YANSENSE® High-Precision RTLS Software management software

Version 2.5

Contents

1 Login

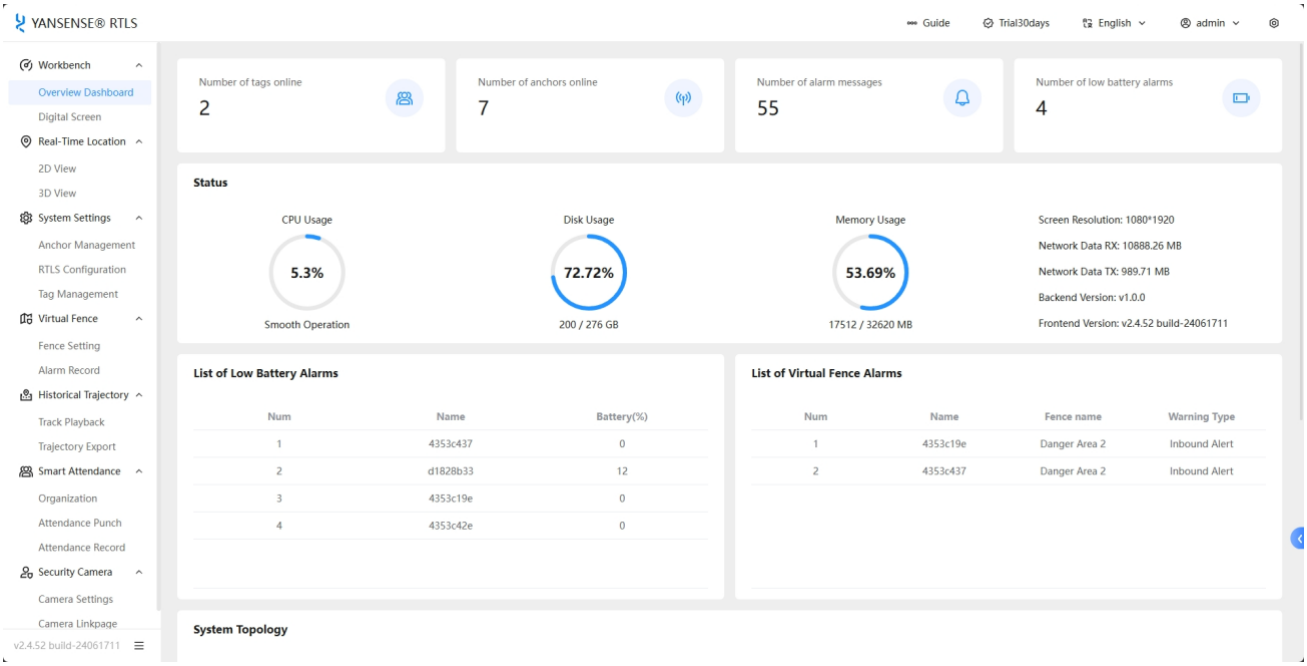
The landing page for a location system is the entry page for users to access and use the location system. This page provides functions such as entering accounts and passwords for user authentication and access to the system. This page can be customized to meet the specific needs of our customers.

2 Overview

The global overview of the positioning system is a functional page that comprehensively displays and overviews the system status, equipment conditions, and key indicators. On the overview page, users can get a holistic view of the entire positioning system. This includes the health status of the system, device connectivity, key metrics, and real-time data. Users can visualize the overall status of the system and quickly obtain important information. This page can be customized to meet the specific needs of our customers.

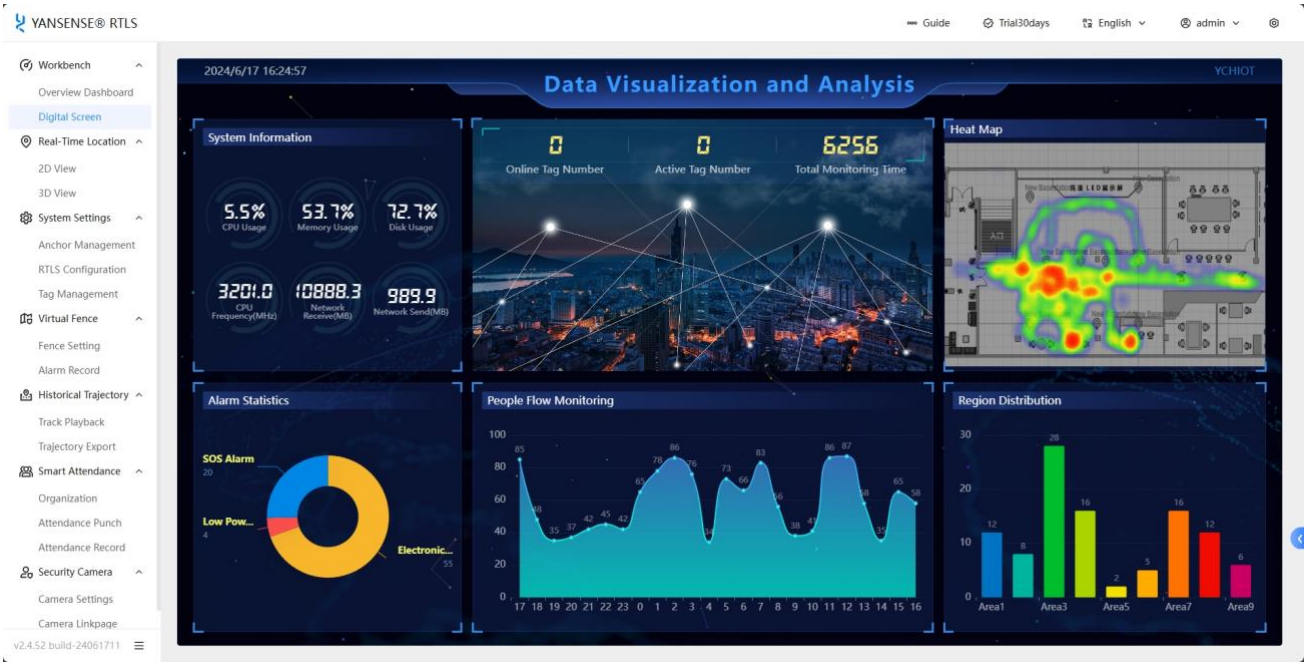
2.1 Overview dashboard

The Overview Dashboard is a functional module that provides management and viewing of some basic configurations and information of the system. This tab usually includes monitoring information such as system CPU usage, disk usage, and memory usage, as well as the number of online tags, system base stations, alarm information, and low battery alarms.



2.2 Digital screen

The large digital screen presents real-time location IoT information and sensor data information, allowing managers to easily monitor on-site activities, optimize resource allocation, enhance safety, and improve overall efficiency. This enhanced interactivity and visualization provides strong support for smart scenarios, making complex operations more intuitive and efficient.



