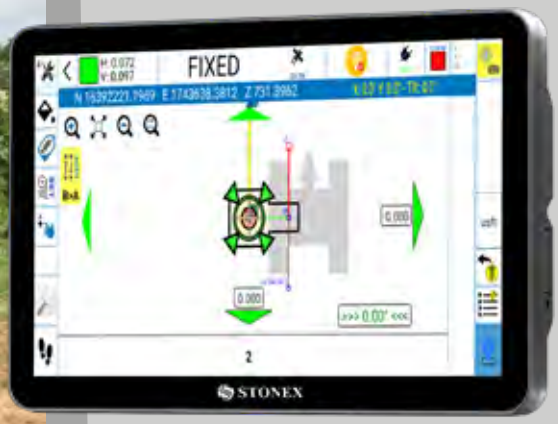
A slope sensor with an hydraulic interface can be installed on any machine in order to assure always the best levelling accuracy of the mast along two axis.

ROI

Adopting Stonex solutions means reducing production costs. Less operators with high productivity.

ANDROID SOFTWARE

Software solutions that work with Android system.



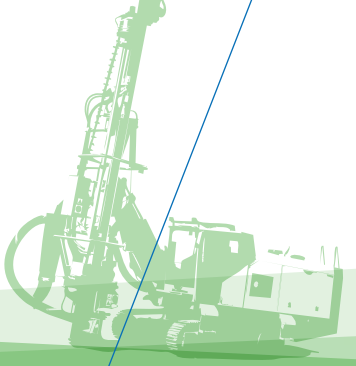
GPS SATELLITE TECHNOLOGY FOR PILE DRIVERS

Stonex machine control division has designed different solutions for pile drivers machines.

SOLAR FIELDS - ROADS - AGRICULTURE

Our solutions can be used to create photovoltaic fields, to set up the rows of a vineyard or to facilitate the construction of guard rails. Thanks to GNSS technology and precision sensors, every operation is easy and fast. We also provide a solution for testing the strength of the posts with a push and pull validation test.

AGRICULTURE PRECISION FARMING



Stonex offers numerous solutions to meet the needs of the agricultural world. Our solutions for smart farming provide the ability to easily plan, schedule and manage jobs. Our receivers reach high levels of precision, becoming largely usable for jobs related to precision agriculture.

The solutions consist of hardware and software; moreover, they adapt to different types of machines becoming easily adaptable to the client's needs. The goal is to improve the quality of work and reduce the stress of workers, supporting them in all those activities that require great precision.

PROJECT AND DESIGN ON THE FIELD

Design the plant layout directly in the field thanks to the powerful software.

MACHINE GUIDANCE

Easy driving of the tractor on designated routes and points by following the indications on the display.

SURVEY STAKE-OUT

Adapt the plant layout to the elevation profile of the field. Smart stake-out with auto-lock.

HIGH ACCURACY

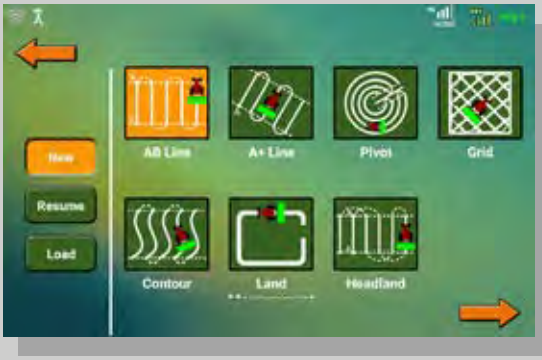
High-precision positioning of machines, poles and plant shoots using GNSS technology.

ANDROID SOFTWARE

Software solutions that work with Android system.

ROI

Adopting Stonex solutions means reducing production costs. Less operators with high productivity.



GPS TECHNOLOGY FOR SMART FARMING

Stonex Agriculture division has designed several solutions for smart farming:

GUIDANCE SOLUTION

Stonex STX-AG200 and STX-AG300 solutions allow you to use the precision positioning provided by GNSS antennas to efficiently guide agricultural machinery in the field. You can set straight, curved, concentric lines and much more.

PILING SOLUTION FOR FIELDS AND VINEYARD

A solution for the design and driving of poles in a field /vineyard that allows to reduce time and work stress, as well as to increase the accuracy.

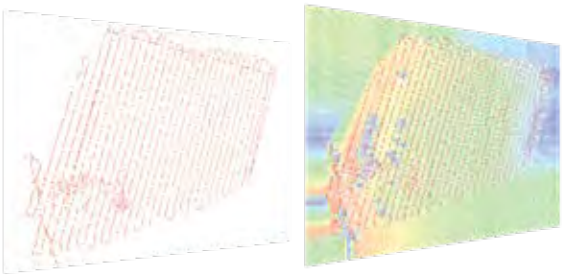
PLANTING SOLUTION

Our solution allows you to plant the cuttings in a precise point thanks to precision positioning, following a project defined in the management software.

NAVIGATION & DREDGING

Stonex offers flexible, high-performance positioning systems to meet the unique needs of marine world on both simple and complex projects.

Our solutions include both hardware and software, and can be easily integrated into third-party systems. Improve productivity and efficiency in underwater applications thanks to our systems. Our solutions are suitable for dredging operations, canal/port development, reclamation, breakwaters, navigation systems and hydrographic surveys.



SEABED MAPPING

For those who need to map the seabed, Stonex is able to provide the appropriate equipment for the purpose.

PORTABLE ECHOSOUNDER

ANDROID APP

BLUETOOTH CONNECTION

200KHZ FREQUENCY

- 0.2 TO -120M RANGE

REAL TIME VISUALIZATION

You can keep an eye on each stage of operations in real time and correct/modify what you need based on the job you are doing.

ACCURATE PROJECTS

Thanks to our software you can create the project you need quickly and easily.

HIGHLY CONFIGURABLE

Highly configurable to suit endless vessels and dredges. Wide room for different applications including navigation, excavation, dredging, piling and mapping.

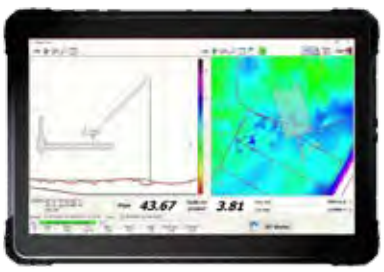
PRECISION POSITIONING FOR MARINE OPERATIONS

NAVIGATION

Stonex has developed a precision navigation system that uses RTK GNSS receivers, GNSS antennas and dedicated software to facilitate complex operations such as navigation in difficult zones.

DREDGING

For all operations regarding dredging and dredger control, Stonex has developed a specific system that facilitates operations. The system adapts to various types of dredgers even of different sizes.



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STONEX

EUROPE HQ | Viale dell'Industria 53 | 20037 Paderno Dugnano (MI) – Italy

USA HQ | 54 Regional Drive | Concord – NH – 03301 – USA

+39 02 78619201 | info@stonex.it

stonex.it