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GREEN CONNECTION

# Operational technology for power systems and renewable energy

INVESTMENT AND TECHNOLOGY SERVICE JSC

Member of



## MESSAGE FROM THE DIRECTOR

# Dear Clients and Partners



ITS was founded in 2015 by protection relay and automation engineers with one goal: to connect equipment, plants and people so that power systems run more safely and efficiently.

Over the past ten years, we have delivered more than 140 contracts with our clients – from substations up to 500 kV and wind and solar power plants to centralized control centers.

“Green Connection” is how we work: relationships built on trust, quality and mutual benefit. Thank you for your interest – we look forward to working with you.

Sincerely,

**Nguyen Ngoc Tuan**

Director

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## ITS IN NUMBERS

# 10+ years connecting Vietnam's grid

Founded in 2015 by protection relay and automation engineers, ITS integrates control systems, SCADA and operations centers for power grids, power plants and industrial parks.

### 500 kV

Highest voltage level of ITS substation automation projects

### 140+ contracts

Contracts delivered, 2016–2025

### 55+ clients

Owners and clients in Vietnam and abroad

### 3 countries

Vietnam, Cambodia, Philippines

### VND 730+ bn

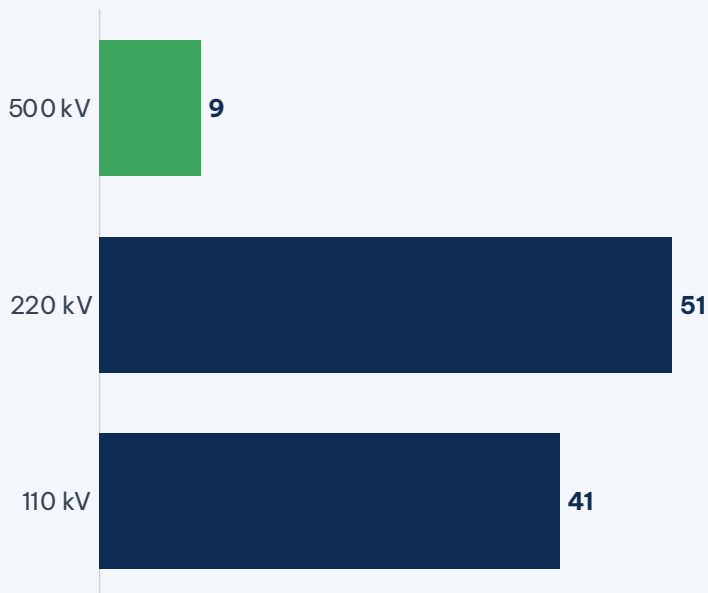
Total net revenue, 2021–2025

### 30 staff

Including PhD, Master's and power system and automation engineers

### Experience from 110 kV to 500 kV

Substation contracts by voltage level, 2016–2025



## ABOUT ITS

# Green connections for the power system

Investment and Technology Service JSC (ITS), a member of PC1 Group, provides substation automation, SCADA/DCS for power plants, control centers and power asset monitoring.



## VISION

**To be Vietnam's leading system integrator in connecting and operating green power grids.**



## MISSION

**To deliver reliable control and monitoring systems – on schedule and supported throughout their operating life.**

## CORE VALUES

**Passion**

Enthusiasm for our work and a commitment to keep learning and growing with the company.

**Quality**

Every product and service ITS delivers meets technical standards and owner requirements.

**Teamwork**

Close collaboration that builds on each member's strengths to reach shared goals.