3 Real-time positioning

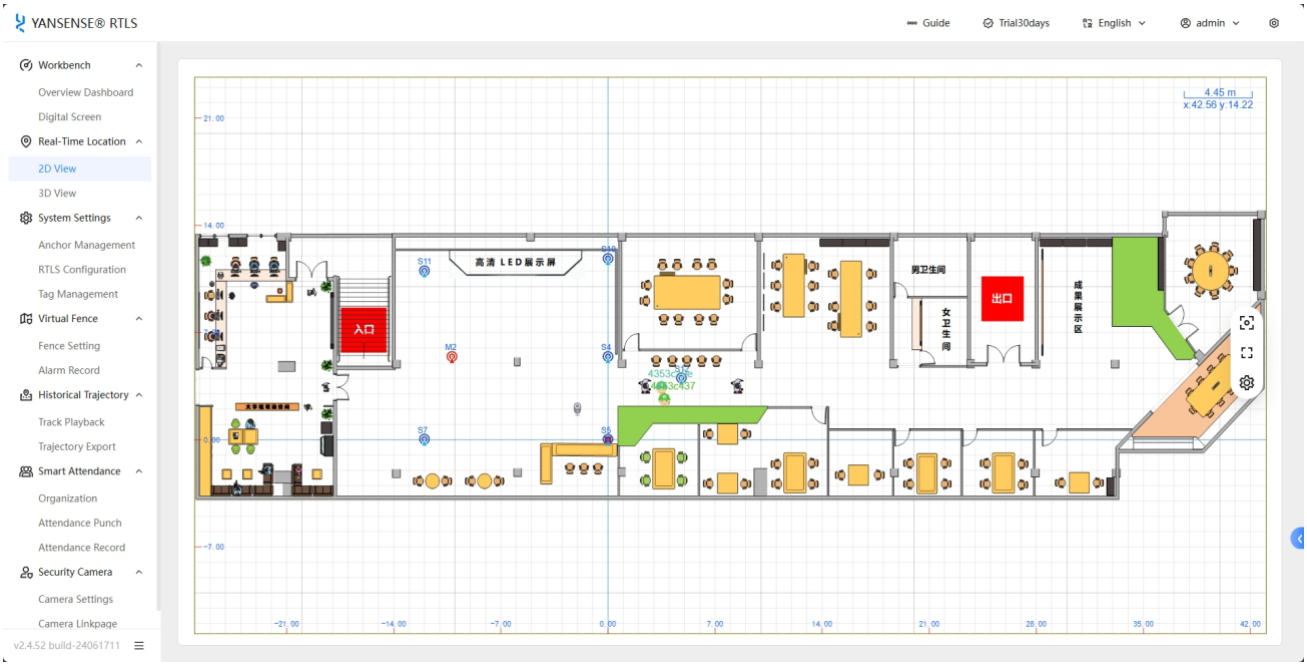
The real-time location page is a functional module in the positioning system, which is specially used to display and track real-time positioning tracks based on UWB (ultra-wideband) technology.

This page provides high-precision location capabilities through UWB technology and visualizes the real-time trajectory of moving objects. On the page, the user can see the location points of the moving objects, as well as their trajectory paths in time.

The UWB Live Location Track page typically provides a flat view and a 3D view showing the location points and trajectory lines of the moving object. Users can zoom in, zoom out, and pan the map view to see the moving path of a moving object in more detail.

In addition, the user selects and imports the map data, which is processed, parsed, and integrated into the positioning system.

3.1 2D view



3.2 3D view

The combination of UWB (Ultra Wideband) positioning technology and BIM (Building Information Modeling) technology provides unprecedented accuracy and real-time performance for 3D views. With UWB, indoor positioning accuracy can reach the centimeter level, which means that the real-time location of people, equipment, and assets within a building can be tracked with precision. BIM, on the other hand, provides a 3D model of the building structure, and the two combine to form a powerful tool.

On the large digital screen, managers can see the three-dimensional structure of the building provided by BIM, and at the same time, through UWB technology, real-time personnel and equipment location information is superimposed on the 3D view. This combination enables intuitive visualization of on-site conditions, helping managers make real-time decisions, resource scheduling, and security monitoring. Whether it's a construction site, a manufacturing plant, or a large commercial facility, this combination can dramatically improve operational efficiency and safety, opening up new avenues for smart buildings and smart management.

4 System settings

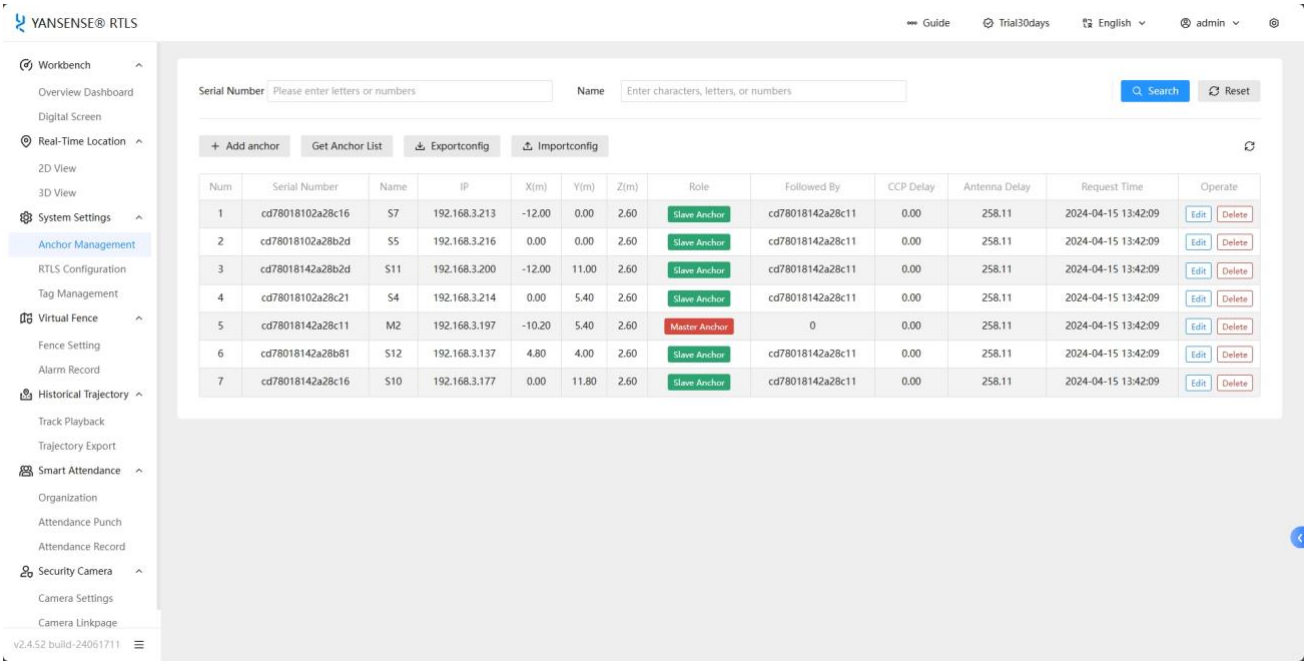
4.1 Anchor management

Base station equipment management is a key module in the positioning system, which is used to manage and monitor various information and parameters of base station equipment. The module provides management and viewing functions for key information such as the serial number, IP address, MAC address, and XYZ coordinates of the base station.

In base station device management, users can view and record the serial number of the base station, which is the number that uniquely identifies each base station device. Serial number management helps to identify and distinguish different base station devices, which is convenient for troubleshooting and maintenance management.

