



IN-VEHICLE TRANSPORTATION
& OPERATION SOLUTIONS



Definition of in-Vehicle Transportation and Operation

Traction

Vehicle recovery

Cleaning

Lifting

Loading
Unloading

Raising
Lowering

Mixing

Digging

Bulldozing

Road
rolling

① Operations other than transportation involve various types of specialized vehicles with wheels or tracks.

② Specialized vehicles that are widely used and have certain representatives.

Monitoring

Firefighting

Cleaning

Medical

Television
broadcasting

agriculture

X-ray
examination

Tractor

Minecart

Police car

Ambulance

Super-
vision
vehicle

Fire
truck

Water
truck

Heavy-
duty
truck

Sweeping
vehicle

Cement
truck

Fracturing
truck

Tow truck

Bucket
truck

Snowplow
truck

③ Operations other than transportation involve vehicles equipped with fixed specialized instruments and equipment.

Vehicle Transportation and Operation common Classifications



Agricultural vehicles



Mine cart

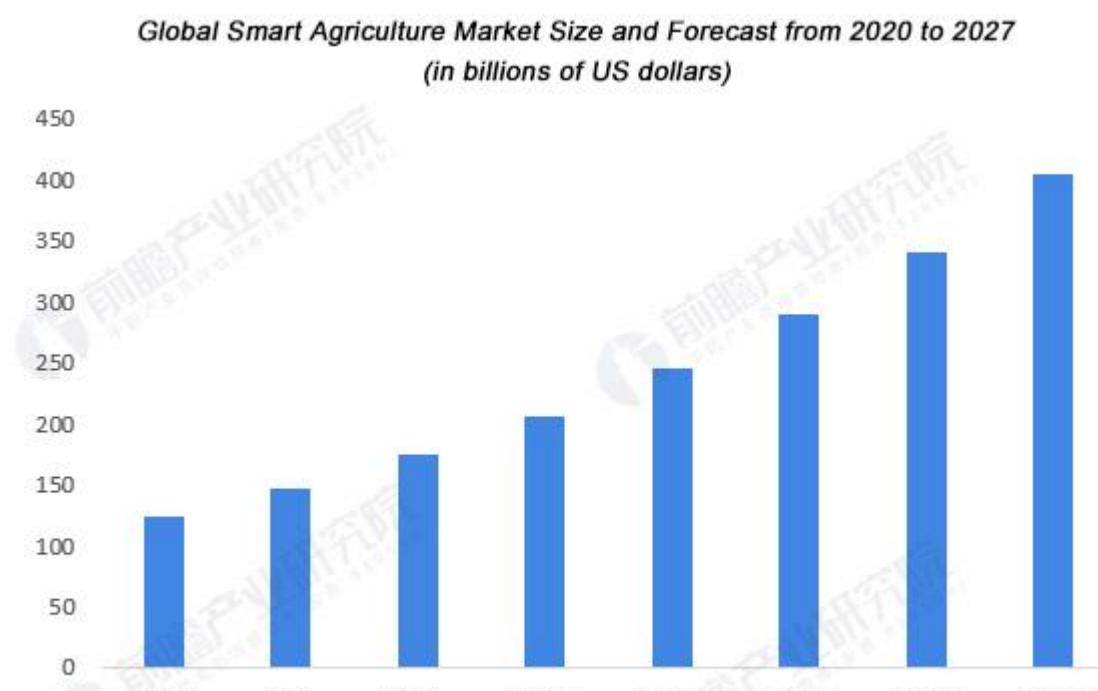


Ambulance

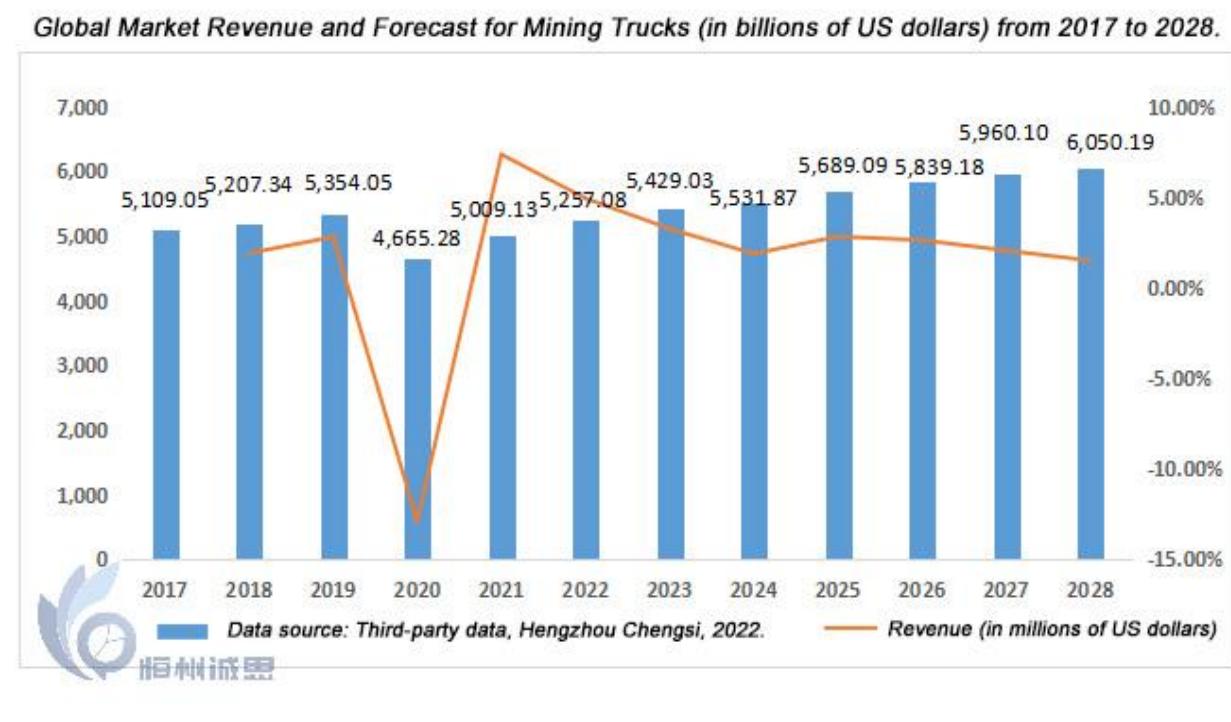
Market Size and Growth Trend

Example: Agricultural vehicles and mine cars

The global smart agriculture market was approximately \$14.7 billion in 2021, and it is expected to continue its high growth trend in the future. By 2027, the global smart agriculture market is expected to exceed \$40 billion.



