One Software for All Machines

Manage excavators, bulldozers, and graders with a unified intelligent control platform.

Excavator Guidance System   Grader Control System   Bulldozer Control System

Onboard Guidance Monitor

Indicator Bar
Shows horizontal and elevation deviation from design, with clear tolerance visualization for real-time guidance.

Status Bar
Displays fill/cut status and provides quick access to machine centering, heading lock, 2D/3D switching, and panoramic view.

Menu Bar
Displays current task and allows access to task settings, system menu, offset and reference line configurations, and more.

Model Switch
Enables locking the vehicle view, switching between top and front perspectives, and toggling 2D/3D or panoramic display.

Key Features

Elevation Offset
Easily adjust the design surface position by modifying the elevation offset during the construction process, based on the final version of the design documents.

Work Trajectory
Track work performance with the work trajectory function. Share work trajectories with others, and customize the trajectory color to suit your needs.

Multi-Type Tasks

Supports file import in .xml, .dxf (view-only), .sjw, .ttin, and .road formats. Create flat surfaces, slopes, and trenching tasks manually, and deploy design files remotely via the HI-SITE platform.

Technical Specifications

TD122 Tablet

System	Android 11.0 / 9.0 (for Excavation Guidance System)
Display	10.1" 5-Point Touch
Resolution	1280×800p / 1024×600p (for Excavation Guidance System)
Dimension(W*H*D)	281*181*42 mm
Weight	1.5 KG
Power	9-36V DC Input

MC101 Receiver

Satellite System	BDS: B1I/B2I/B3I/B1C/B2a/B2b GPS: L1/L2/L5/L6 GLONASS: L1/L2 GALILEO: E1/E5a/E5b/E6 QZSS: L1/L2/L5/L6 SBAS: L1C/A
RTK(RMS)	Horizontal: 0.8 cm + 1 ppm, Vertical: 1.5 cm + 1 ppm
Network	LTE 4G, WiFi 802.11 a/b/g/n, 2.4 GHz
Bluetooth	4.2
Radio	410-470 MHz, Channel 116, Editable from 100 to 115
Connector	4x TNC (GNSS, UHF, GSM),1x NANO SIM Card
Indicator	3x LED (Satellite, Correction, Power)
Dimension(W*H*D)	220*135*57 mm
Weight	1.5 KG
Power	9-36V DC Input
Protection Level	IP67
Environment	Operating Temp: -40℃~+75℃, Storage Temp: -40℃~+85℃

TS121 IMU

Range	Pitch ±90°, Roll ±180°
Static Accuracy	0.1°
Dynamic Accuracy	0.5°
Dimension(W*H*D)	11*8*4 mm, 14*8*4 mm
Weight	0.4 KG
Protection Level	IP68

AT400 Antenna

Band	1164 MHz~1300 MHz, 1525 MHz~1615 MHz
Connector	TNC
Dimension(W*H*D)	156.2*140*55.5 mm
Weight	634 g
Protection Level	IP67

Machine Control Solution
for Earth Construction

Hi-Site

Industrial Smart Solution

Empower your machines with intelligent control solutions

Simple and Intuitive User Interface   Quick Installation and Setup   Reliable and Seamless Communication   Streamlined Workflow

Earth Construction
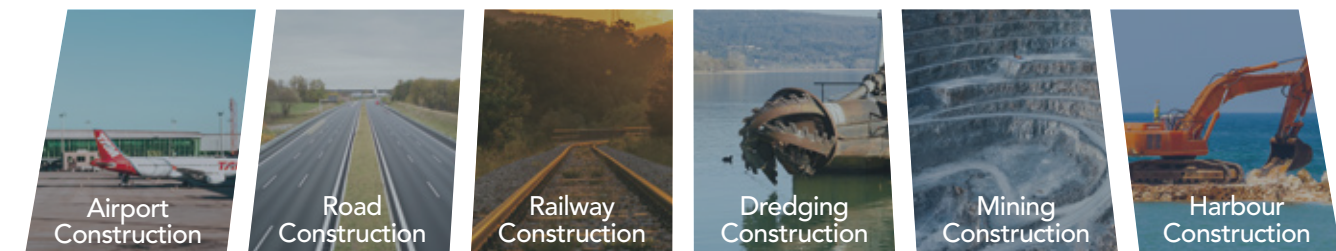**Streamline Your Workflow**