In addition, the base station device management also provides the management function of the IP address and MAC address of the base station. The IP address is the unique identifier of the base station device in the network, while the MAC address is the physical address of the device. By managing and logging this address information, users can ensure the normal connection of the base station equipment to the network, and perform network configuration and troubleshooting.

The base station device management module also provides the management and viewing of the XYZ coordinates of the base station. The XYZ coordinate represents the position coordinates of the base station device in three-dimensional space, including abscissa, ordinate, and height. By managing the XYZ coordinates of the base station, users can accurately understand the location information of each base station device, which helps to plan and optimize the layout and coverage of the positioning system.



4.2 Tag management

The tag management page is a functional module in the positioning system that is used to manage and monitor various parameters and status information of the positioning tag. The page provides real-time control and viewing of tags, giving users a comprehensive view of key information such as tags' location, battery level, temperature, distress signals, and online status.

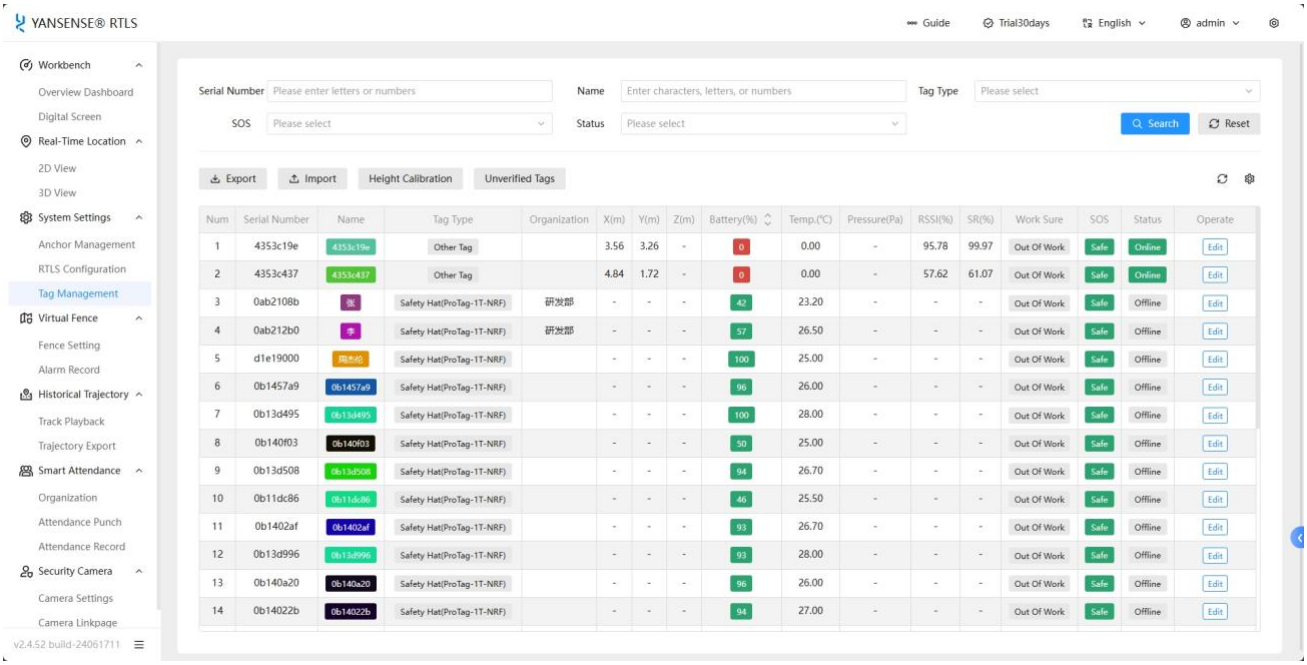
In the tag management page, users can view the XY coordinates of the tag, that is, the position coordinates in 3D space, to know the accurate position and motion trajectory of the tag. This helps to monitor the location and movement of moving objects.

In addition to location information, the tag management page also provides monitoring of the tag's battery level and temperature. The user can check the remaining battery level of the tag, as well as the temperature of the environment in which the tag is located. This information is very important for evaluating the status and operational performance of the equipment, and can detect problems such as low battery or abnormal temperature in time.

The tag management page also provides monitoring of distress signals. If the location tag encounters an emergency, the user can receive the relevant distress signal and take immediate action. This is important for personal safety and emergency rescue.

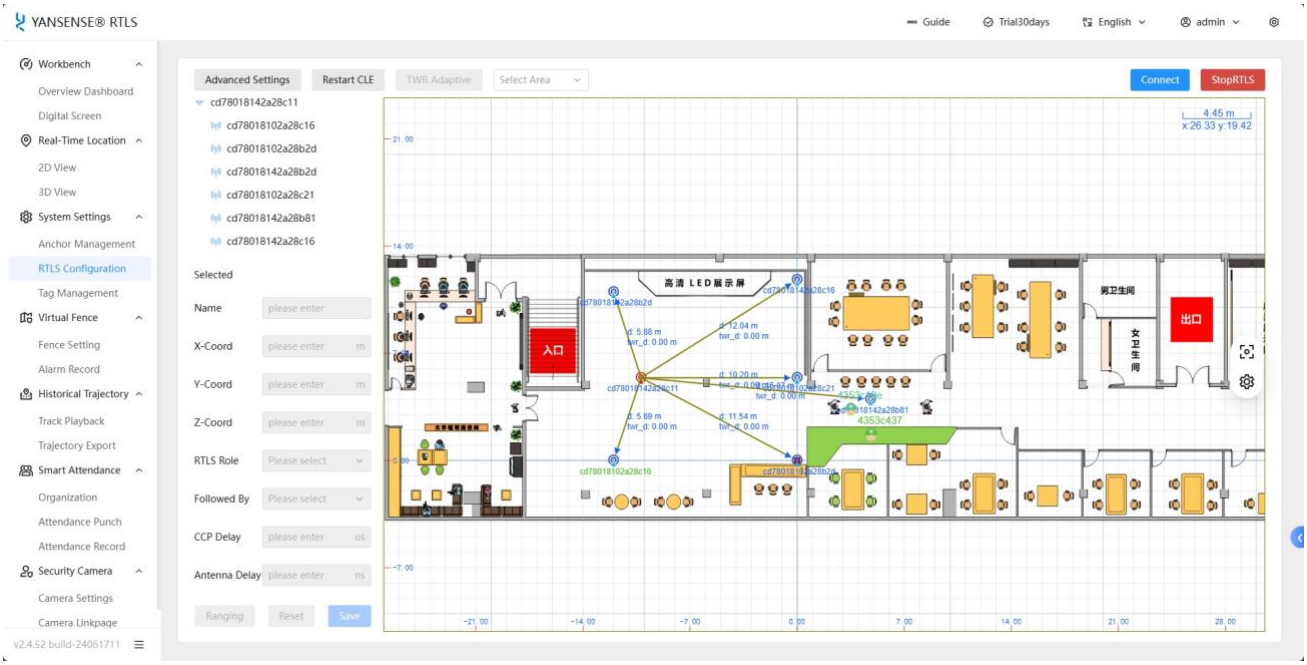
In addition, the tag management page provides information about the tag's online status. Users can view the connection status of the tag, i.e., whether the tag is online, active, or offline. This helps to ensure that the device is functioning properly and that issues related to the tag connection are detected in a timely manner.

