Smart Pillar System Solution

Shanghai Sansi Electronic Engineering Co., Ltd
Distributed in Australasia by:
Smart-Work, a division of the TAPEX GROUP
Address: 200 Kingrove Road
Kingsgrove NSW Australia 2208
Tel: +61 (0)2 9577 1800
Email: info@smart-work.com.au
www.smart-work.com.au
www.smart-work.co.nz
Established in 1993, SANSI specializes in R&D, production and sales of LED displays, LED lighting and control systems. SANSI products are widely used in highways, subways, high-speed rails and many other fields. It is the first brand enterprise to obtain the “Shanghai Brand” certification. With over 400 comprehensive R&D team members and patents granted, SANSI’s innovations and achievements are among the best in the industry. The smart street lamp system developed by SANSI is widely used in the advanced fields of smart cities, the internet of things, and big data lamps. Shanghai SANSI is hailed as a leader in LED displays, lighting and smart cities.

1993 Securities Screen
Founded in 1993, SANSI created its first LED display screen, on behalf of a Shanghai securities trading firm.

2000 Full-color Display
Outdoor LED full-color display began to launch, opening up a new era of outdoor advertising.

2003 Export Worldwide
Entering markets in developed countries in Europe and the United States, SANSI displays were used in German supermarkets. The LED displays used within an Italian stadium, was rated as the best screen in Europe.

2007 LED Lighting
SANSI entered into the domestic LED lighting market, and developed a series of independent radiating pixel lamps with non-glare reflective surfaces for the national 863 project.

2014 10W RGB LED Bulb
SANSI launched the 10W Omni-directional RGB LED Bulb, which fully meets the requirements of the 100W incandescent lamp replacement.

2015 Smart Street Light
It was independently researched and developed by SANSI. Combining comfort, efficiency, and intelligence into one, Smart Pillars are an integral part in helping the development of smart cities.

2017 SANSI Cloud System
It is an integrated management platform based on big data acquisition, storage, real-time tracking and monitoring of product status.

1998 Traffic Information Screen
Opening the Chinese domestic highway market and maintaining a domestic highway market share of 80%.

2010 LED Small Pitch Screen
SANSI LED Small Pitch Screen was released to the market, opening up a new era of small pitch shows.

www.smart-work.com.au | info@smart-work.com.au | smart pillar system

www.smart-work.com.au | info@smart-work.com.au | smart pillar system
Smart Pillar System Functions

Smart Street Light - Smart Outlet in Smart Cities

Simple and efficient centralized control
Unified multi-service access gateway
Flexible and intelligent lighting control
High-speed public wireless broadband service
HD video surveillance
One-button emergency call
Multi-function public broadcasting
Real-time traffic statistics
Accurately monitor air quality

Technical Concept of "Smart Street Light"

In order to enhance the comfort, efficiency and intelligence of lighting, the Smart Pillar is a culmination of integrating six big technological features. These are LED lighting, information collection, information transmission, information dissemination, data processing and control execution. These operational functions will become important characteristics in the development of smart communities and cities.

SANSI Lighting System (SLS)

Smart Streetlight Application Framework

Application Layer
- Environmental Sensing
- Joint Operation Mode of CPS Fusion Processing
- Big Data Analysis
- Digital Light Technology

Network Layer
- Communication Network
- Internet
- Internet of Things

Terminal Layer
- Smart Light
- Slave Light
- Information Release
- Emergency Call
- Environmental Monitoring
- Vehicle Monitoring

Application Layer
- Environmental sensing, joint operation mode of CPS fusion processing, big data analysis and digital light technology.

Network Layer
- Based on Ethernet standard protocol, EPON, 3G/4G, WiFi, Zigbee and other technical integration.

Terminal Layer
- Uniform terminal device protocols, enabling bottom layer interworking.
In the field of smart transportation, SANSi Smart Street Light System integrates traffic guidance, parking instructions, traffic flow, vehicle monitoring, emergency rescue, illegal evidence collection and vehicle networking systems, and transmits ground traffic data to the command center in real-time for analysis and processing.
Safe City

With the combination of sensors and cameras, smart city and their monitoring center combine all of the necessary features in order to monitor the flow of people, people's safety, security, traffic and can provide early and prompt warnings in emergencies. The wide array of information these smart lamps receive, store and analyze significantly help Red Line Management and urban management for busy cities.
SANSI Smart Street Light utilizes the advantages of the lamp post’s position and power distribution to enable the deployment of charging electric vehicles with their built-in charging piles. The Smart Pillar also has multiple functions such as emergency call for help and emergency information releases, creating a safe, convenient and green smart community.

Intelligent Infrastructure Monitoring

Asset tags can be used to detect municipal assets such as pit covers and trash cans. Prevent municipal assets from being stolen and destroyed. At the same time, alarms are sent to the background monitoring center, and information such as abnormal pit cover is displayed on the PID to remind pedestrians to avoid injuries.

Wireless City

SANSI Smart Street Light utilizes the advantages of the lamp post’s position and power distribution to enable the deployment of charging electric vehicles with their built-in charging piles. The Smart Pillar also has multiple functions such as emergency call for help and emergency information releases, creating a safe, convenient and green smart community.
Intelligent multimedia system

Multimedia devices loaded on the Smart Pillar system can publish public service ads, enterprise advertising videos, various advertisements, convenience service information, etc.

