OPTOSKY Spectroscopy Solutions

DataSheet

Chimney Vent Remote Sensing System (SO2, NO2, Carbon Black)

GF300

Feature

- Remote sensing monitoring: it can be detected 1Km away from the target without needing to be close to the target;
- No sampling required: complete remote sensing monitoring technology;
- Rapid detection: 0.03s measurement time;
- Continuous measurement: 30Hz monitoring speed;
- Emission estimation;
- Accurate ranging: Built-in laser ranging, the maximum distance is 2Km;
- Built-in GPS positioning;
- Accurate quantification: not disturbed by clouds;
- Simple operation: only simple training can be precise operation;
- On-site testing: all the instruments, reagents and other accessories required for testing are packed in a test box with a 20-inch suitcase.

Application

- Industrial chimney discharge;
- CEMS

GF300HH handheld detector

GF300OL on-line monitor

Description

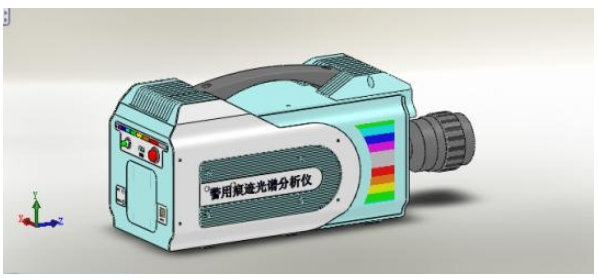
While promoting economic development, industrial development has also brought serious environmental problems. The main pollution components of industrial waste gas are SO2 and carbon black particles. The waste industrial gas of changes in real time. How to monitor it quickly, accurately and remotely is the hot spot and difficult point in the field of environmental remote sensing.

GF300 chimney vent remote sensing system, using the world's advanced ultraviolet imaging technology, designed and developed a new chimney vent remote sensing system, compared with the traditional methods, this technology has obvious technical advantages in terms of temporal resolution, spatial resolution and detection accuracy, and has been widely used in SO2 remote sensing in foreign countries.

The system uses UV camera to image SO2 from industrial pollution, puts forward the imaging monitoring method of carbon black particulate matter, which realizes the monitoring of SO2 and carbon black particulate matter emission in industrial chimney vent, and breaks through that violet external camera can only be used to detect SO2 in the world. The monitoring system has high spatial, resolution and accuracy, can realize rapid remote sensing monitoring, important application value in real-time monitoring, ship exhaust pollution emissions.

GF300 also built-in GPS, laser ranging and other functions, very practical.

Model	Feature
GF300-SO2	Monitoring SO2 and carbon emissions
GF300-NO2	Monitoring NO2 emissions



GF300PT portable chimney emission monitor

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

1. Principle

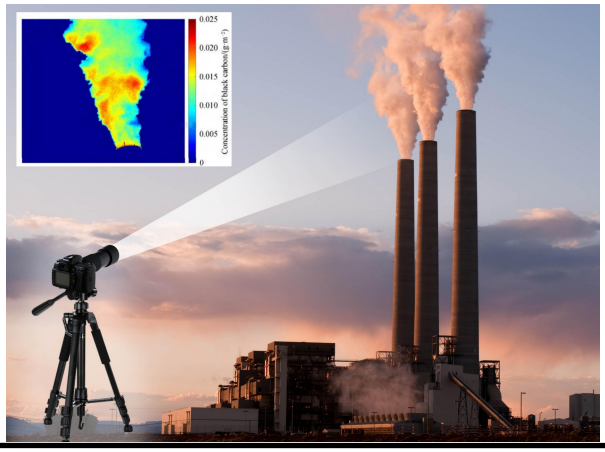
In view of the current pollution situation in the world, coal-fired, heavy oil and other fuel sources such as power plants, steel mills, shipyards and other pollution sources as well as illegal emissions of "scattered pollution" enterprises are still the main source of SO2, NO2 and other pollution gases. There are also some problems when measuring these sources of pollution:

1) Lack of spatial distribution and diffusion trend distribution of pollution gas concentration near the source;

2) For the emission of pollution sources that change rapidly, it is difficult to accurately reflect the actual emission rate of pollution gases by using related meteorological data as the emission rate of pollution sources;

3) When measuring the pollution source, it is difficult to measure near the source, which is usually hundreds of meters or even several kilometers away from the source. Therefore, imaging telemetry technology with high temporal resolution (seconds) and high spatial resolution is needed. The rapid imaging technology using the filter as the split-light device and the "frame" imaging mode has certain advantages in measuring the emission of pollution sources, the visual spatial distribution of the concentration of pollution gas and the trend of pollution diffusion.