The tag management page provides users with comprehensive management and monitoring capabilities for positioning tags, helping users grasp key information such as tag location, battery level, temperature, distress signal, and online status in real time. This enables users to better manage moving objects, improve security, and optimize operational efficiency.



4.3 RTLS configuration

The RTLS settings page, similar to the base station management page, provides management and viewing of key information such as the base station serial number, IP address, MAC address, and XYZ coordinates of the base station. On this page, you can more intuitively view and deploy the base station location, and have a preliminary preview of the presentation of the positioning effect.



5 Electronic fence

The geo-fence option is a geolocation-based technology for setting and managing virtual boundary boundaries. Using UWB or GPS positioning technology, combined with software applications and devices, it can help users monitor and control moving objects in a specific area.

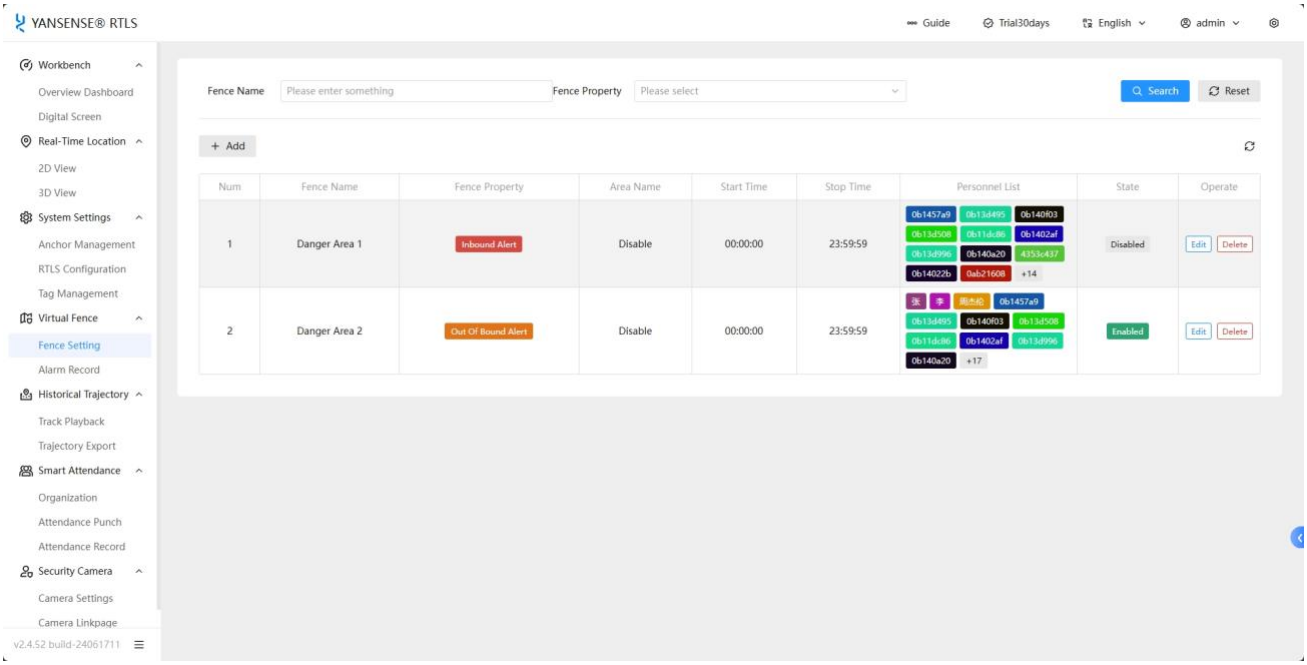
With the Geofence option, users can create custom geographic areas and set the corresponding warning conditions and trigger events. As soon as the monitored object (e.g. vehicle, person, or item) enters, leaves, or moves within the fenced area, the system will be able to detect and trigger the corresponding alarm, notification, or automated action in real time.

Geo-fence options have a wide range of application scenarios. It can be used for fleet management to track and manage the vehicle's range of travel and the situation in and out of the area. In logistics and supply chain management, electronic fencing can help monitor the transportation process of goods, ensure that they are proceeding as planned, and provide real-time notification of exceptions. In addition, electronic fences can also be used for personal security, such as child monitoring, pet tracking, and elderly care.

With the positioning system's electronic fencing option, users can monitor and manage moving objects in a specific area in real-time, improving safety, efficiency, and management capabilities, bringing many potential benefits to various industries.

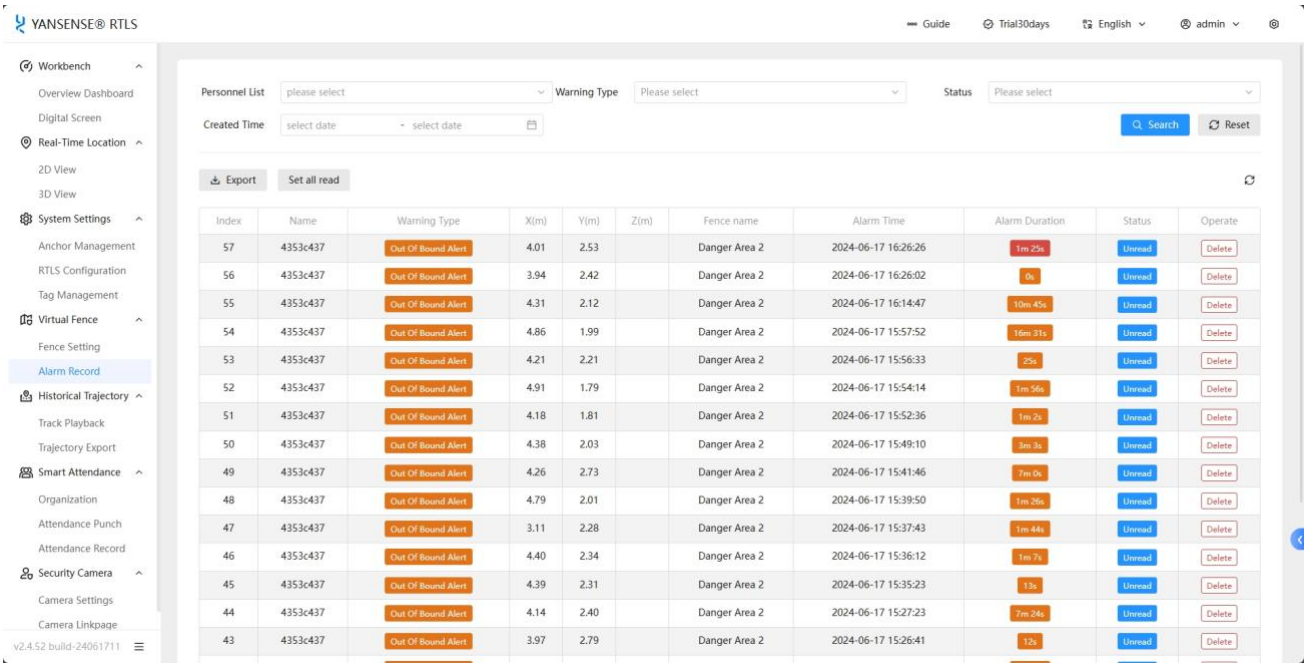
5.1 Fence settings

On this page, you can set the name of the fence, the properties of the fence, the geographic coordinates of the fence, the effective time of the fence, and the person bound to the fence.