Smart City Management System Overview

The Smart Pillar lighting system can include basic intelligent lighting modules, more information release modules, information acquisition modules, information transmission and control modules, cellular network platforms, intelligent LED street lighting, LED display information releases, wireless networks, video surveillance, RFID person/object monitoring, environmental sensor monitoring, electric vehicle charging and emergency call lights. All of these features will be an important part in the development and evolution of future smart cities.
Smart Street Light Parameters

### Video Surveillance
- Video compression: H.265/H.264/MJPEG
- Infrared radiation distance: 150M
- Working temperature: -30°C~65°C
- Horizontal and vertical range: 360°~15°~90°
- Preset number: 300

### WIFI
- Maximum transmission rate: 1.75Gbps
- Working frequency: 2.4GHz & 5.15GHz~5.85GHz
- Maximum transmit power: 21dBm
- Total power consumption: ~25W
- Working temperature: -40°C~65°C

### Call Broadcasting
- Support Protocols: TCP/IP, UDP, IGMP (Multicast)
- Transmission rate: 100Mbps
- Audio Mode: 16-Bit Stereo CD Sound Quality
- Signal to noise ratio: >70dB
- Working environment temperature: -25°C~+65°C

### Smart Lighting
- Honeycomb Thermal Technology
  - Power: 60W~250W
  - Luminous flux: ≥6000lm~25000lm
  - Color temperature: 3000K~5000K
  - Protection level: IP65
  - Working temperature: -40°C~+55°C
  - Voltage: Wide voltage input
  - Built-in intelligent dimming module for secondary key energy

### Information Release
- Pixel pitch: 3.0mm - 4.0mm
- Resolution: 576x192 - 432x144
- Brightness: ≥4500cd/m²
- Refresh rate: ≥960Hz
- Working temperature: -20°C~+50°C

### Control and Information Transmission
- Self-developed intelligent master control, integrated screen control, light control
  - Acquisition function, WIFI Hotspot

### Information Collection
- 1.3 million color outdoor camera with PTZ control
  - Integrated environmental monitoring sensor for real-time monitoring of PM2.5/temperature/humidity/atospheric pressure/wind speed, direction/noise integrated RFID monthy head, distribution RFID tag card, real-time recording of municipal equipment and personnel monitoring

### Emergency Power Supply
- Embedded 7KW Electric Vehicle AC Charging Pile
  - Operating voltage: 220VAC
  - Working current: 32A

### Smart Street Light Control Software
- Integrated smart lighting control, information collection, information release and emergency call and other functions
  - Realize the linkage control of each device and preset multiple scene modes
  - Implement historical data query, including lamp status, energy saving, environmental parameters, and video data
  - Monitor pedestrians, traffic density detection

---

**Smart Pillar System**
- Height: 7~12m
- Material: carbon steel Q235

---

**Control Interface**

---

Applications

Chinese Cases
- Zuoanmen West Street, Beijing
- Beijing Tongzhou Administrative Deputy Center
- Luoying Town, Pinggu District, Beijing
- Beijing Electric Power Training Center
- Shanghai Pujiang Industrial Park
- Songjiang District, Shanghai
- Dongguan City, Guangzhou
- Shantou, Guangzhou
- Luohu District, Shenzhen
- Longgang District, Shenzhen
- Hongye Road, Shenzhen
- G20 Hangzhou G20, Zhejiang
- Fuyang District, Hangzhou, Zhejiang
- Dayun Chocolate Town, Zhejiang
- Dayun Lianjiang New Countryside, Zhejiang
- Dayun Town and Dayun Tourism Area, Zhejiang
- Wuning, Jiangxi
- Ruijin City, Jiangxi
- Hongze City, Jiangsu
- Kunshan, Jiangsu
- West Road, Xinqin Bridge, Jiangsu
- Nanjing, Jiangsu
- Suzhou High Speed Service Area, Jiangsu
- Wuhan Xuefu East Road, Hubei
- Nananz, Chongqing
- Jinchang, Gansu
- Shenyang Power, Liaoning
- Dalian, Liaoning
- Xi'an, Shanxi
- Shijiazhuang, Hebei
- Guyang, Guizhou
- Guiyang
- Nanning, Guangxi
- Anyang, Henan
- Hainan Sanya
- Macao

International Cases
- Germany
- Saudi Arabia
- France
- Poland
- Austria
- Romania
- India
- Sri Lanka
- Colombia
- United Kingdom
- United States
- Belgium

Domestic Cases

Zuoanmen West Street, Beijing
Longgang District, Shenzhen
Hangzhou G20, Zhejiang
Dongguan City, Guangzhou
Shenzhen, Guangdong
Guizhou
Domestic Cases

- West Road, Xin Yi Bridge, Jiangsu
- Hongze City, Jiangsu
- Jangsu Taihu service area
- Wuning, Jiangxi
- Shanghai Pujiang Industrial Park
- Dayun Chocolate Town, Zhejiang

Awards

- "Smart Pillar System" Recognition
- "2016 Smart City Leader Award"
- "2014 Shanghai Quality Gold Award"