**Customer satisfaction**

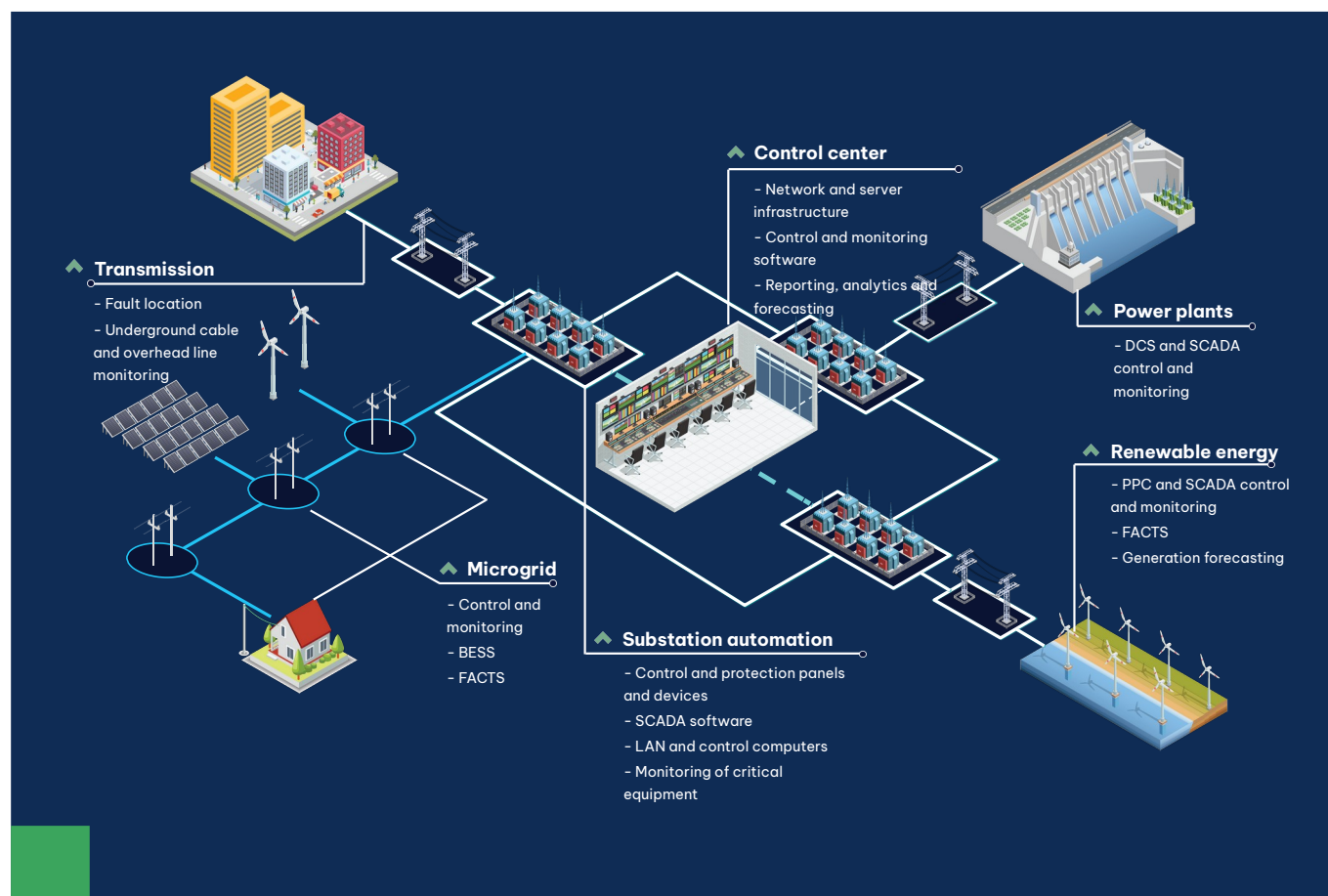
Customer satisfaction is the measure of every product and service.



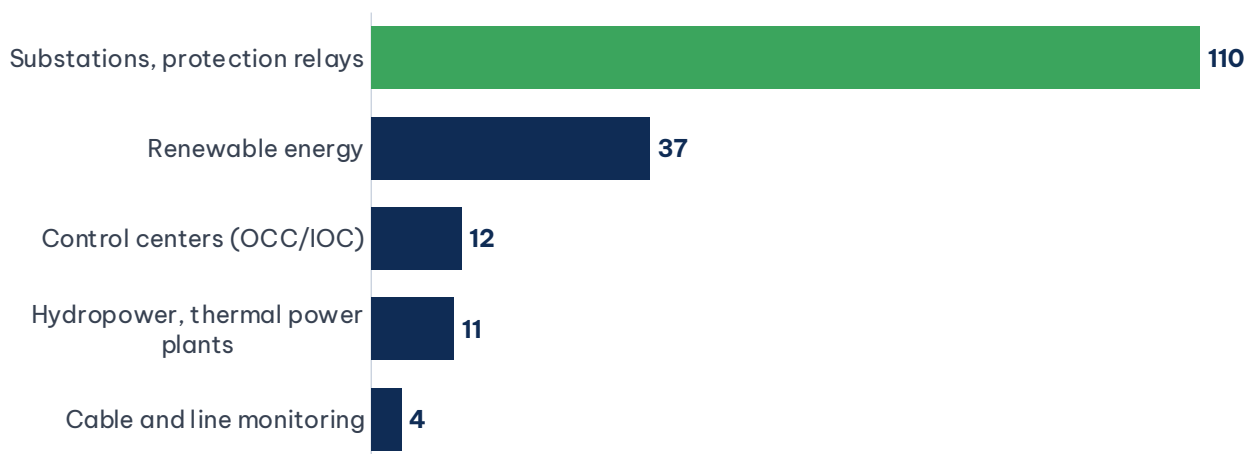
## BUSINESS AREAS

# From substation to control center

ITS brings data from substations, power plants, industrial parks and grid assets into one operations center, so clients can monitor, control and optimize operations centrally.



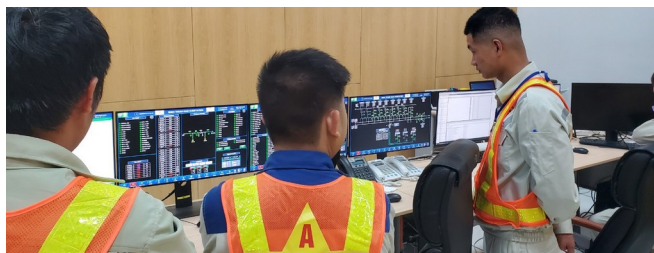
## Contracts by sector, 2016–2025



A contract may cover more than one sector.