Offering a complete range of high-performance control systems, from excavators to pilers and drillers, these intuitive systems are user-friendly and fully customizable to meet various application requirements. The fully digitized equipment integrates to bring the field to the office, reducing rework and increasing efficiency and profitability.

With a series of high-precision GNSS receivers, angle sensors, compaction sensors, and temperature sensors installed on the equipment, the system uses advanced algorithms to calculate high-accuracy target coordinates from various real-time data sources, assisting and guiding operators effectively.

Higher Efficiency, Lower Cost

Comparison	Time	Fuel	Productivity	Rate of Improvement
ECS-E30	29'42"	11.17 L	147.67m³/hr	179.82% ↗
Traditional Excavator	54'48"	20.09 L	82.12 m³/hr	—

Applications

Airport Construction   Road Construction   Railway Construction   Dredging Construction   Mining Construction   Harbour Construction

Excavation Guidance System
ECS-E30

Maximize the performance of the SatLab ECS-E30 with high-precision positioning and 3D visualization technology to reduce rework and increase efficiency. The system features user-friendly software that allows operators of any skill level to work faster. Even on the most complex excavation projects, the software's visualization helps users work in low-visibility areas, such as underwater or at night.

Full Constellation Centimeter-Level Accuracy

6-Axis Sensor

Dual GNSS Antenna

Tablet TD122 and Software

IMU TS121

Antenna AT-400

IMU TS121

IMU TS121
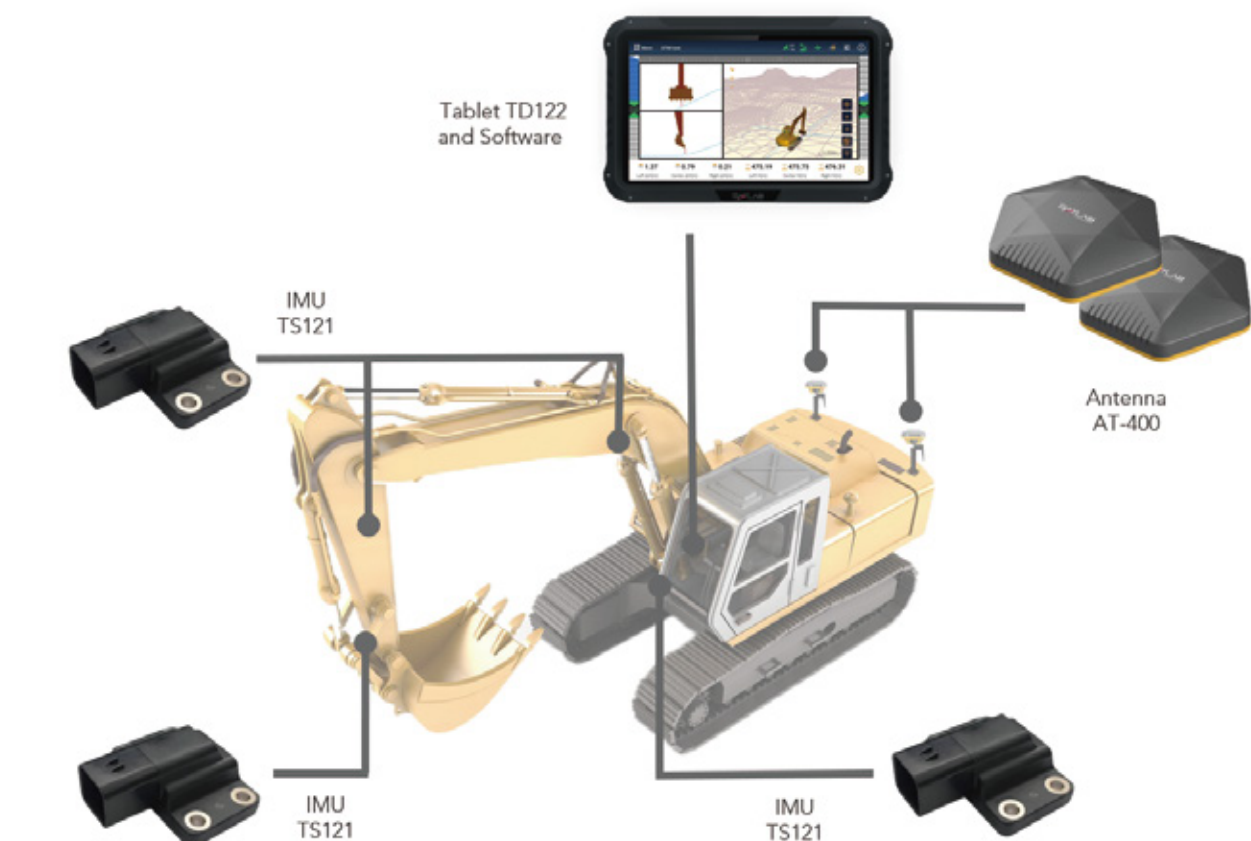
Bulldozer Control System
ECS-D60