This product is for pollution discharge atmospheric pollutants and the urgent need of rapid imaging was carried out by ultraviolet-visible nondispersive pollution gas distribution research Gui fast imaging, based on filter is constructed the ultraviolet-visible spectroscopic nondispersive system, combined with the full frame ccd-array detector imaging, and through the quantitative analysis of the technology for pollutant two-dimensional histogram. The quantitative analysis method of the two-dimensional distribution of pollutant gas concentration, the correction method of the imaging system response consistency, and the system real-time calibration method combined with passive differential absorption spectroscopy (DOAS) technology were mainly studied. The high time resolution full-frame imaging of the SO2 and NO2 distribution of the pollution source plume was realized.



1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

2. Monitor renderings

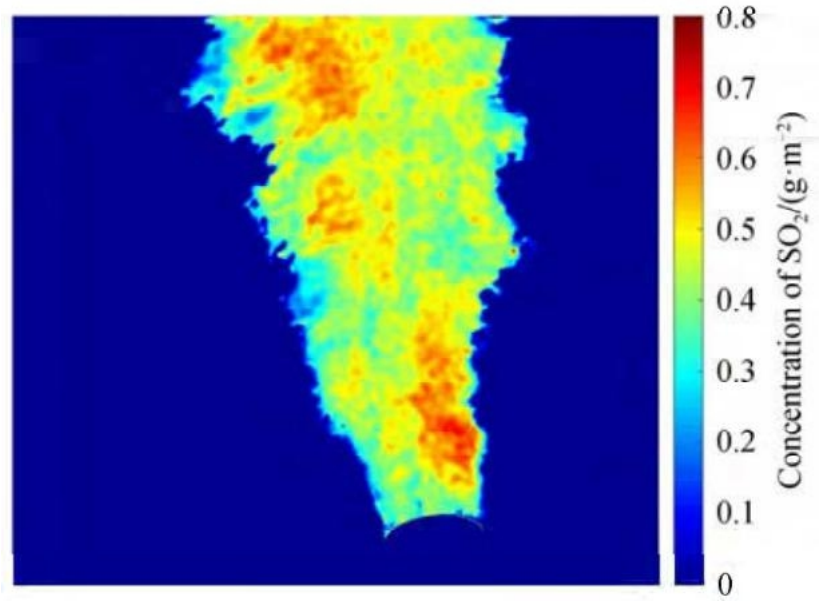


Figure 1 Monitor chimney emissions for SO2

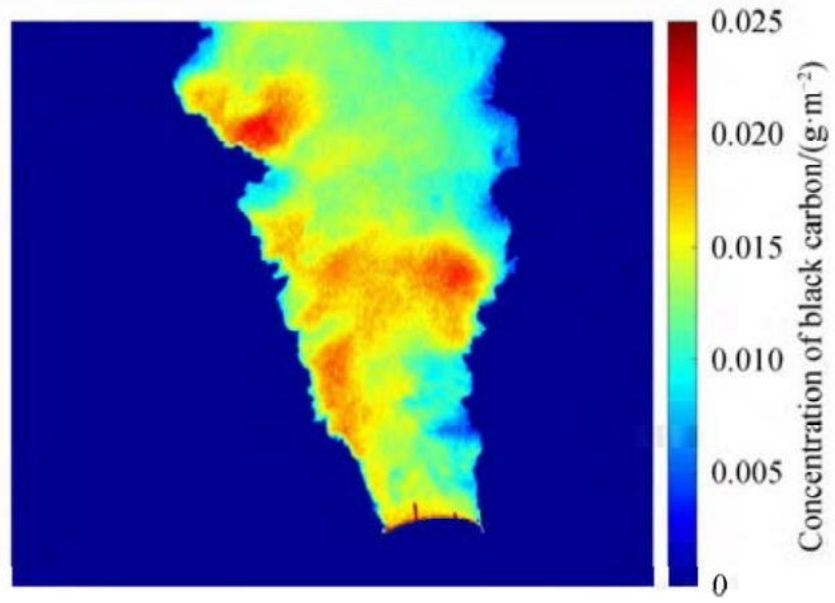


Figure 2 Emissions of black carbon particles

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

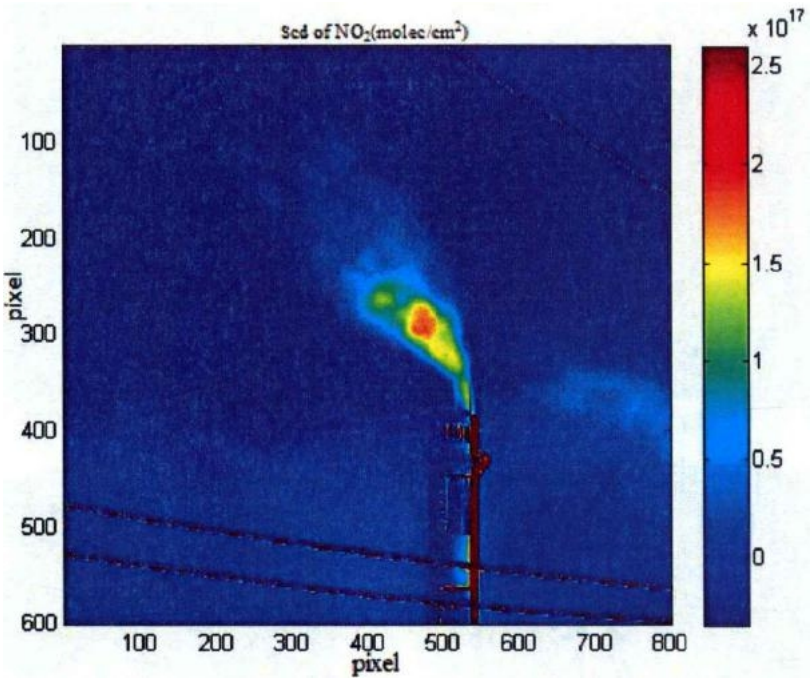


Figure 3 NO2 emission diagram

2. Environmental Monitoring Products

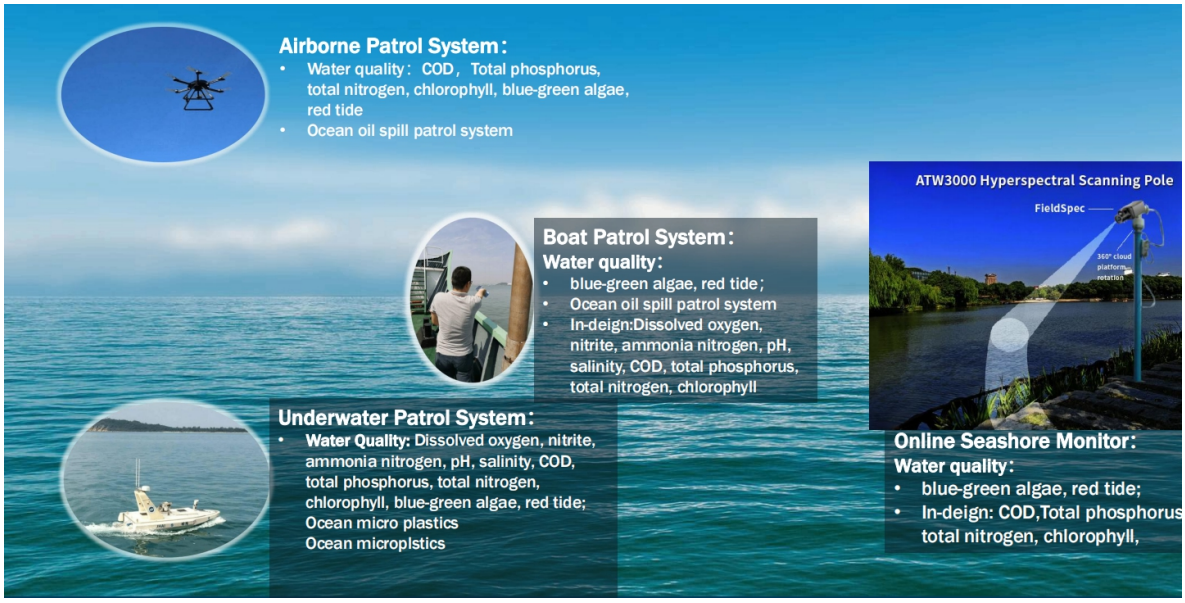


Figure 4 Water quality monitoring products produced by Optosky (as of December 2020)