5.2 Alarm record

The Alarm Recording tab is a functional module in the positioning system that is used to record and view alarm events and related information that occur in the system. In the Alarm Records tab, users can view a list of alarm records with detailed information about the various alarm events that have occurred. Each alarm record typically includes the alarm time, alarm type, alarm location, and related additional information. You can search and filter alarm records based on filter conditions such as the person's name, alarm type, processing status, and creation time.



6 Historical trajectory

6.1 Track playback

The Historical Trajectory option for the positioning system is a powerful technique for recording and playing back the trajectory of moving objects over the past time. The Historical Track option collects and stores information about the location of moving objects for later analysis and viewing.

Using the Historical Track option, users can get a detailed record of the location of a specific moving object over the past time. These records can include time, speed, direction, and relevant information about a particular place or event. Through a visual interface or specific software tools, users can replay the trajectory of a moving object on a map and gain insight into its behavior and path.

The historical trajectory option has a wide range of applications across industries. In the field of logistics and transportation, it can help enterprises track the route and time of cargo transportation, optimize transportation efficiency and arrangement. For service and dispatch work, historical tracks can provide a record of employees' work paths and behaviors to ensure reliable and efficient task execution. In addition, historical trajectories also play a role in the personal realm, such as motion tracking, travel records, and the safety of family members.

With the historical trajectory option of the positioning system, users can obtain useful information about the past trajectory of moving objects, allowing for better analysis, planning, and decision-making. This technology provides a wealth of data resources for various industries and provides users with deeper insights and management capabilities.

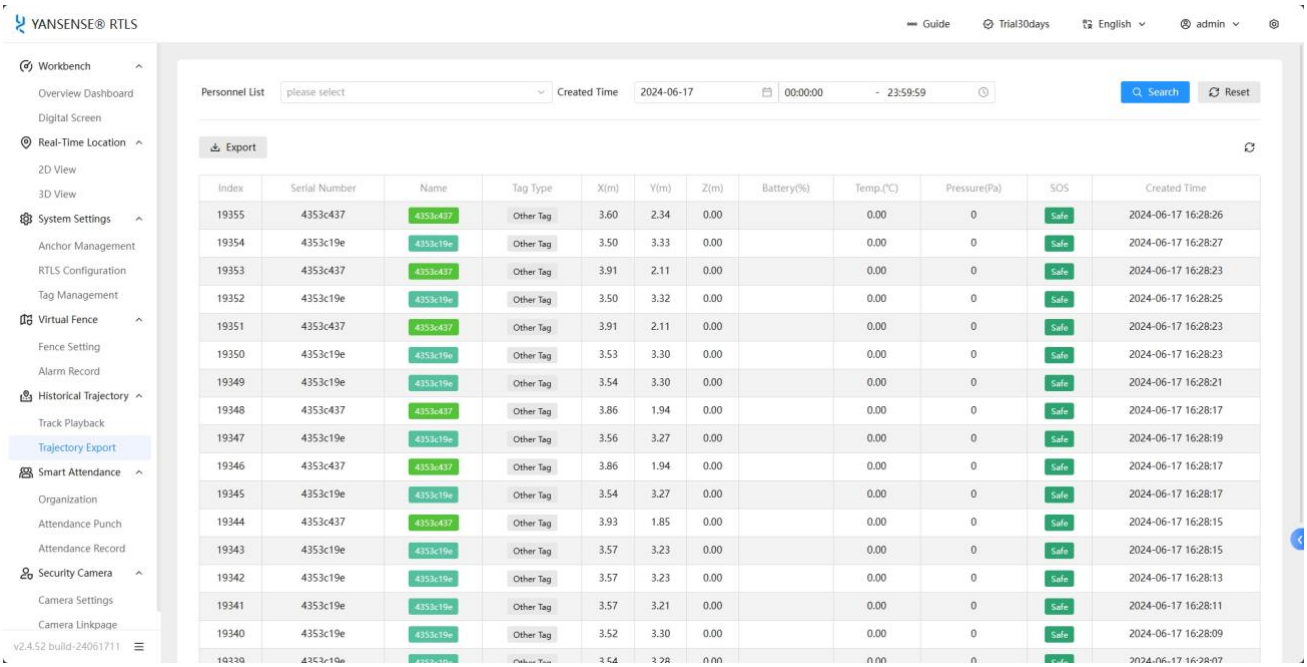
6.2 Trajectory export

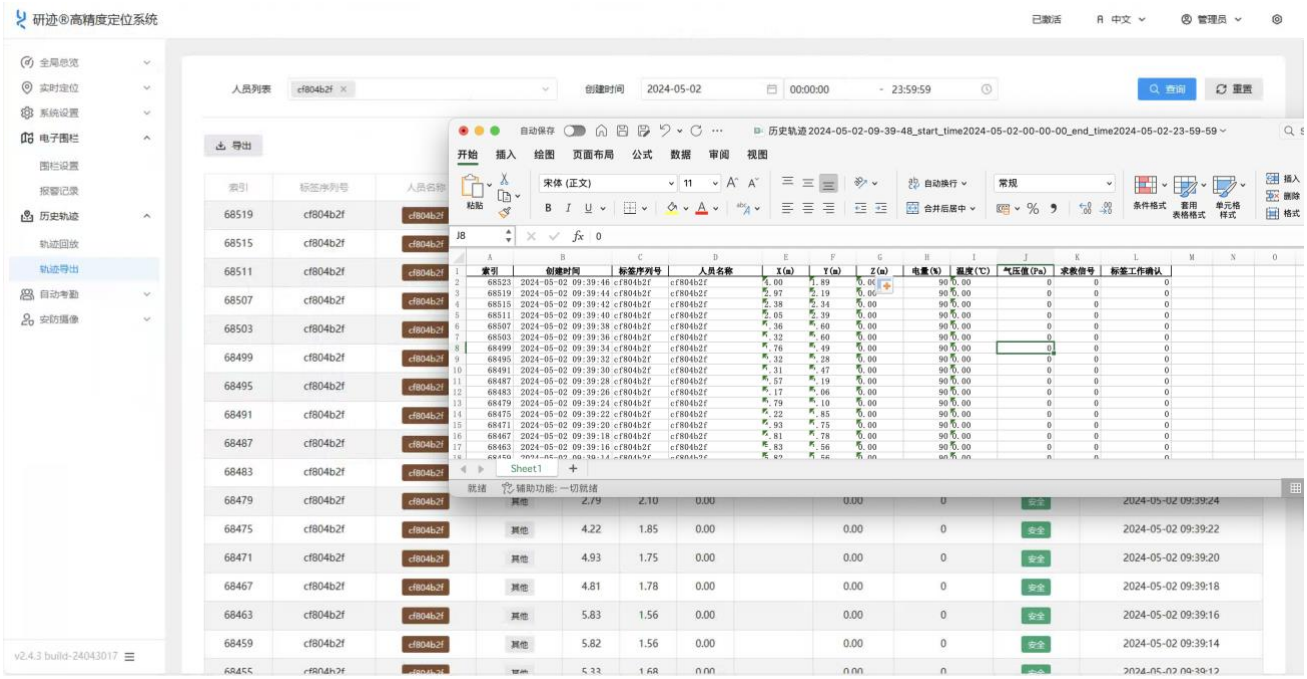
The positioning system provides the function of exporting and saving the trajectory to CSV format, which enables the user to save the trajectory data of the moving object as a CSV file to the local or other systems. CSV (Comma Separated Values) is a common text file format that is easy to read and process.