Combined with the grader, the SatLab ECS-D60 system is another essential tool for your projects, enabling efficient coverage and precise control to maximize productivity. With a comprehensive project overview, the system reports the quality of the job area and provides analytics of the sampling points.

Real-Time Display Pass Track

10 Hz Refresh Rate

Global Satellite Tracking

Rugged Antennas, Bases, and Cables

Antenna AT-400

Tablet TD122 and Software

Hydraulic Valve HV124

IMU TS121

Receiver MC101
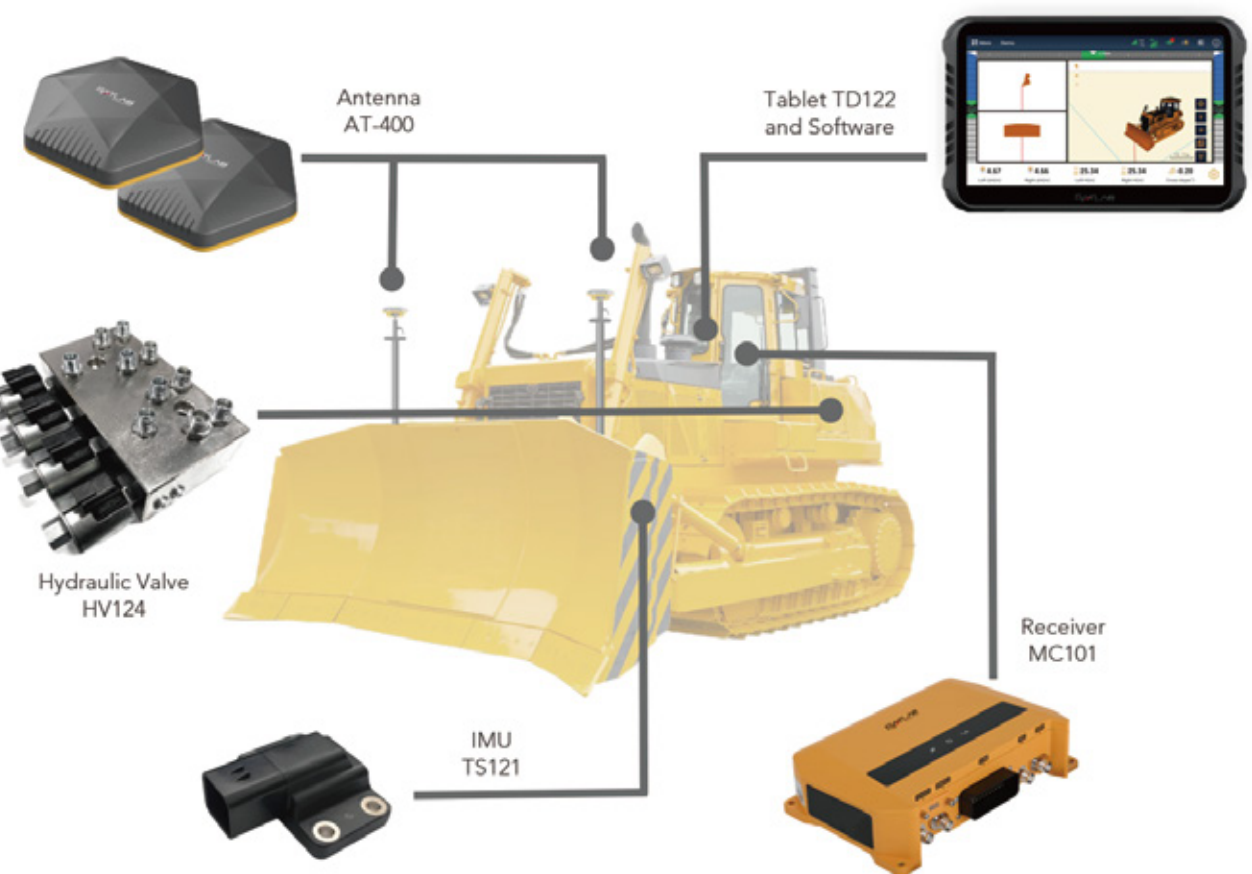
Grader Control System
ECS-G60