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

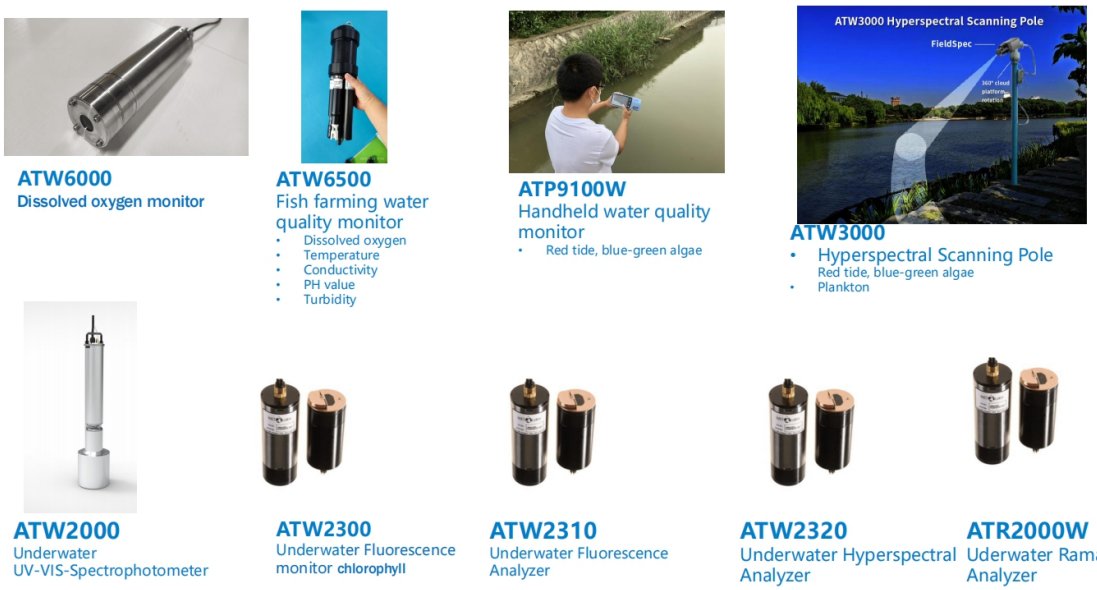


Figure 5 Water quality monitoring products produced by Optosky (as of December 2020)

Figure 6 ATH9012W Airborne Water Quality Remote Sensing Monitor, ATE2000 Reagent-free multi-parameter water quality analyzer, ATE3000 Portable multi-parameter water quality analyzer (as of December 2020)