BIS Research Statistic Qianzhan Industry Research Institute



The global market size of mining trucks (> 100 tons) reached \$3.645 billion in 2022, and it is expected to reach \$4.602 billion in 2029, with a compound annual growth rate (CAGR) of 3.43%.

Vehicular Transportation & Operations Solution Products



The tablet PC can be removed from the mount holder.

External vehicular mount holder which supports serial port, USB port, Ethernet port and power port.

The mount holder has screws to secure the cables.

The mount has holder a key lock to secure the tablet PC from theft.

There are VESA and RAM interfaces to securely mount the tablet PC.

The tablet PC has aviation plug interface to ensure stable connection of cables.

The tablet PC can be powered directly by the vehicle to avoid built-in

battery expansion due to prolonged heat exposure.

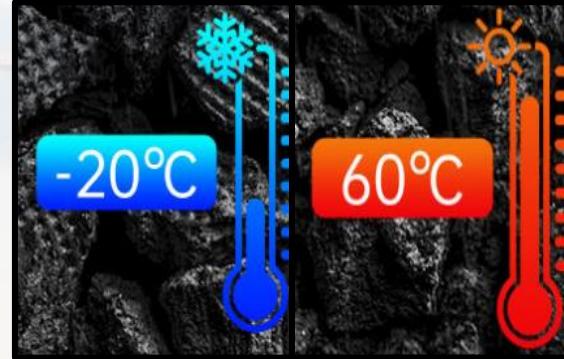
The tablet PC supports external GPS antenna and 4G/WIFI antenna to ensure signal enhancement.



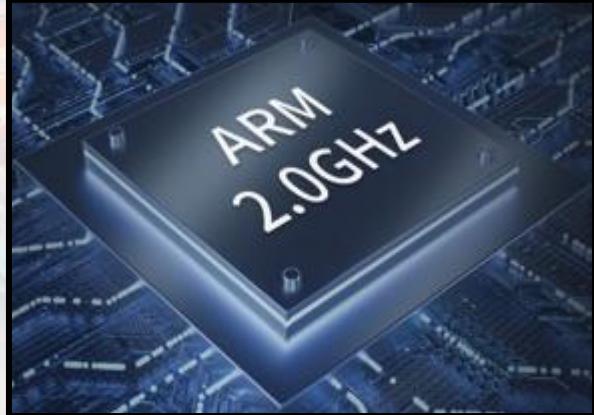
Windows & Android ,High temperatures & High brightness



- Intel Jasperlake N5100
- 1.10GHz / TDP 6W
- up to 8+128GB
- Windows11



- -20°C to 60°C IP65
- Working environment
- Using PC plastic reinforced with 10% glass fiber makes it more heat-resistant.