The automation of machine control ushers in a new era of grading. The SatLab ECS-G60 integrates the latest in GNSS grade control, digital terrain models, and real-time data processing to enable the grader to achieve accurate grading with minimal manual intervention. This ensures quick construction adjustments, reducing material waste and operating costs.

Centimeter-Level and 0.1° Heading Accuracy

Automatic Blade Control

Real-Time 3D Visual Guidance

Real-Time Sensor Feedback

Antenna AT-400

Tablet TD122 and Software

Receiver MC101

Hydraulic Valve HV122

IMU TS121

From Field to Cloud
The Complete Software System

SatMC
Onboard Software

SatMC is the core software for SatLab's machine control system. With a user-friendly interface and powerful project features, it supports seamless integration with SatLab receivers and total stations. One-click project file sharing and intelligent functions streamline construction workflows and boost on-site efficiency.

Cloud Platform
Smart Project Management

The cloud platform leverages IoT, mobile internet, cloud computing, BIM, big data, and AI to digitally manage all elements on construction sites. This enables lean construction methods and significantly enhances management efficiency for all stakeholders, including contractors and regulatory authorities.
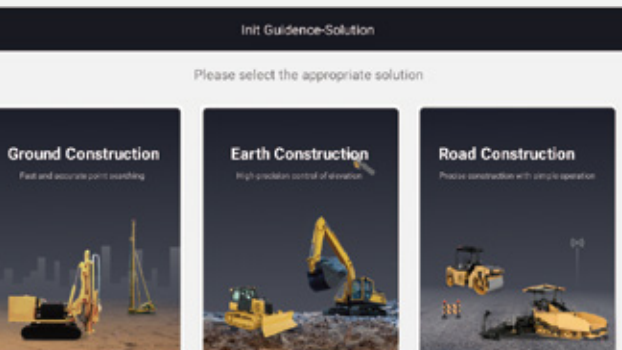
System Settings
- 3D Design Data Settings
- CAD Plan Settings
- Localization File Settings
- GNSS Correction Information Settings

Device Information
- Operating Status
- Construction Machinery Information
- Remote Construction Monitoring
- Historical Data Download