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

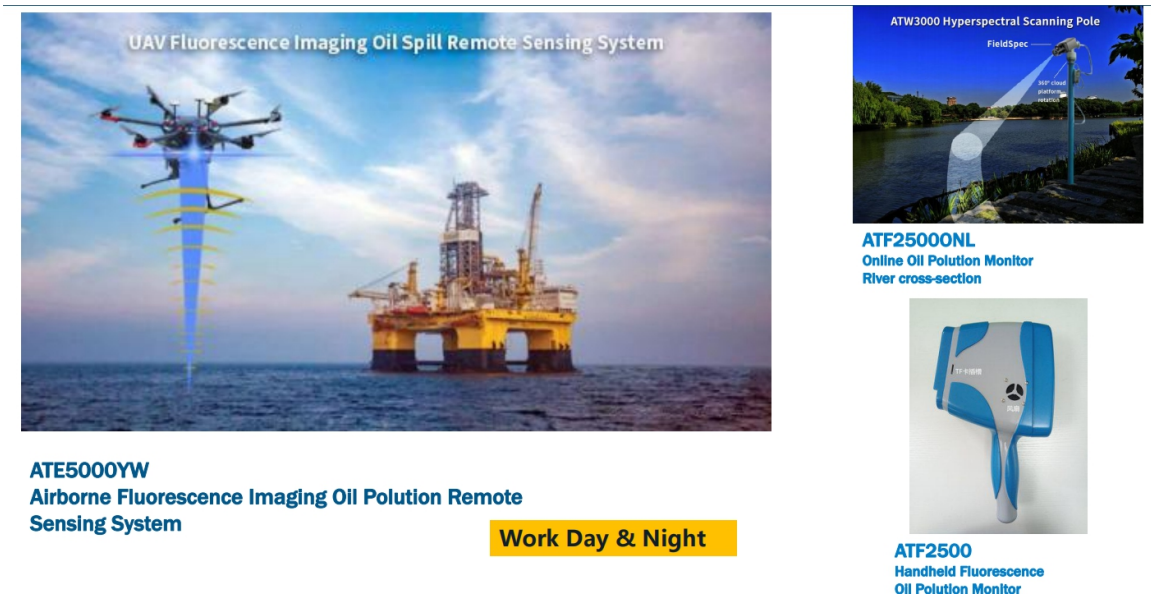


Figure 7 ATE5000YW Airborne Fluorescence Imaging Oil Polution Remote Sensing System, ATF2500ONL Online Oil Polution Monitor River cross-section, ATF2500 Handheld Fluorescence Oil Polution Monitor

Figure 8 GF300 chimney vent emission remote sensing monitoring system, GF320 methane and VOCs leak monitor produced by Optosky

3. Company Profile

Optosky company is an first-class spectroscopy solution provider, with the headquarter locates in the 7th floor of the research institute of the Chinese Academic of Science at an area of 2500 square meter in Xiamen city where successfully held the international 9th BRICK summit in 2017.The subsidiary company locates in Wuhu city with an area of 2035 square meter.

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

The company founder Dr.Hongfei,Liu graduated Docter degree from Chinese Academic of Science and postdoctral degree from Xiamen University, by integrating both of top Universities' spectroscopy technology background into Optosky company aiming at developing the leading spectroscopy equipment in the world.

The company bases on unique technologies of Optomechatronics, Spectroscopy Analysis, Process Weak Optical and Electrical Signals, Cloud Computing, and have been developed wide products line of the competitive Raman spectroscopy instruments, micro spectrometer, hyperspectral imager, field spectroradiometer, fluorescence spectroscopy, LIBS etc. Driven by advanced technologies and products, Optosky brand has been well-known to customers all over the world.

Optosky company base on technologies innovation, market driven direction, customer first, provides first-class products and services, and one-stop solutions to many fortune 500 companies in many industries. The company received praise from different industries companies, as well as many innovative intellectual property, software copyright, qualification certification, and winner awards over hundred numbers.

Optosky receives top class A introduced high-tech company to international Xiamen city, the national high-tech and new innovative technology company award. The founder Dr.Hongfei Liu receives the innovation talent award by ministry of science and technology.

The company is currently conducting the exclusive project of major industrialization national oceanic administration with a total fund of five million us dollar. The company in charge of drafting national industry standard of VNIR and SWNIR Field Spectroradiometer, and six national standard drafter, including China National Standard Drafter for Hazmat detector based on Raman spectroscopy, China National Standard Drafter for Buoy-type Monitor eco-environment, China National Standard Drafter for water quality monitor in unmanned boat, China National Standards drafter for online water quality monitor by spectroscopy, China National Standard Drafter for UV-absorbent measure fabrics.

The company has over 70 IPs and over 20 innovative patents.

The company received ISO9001:2015 certification, CE certification, Police Administration Certification, FDA approval compliant, IQOQPQ compliant.