By exporting the trajectory to CSV format, users can organize the position data of moving objects in chronological order and save them in tabular form. Each row represents a point in time and contains a timestamp and corresponding location information, such as XY coordinates, elevation, etc. The CSV file can be opened using a text editor or spreadsheet software for subsequent analysis, processing, and visualization.

The advantage of saving trajectory data in CSV format is its versatility and flexibility. CSV files can be compatible with various data processing tools and systems, such as Excel, databases, or geographic information systems (GIS), among others. Users can customize the columns and data content of the CSV file as needed to meet specific data analysis and application needs.

By saving the trajectory export to CSV format, users can save the trajectory data in the positioning system to a file format that is easy to process and share. This gives users more flexibility to leverage data for analysis, visualization, and integration into other applications for deeper location analysis and decision support.



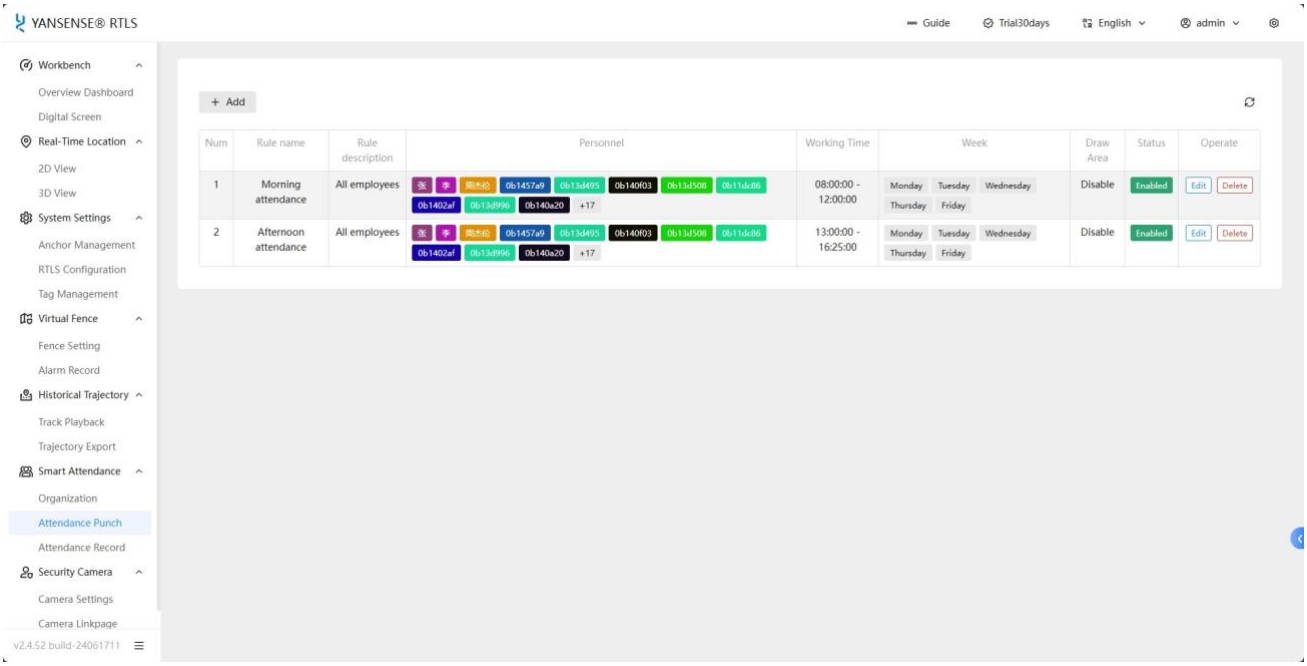


7 Automated attendance

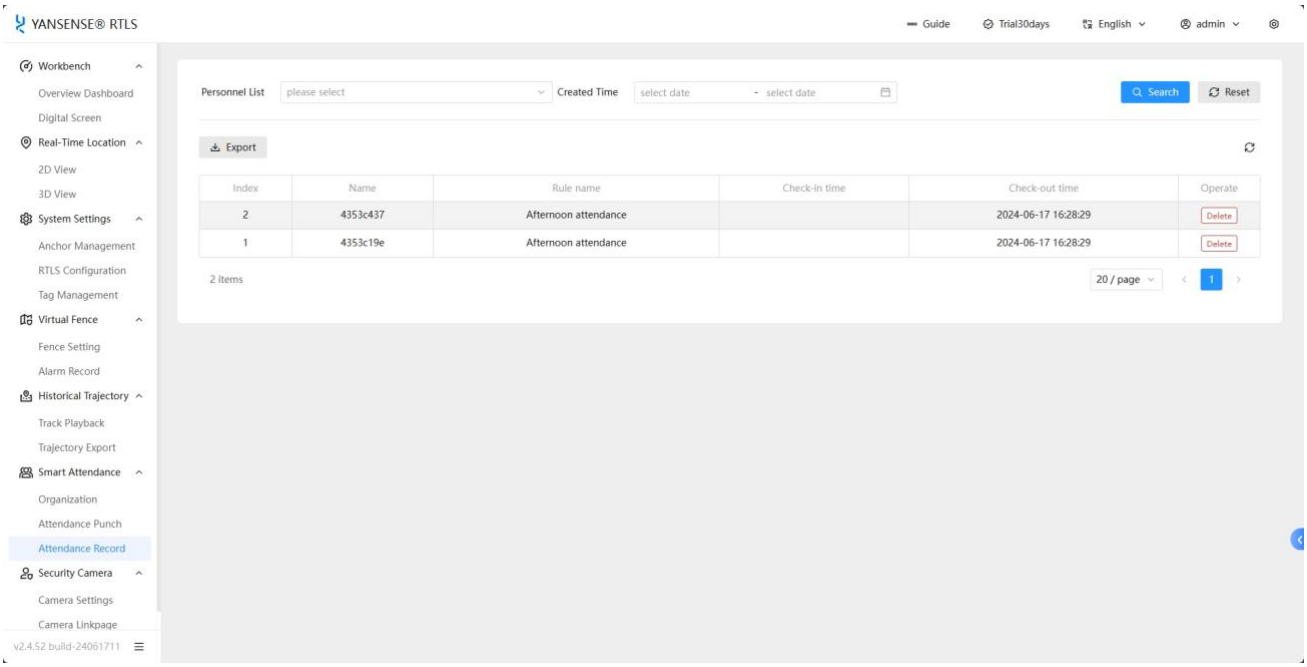
In the field of attendance, the combination of positioning technology and automatic attendance system has brought more efficient and accurate attendance management methods to enterprises and organizations. Employee attendance can be tracked and recorded in real-time. When an employee enters or leaves a designated work area, the system automatically records attendance information, eliminating the tedious process of manual check-in.