- ARM Octacore
- 2 * Cortex-A76
- 6 * Cortex-A55
- 4G LTE
- 4+64GB by default
- Android 12



- 1000nits high-brightness screen
- Supports multi-touch
- Speaker 2W
- Front buttons

The Installation and Contact Methods are Stable



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Diversified power supply methods



Power Adapter
12V4A DC φ4.0

Car charger+conversion cable
8-pin aviation plug turn into φ4.0 power connector 30CM output 12V/19V



Power supply turn into 4 loose wires
meet the customer's needs

Optional Accessories



Wide Voltage Module 9~36V



Backup battery



Car charger



Power adapter

Rich interface and extension module functions



I/O Ports

USB Port

RS232 Port

RS485 Port

RJ45 Port

CAN Bus

Optional Accessories



External high-precision GPS antenna.



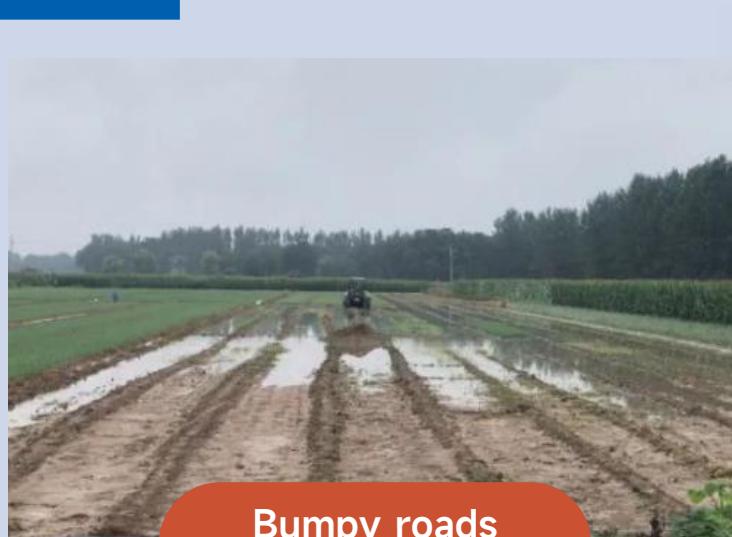
External 4G or WiFi antenna

Agricultural machinery operation problem



High temperature
High sunlight

The pain points of tractor operation outdoors are intense heat and strong sunlight which cause considerable heat buildup in the equipment, and make it difficult for the operator to see the screens clearly.



Bumpy roads
Accurate positioning

During outdoor tractor operations, rough and bumpy roads can cause equipment vibrations that result in loose contacts and connections, thus impacting normal equipment operations.

During planting or harvesting, it's necessary for the tractor to travel on precise routes.



Requires external
connection to
multiple devices

Tractor operations require the connection of a large number of external devices, such as angle sensors, controllers, hydraulic valves, etc. Therefore, serial ports or CAN BUS interfaces are necessary.

Recommend tablet PC models

8"



Vehicle PC V80T

8 inch display with a brightness of 1000 nits for clear visibility even in bright sunlight.

Powered by ARM Octacore Android 12 and equipped with 4G LTE for fast data transfer and connectivity.

Wide voltage power input to regulate power for vehicle use.

Multiple I/O interfaces including RS-232/485, LAN, and CAN, allow for connection with various vehicle sensors.

Versatile installation options cater to different vehicle types and maximize available space for efficient use.

External GPS antenna can also be attached to improve positioning accuracy, which is beneficial for vehicle cultivation or harvesting.

Solution



Mining Cart Operation problem



Monitoring both the inside and outside of the Mining Cart.

Inside the Mining Cart, need to monitor the driver's fatigue level. Outside the Mining Cart, need to monitor the surrounding environment to avoid collisions and safety hazards due to fatigue driving. This can prevent accidents from happening in advance.



Bumpy roads
Accurate positioning

Road bumps require high-precision GPS positioning to ensure accurate positioning of mining carts inside mines or on the ground.



Requires external connection to multiple devices

The tablet computer should come with a built-in CAN module that can be used for communication with the vehicle system. This will allow us to monitor the vehicle's operating status in real-time and ensure the vehicle is properly maintained and serviced.

Recommend tablet PC models

10.1"



Vehicle PC V10J

10-inch display with a brightness of 1000 nits for clear visibility even in bright sunlight.

Powered by Intel Jasperlake N5100 1.10GHz processor and Windows11 operating system, providing excellent computing performance.

Memory up to 8+128GB to run multiple applications and store large amounts of data.

Wide voltage power input to regulate power for vehicle use.

Rich I/O interfaces including RS-232/485, LAN, and CAN, allow for connection with various vehicle sensors.