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

Figure 9 Optosky (Xiamen) Photonics Inc. Company Headquarter

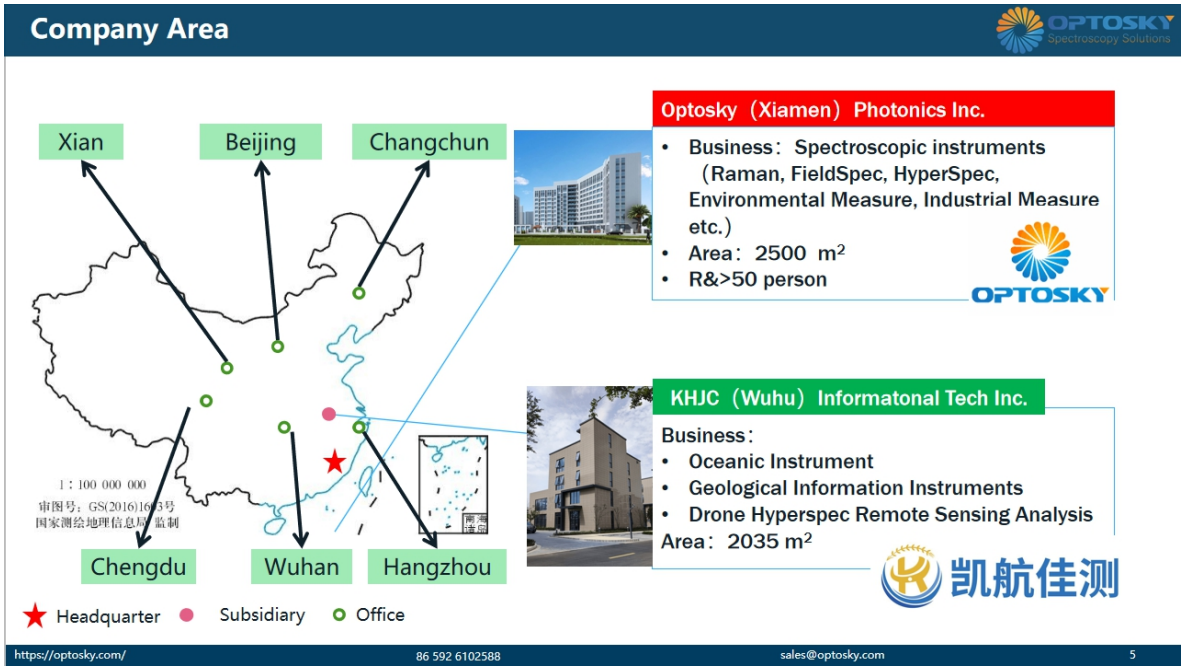


Figure 10 Optosky Company Area

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

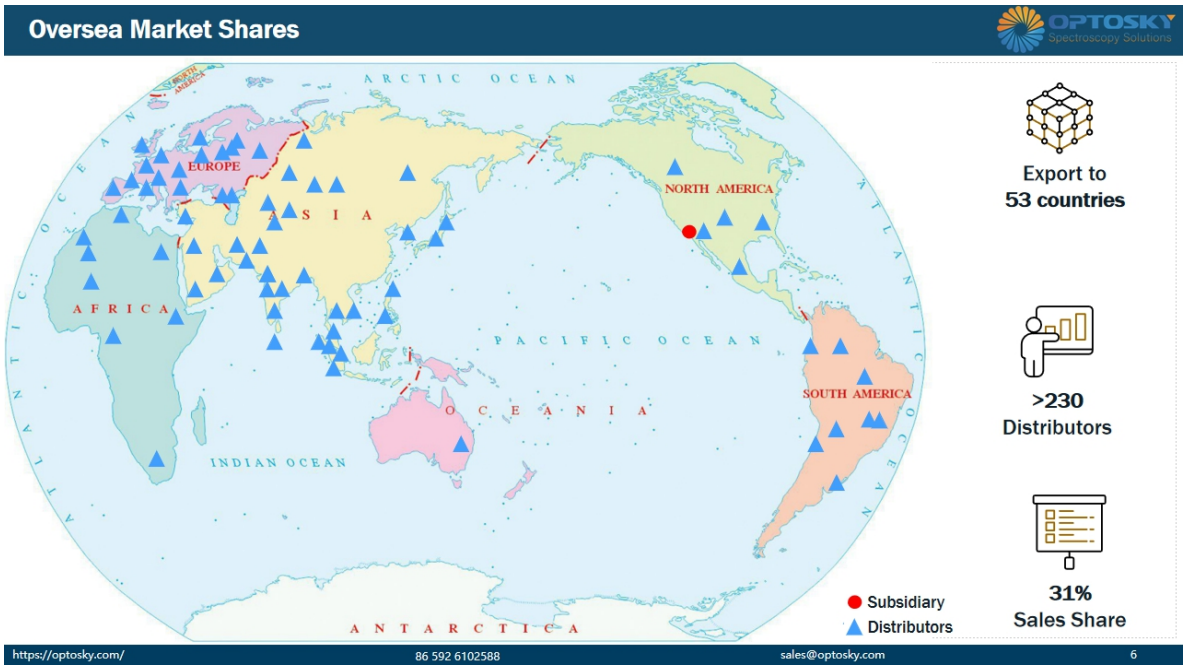


Figure 11 Oversea Market Shares

Figure 12 Optosky Chair and Draft National Standards Lists.