This combination not only improves the accuracy and transparency of attendance, but also prevents cheating and ensures that every employee's working hours are fairly recorded. In addition, the automatic attendance system can be integrated with human resource management software to realize the automatic aggregation and analysis of attendance data, helping management to better grasp the work status and productivity of employees. Such a system helps to improve work efficiency, save on administrative costs, and provide an easier time and attendance experience for employees and managers.

7.1 Attendance punch



7.2 Attendance record



8 Security cameras

When UWB positioning technology is combined with security cameras, the sensitivity and response speed of the security monitoring system are significantly improved. UWB positioning can accurately determine the location of people or equipment and track their movement trajectory in real time; Security cameras, on the other hand, can identify and record on-site activity through visual capture and analysis. The combination of the two can effectively improve the reliability of the security system.

For example, in high-security industrial parks, UWB positioning technology can be used to monitor the flow of people in critical areas and link with security camera equipment. When the UWB positioning system detects unauthorized personnel entering a sensitive area, the security camera system can immediately automatically lock and record their movements. At the same time, the precise positioning of UWB allows security personnel to quickly locate and respond to potential threats.

This combination provides a smarter and more efficient solution for the security sector, helping to improve the responsiveness of security measures, reduce false alarms, and ensure the safety of people and assets.

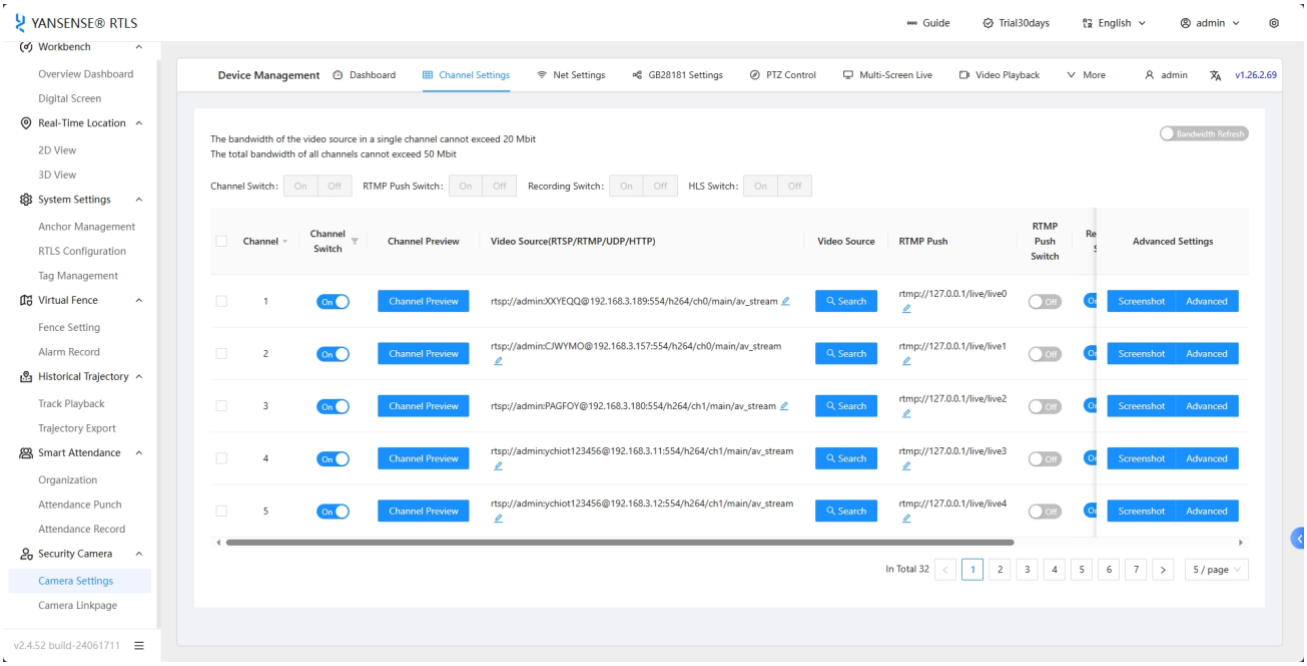
8.1 Camera settings

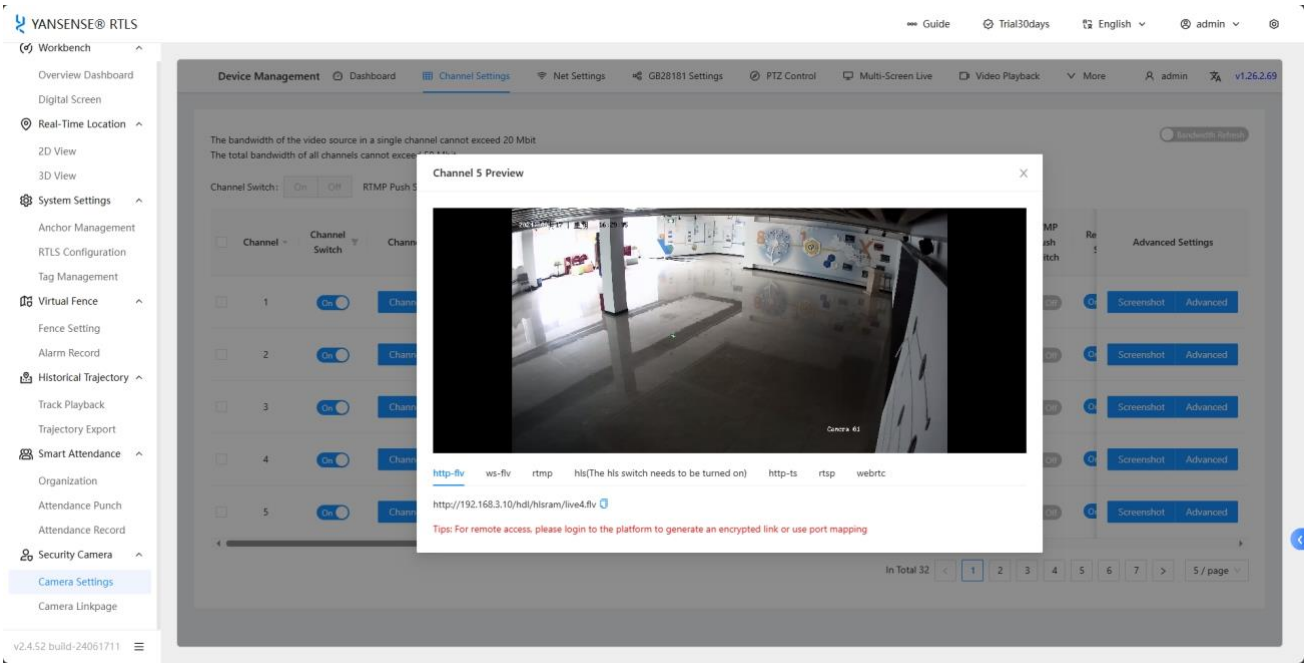
The management page provides a live video stream display function, which allows users to view the live feed of multiple cameras and zoom in, zoom out, or adjust the viewing angle as needed. In addition, users can quickly switch between different cameras by dragging and clicking, etc., to ensure full coverage of the monitoring area.