Versatile installation options cater to different vehicle types and maximize available space for efficient use.

External high-precision GPS positioning antenna ensures accurate positioning of mining carts inside mines or on the ground.

Solution



Customer Real Case (In France,
used for tractor plowing.)



Customer Real Case

In Xinjiang, China National Petroleum Corporation (CNPC) uses it for oil exploration.



Customer Real Case

In a large domestic warehousing and logistics center, it is used for forklifts.



Customer Real Case



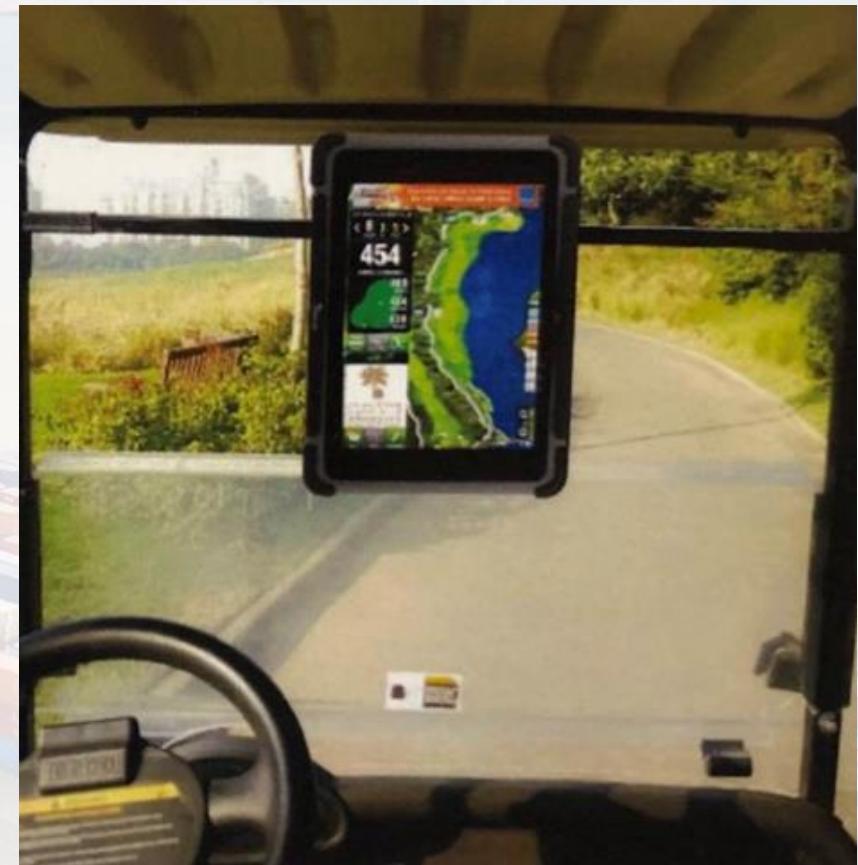
Practical applications of large-scale warehousing and logistics centers

Customer Real Case

China Mobile
Police



Management of golf
courses in India



Roadmap

High

Mid

Entry

Within Battery

Support Windows & Android
Support 2D barcode scanner
Support NFC 8inch & 10inch



Windows



V80J
4+64GB/16+512G, windows
8 inch, 1000cd/m²
5.1 BLE, IP65, NFC
FDD, TDD, WCDMA, GSM
GPS+GLONASS+Beidou



V10J
4+64GB/16+512G, windows
8 inch, 1000cd/m²
5.1 BLE, IP65, NFC
FDD, TDD, WCDMA, GSM
GPS+GLONASS+ Beidou

Android



V80T
4+64GB/16+512G, android
8 inch, 1000cd/m²
5.2 BLE, IP65, NFC
FDD, TDD, WCDMA, GSM
GPS+GLONASS+Beidou



V10T
4+64GB/16+512G, android
10 inch, 1000cd/m²
5.2 BLE, IP65, NFC
FDD, TDD, WCDMA, GSM
GPS+GLONASS+Beidou

2022

2023 Q1

Product Gallery



Product Accessories



Rod antenna



12pin to 2-way
USB/1-way CAN



GPS vehicle
mushroom antenna



GPS rod antenna



WIFI rod antenna



Function adapter
cable-12pin to
12 loose wires



Functional adapter cable-
12pin to full function
RS232 power line + serial
communication 232



Functional adapter
cable-12pin to
RS232+485



Function adapter
cable-2PIN to full function
RS232 power line + serial
communication 485



Wide voltage
module



Cigarette lighter
adapter



Battery



Adapter



8 pin power lines to
4 loose wires



Adapter



PPC hook
component



Antenna



Power adapter
cable



THANKS FOR
WATCHING