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

Figure 13 Qualification

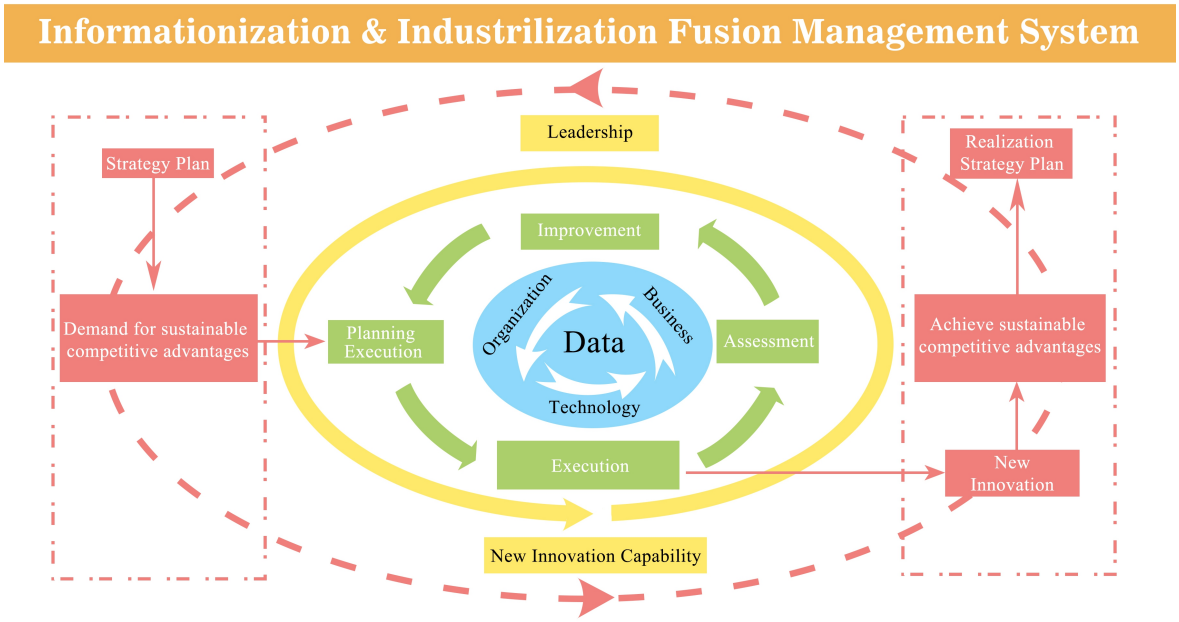


Figure 14 GB/T 23001_Informationization & Industrilization Fusion Management System