Pages often support video playback, allowing users to view the history. With the timeline or date picker, users can easily locate a specific time period and quickly find the recording they need to view. This is very important for investigating the incident and gathering evidence.

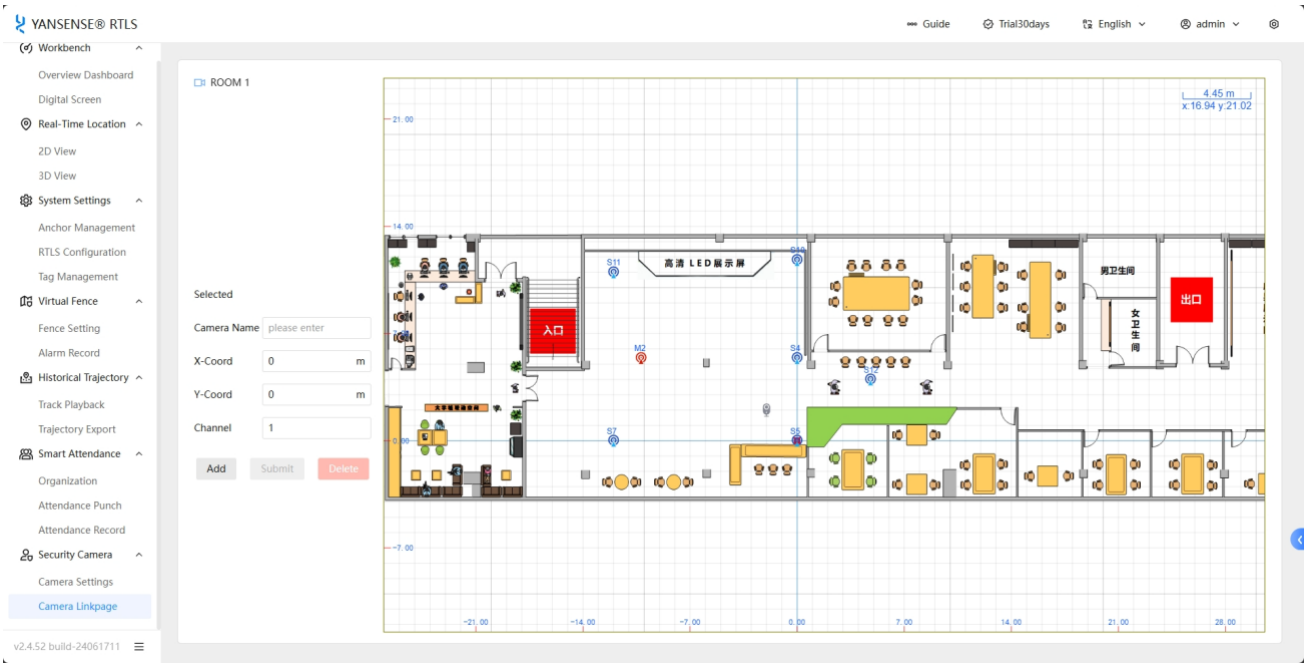
The management page also includes alerts and notifications, and users receive instant alerts when the monitoring system detects unusual activity. This can be done through sounds, pop-ups, or notifications on mobile devices, for example. Based on the alarm information, the user can quickly view the real-time image of the relevant camera, assess the situation and take appropriate action.

Finally, the monitoring management page usually has camera settings and system configuration functions. This is where users can adjust the camera's angle, focal length, resolution, and other parameters to ensure the best performance of the camera. In addition, users can set security permissions to ensure that only authorized personnel can access or change monitoring settings.





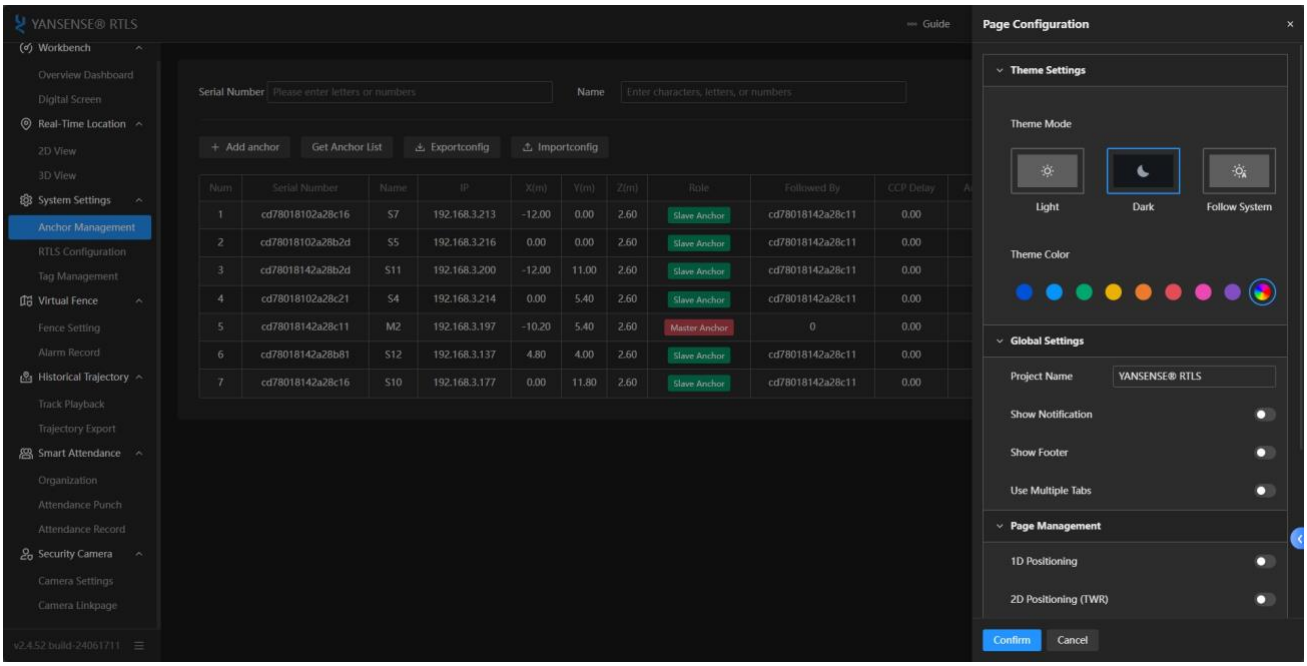
8.2 Camera linkpage



9 Other features

9.1 Dark mode

The positioning system's dark mode is a display mode for the user interface designed to provide a more comfortable and low-glare visual experience. Dark mode reduces the brightness and contrast on the screen by changing the color theme of the user interface to a dark tone. This mode is suitable for users who use in dark environments or are sensitive to brightness. The use of dark mode can reduce glare and eye strain, while also helping to save battery life (for devices with OLED or AMOLED screens).



10 Document Management Information Sheet

Subject	YANSENSE® High-Precision RTLS Software V2.5
Version	V2.5
Reference documents	
Creation time	2021/06/01
Founder	Yang, Huang
Latest release date	2024/06/01

Change the person	date	Documentation change history
Yang, Huang	2021/06/01	V1.0 Version Release
Yang, Huang	2023/01/01	V2.0 Version Release
Yang, Huang	2024/01/01	V2.4 Version Release
Yang, Huang	2024/06/01	V2.5 Version Release