To Build Eyes & Ears for Smart Grid
Company Profile

Founded by a group of experts and entrepreneurs in power automation and modern communications in 2013

Vision: To build eyes and ears for smart grid in order to enable transparency and visibility in power system.

Milestone

2013年
- Series A funding closed
- Established with US$1M seed money from the founder team

2014年
- SGS passed the RTDS test at KETOP, a National Center for Quality Supervision & Testing of Relay Protection & Automation Equipment

2015年
- SGS field trial in the real distribution network of State Grid
- WCS passed the verification test at EETI, a National Test Center

2016年
- Series B funding closed
- SGS deployed in 14 distribution substations
- WCS deployed in 3 UHVDC Projects

2017年
- SGS deployed in 20+ distribution substations
- WCS deployed in 6 UHVDC Projects
- Awarded the first prize of Mobile Internet Innovation and Entrepreneurship Competition of China
- SGS Passed the 3rd party verification test at KETOP, a National Test Center

2018年
- SGS deployed in 40+ distribution substations
- Wireless Current Sensor (WCS) deployed in 9 UHVDC Projects
- Recruiting international sales partners
Leadership Team

- Rich experience in Startups, one IPO in NASDAQ, one M&A by global leading company
- Specialized in power automation and modern communications
- Complementary advantages in R&D, marketing & sales, operation

Dr. Ming FANG
Tsinghua U, 1994
Chongqing U, 1990
Founder/CEO
36 years experience in power system relay protection, mobile chipsets & distribution automation. Founder of ASTWireless. Worked in USA, The Netherlands, Australia and China etc.

Yuan Y (MSc/MBA)
UBC, 2014
HIT, 1998
Co-founder/COO
20 years experience in marketing & operation. Founder of ASTWireless Communications. Worked as PM in Alcatel, Shanghai Bell, Commit Inc. etc.

Jack Fu (MSc/EMBA)
USC, 2015
HFUT, 2001
EVP
18 years experience in marketing and project management. Founder of ASTWireless (acquired by MediaTek). Worked as PM in Alcatel, Shanghai Bell, Commit Inc. etc.
**Applications**

- Asset performance management
- Faulted line selection and fault location
- Distributed event waveform recording
- Load monitoring
- Bidirectional power flow support
- Dynamic line rating

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**LinePatrol® Smart Grid Sensor**

- 1us Timing Error, 256 Samples/Cycle
- Self-Powered & Maintenance Free
- Quick Installation with Hot Stick

**SFPlatform**

- Cloud-based Big Data Analysis
  - Remote Configuration & Upgradable
  - Data Collection, Storage & Analysis
  - Multiple Intelligent Algorithms

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**LinePatrol® SGS + SFPlatform Cloud-based Analytical Platform**

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SilverFern Power Technologies Co., Ltd.
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Application Area

Distribution Grid Synchronized Measurement & Fault Location

High Voltage Equipment On-line Monitoring & Diagnosis

Load Monitoring & Energy Management System
WCS: Wireless Current Sensor for UHVDC Projects

STS: Smart Temperature Sensor for Underground Cable

eFCI-U/Z: Enhanced Fault Current Indicator for Underground Cable

LinePatrol®: Smart Grid Sensor for Overhead

High Fidelity Measurement Data

Big Data Analysis
High Precision Measurement, Non-invasive Installation

FTU, FCI

Wearable Device for Grid
- 1us timing error, 256 samples/cycle
- Self-powered & maintenance free
- Hot stick installation with no pole-mounted equipment

Sensor

Cross-field Advantages

Baseband Chipset Technologies
- High precision & cost effective synchronization
- Advanced power management technology
- Data compression & Encryption

Multiple algorithms
- Multiple algorithms complementary
- Wild-area timing synchronized data analysis
- AI algorithm applied
Basic Application: Fault Location

**Case: Fault Location**

- Wide-area timing synchronized instantaneous measurement
- Detect all kinds of faults including single-phase earth fault in UNGS
- Sense pre-fault abnormalities
- Significantly lower SAIDI and CAIDI
Installed Anywhere in Distribution Grid

- Overheads
- Substations
- RMUs
- Underground to Overhead Transit Points
- Cloud-based Platform/Dispatching Center
High Precision Measurement Enables Transparency & Visibility

- **Wide-area Synchronization**
  - with 1us timing error

- **High Definition Waveform**
  - 256 samples/cycle, 16-bits

- **High Precision Measurement**
  - 0.5% measurement error

- **Quick Installation**
  - no pole-mounted equipment

- **High Efficiency Management**
  - remote configuration & upgrade

- **High Reliable Device**
  - IP66, equipotential design
Field Operation Cases

Field operation >42 months
(By E2018)

40+ Cities
200+ Lines
3000+ Units

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Distribution Network Cases

10kV QS Line (Suzou, JS)
10kV LY Line (Luohe, HN)
35kV SJ Line (Erdos)
10kV HX Sta. (Yingtan, JX)
10kV DJ Sta. (Jinan, SD)
10kV MH Sta. (Shanghai)
Patents & Software Copyrights

- 9 granted patents
- 4 patents to be authorized
- 5 software copyrights
- 1 software product license
Test reports by National Test Centers

- 新一代暂态录波型故障指示器eFCI-001
  许昌开普检测研究院检验报告
- 智能温度传感器STS-001
  中国泰尔实验室检验报告
- 高精度微型同步测量终端SGS-001L
  国网河南省电力公司电科院测试报告
- 新一代暂态录波型故障指示器
  苏州市电子产品检验所检验报告
- 无线电流传感录波装置WCS-001R
  国家智能电网中高压成套设备质量监督检验中心检验（试验）报告
- SGS-001新一代智能电网传感装置
  开普实验室试验报告

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