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

Figure 15 Optosky's Co-founder_Dr. Hongfei Liu

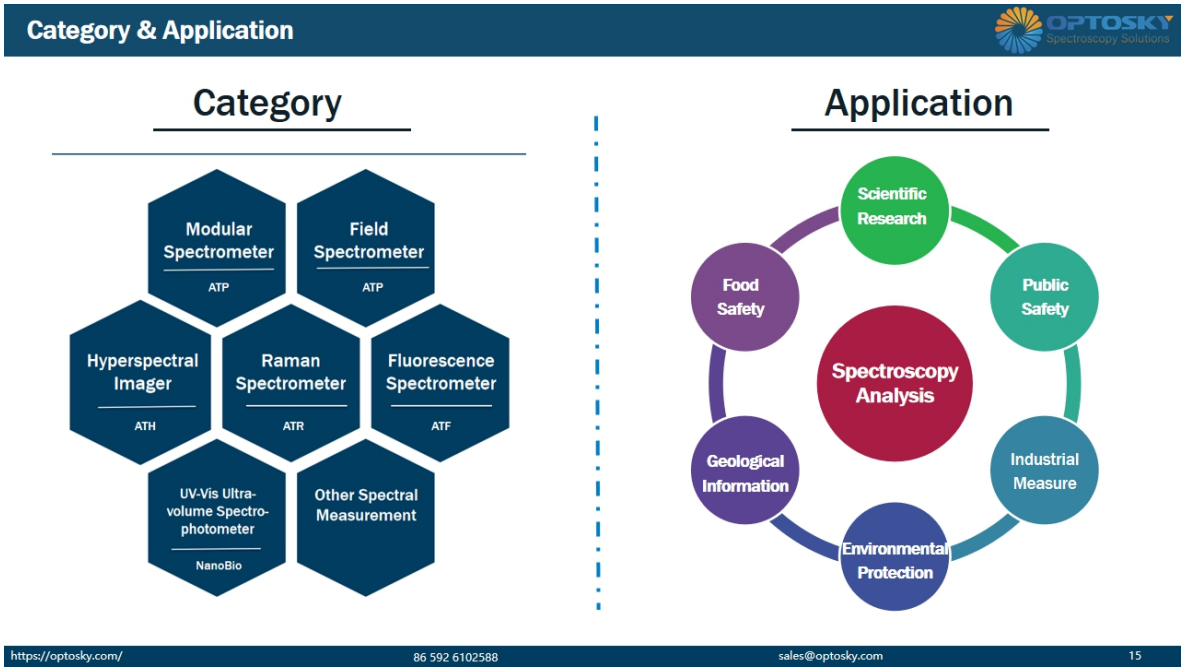


Figure 16 Category & Application

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

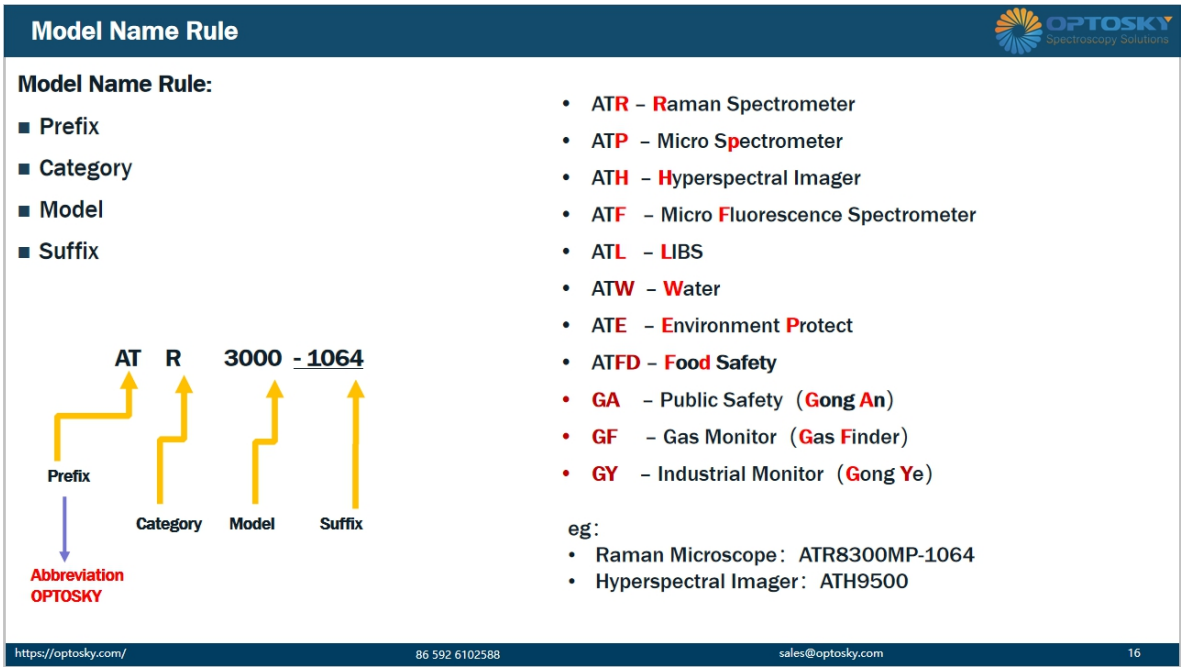


Figure 17 Model Name Rule

========== End ==========

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588