## BUSINESS AREAS

# Six fields, one partner



## 01 Substation and power plant automation

Control, protection and SCADA for substations up to 500 kV and hydropower and thermal power plants, integrating multi-vendor, multi-protocol equipment.



## 02 Renewable energy solutions

SCADA, power plant controllers (PPC), energy management systems (EMS) and power forecasting for wind, solar and battery storage (BESS).



## 03 Control center

Centralized monitoring, control and data acquisition across multiple plants and substations, with forecasting, condition-based maintenance (CBM) and business intelligence (BI).



## 04 Smart industrial parks

Mini SCADA and Intelligent Operations Centers (IOC) monitoring substations, medium-voltage grids, metering, water supply and wastewater treatment for industrial parks and urban areas.



## 05 Power asset monitoring

Online monitoring of transformers, GIS, underground cables and overhead lines, with early fault warnings for proactive maintenance.



## 06 Control and protection panel manufacturing

Control, protection, AC/DC auxiliary supply and RTU cabinets built to ISO 9001:2015 processes, with committed quality and delivery times.

## TECHNICAL CAPABILITIES

# Protocols, platforms and devices we master

### 01

#### Communication protocols

- IEC 61850
- IEC 60870-5-101/103/104
- OPC
- Modbus

### 02

#### HMI/SCADA platforms

- SICAM PAS (Siemens)
- zenon (COPA-DATA)
- PACiS (Schneider)
- MiCOM (GE)
- MicroSCADA (ABB)

### 03

#### Integrated IEDs

Siemens, ABB, Toshiba, SEL, NR, Alstom, GE, Schneider

## ACCEPTANCE TESTING WITH DISPATCH CENTERS

**Point-to-Point, End-to-End and COD acceptance testing with the National Power System and Market Operator Company Limited (NSMO) and the Northern, Central and Southern Regional Load Dispatch Centers**

Integration of substation SCADA with wind farm control systems, FR/PQ/PMU systems and DTS cable temperature monitoring.



#### In-house PPC/EMS

Power plant controller (PPC) and energy management system (EMS) built on zenon Energy Edition, tuned on site by our own engineers and ready for battery energy storage system (BESS) integration.



ITS engineers at the office.

## IMPLEMENTATION PROCESS

# One process, from survey to operation

01

**Site survey**

Assess existing conditions, technical requirements and dispatch center connection requirements.

02

**Design**

System design, configuration and signal lists.

03

**Factory Acceptance Test (FAT)**

Full system testing before delivery.

04

**Installation and configuration**

On-site installation and configuration of IEDs, gateways and HMI.

05

**Site Acceptance Test (SAT)**

P2P and E2E acceptance testing with the dispatch center and the owner.

06

**Maintenance and support**

Technical support and maintenance throughout the operating life.





FEATURED PROJECT · CONTROL CENTER

## PC1 Group Operations Control Center (OCC)

OWNER

PC1 Group JSC

YEAR

2023

SECTOR

OCC control center

### Challenge

Monitor, collect data from and centrally operate the Group's wind farms from a single center.

### ITS scope of work

- Design, supply and configuration of network and computer systems
- HMI design, data acquisition configuration and signal integration for the wind farms
- Advanced applications: condition-based maintenance (CBM), business intelligence (BI) and power forecasting



3

Wind farms connected to the OCC

5,000

Monitored data points

3 months

From start of works to operation

## FEATURED PROJECTS

# Wind and solar power plants



## WIND

## Tay Nguyen Wind Farm 110 kV Substation

## OWNER

**HBRE Wind Energy Solution JSC**

## SCOPE OF WORK

- IED/BCU configuration to IEC 61850; metering data acquisition via Modbus RTU
- Connection to the OCC and A0, A3 dispatch centers via IEC 60870-5-104; P2P and E2E acceptance testing
- Substation SCADA integration with GE WindCONTROL and WindSCADA; COD acceptance testing

## HMI/SCADA SOFTWARE

**zenon (COPA-DATA)**



## SOLAR

## Phuoc Thai Solar Power Plant and 220 kV Substation

## OWNER

**Power Projects Management Board No. 3 (EVNPMB3)**

## SCOPE OF WORK

- Supply of control, protection, auxiliary supply and FR/PQ/PMU systems
- CSCS/SCADA configuration to IEC 61850, IEC 60870-5-104 and Modbus
- P2P and E2E acceptance testing for FR/PQ/PMU and SCADA

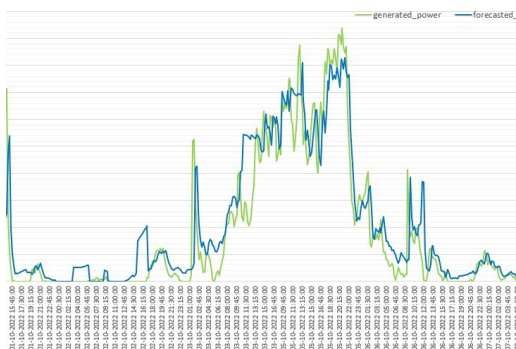
## HMI/SCADA SOFTWARE

**SICAM PAS (Siemens)**



## FEATURED PROJECTS

# Renewable power forecasting



### POWER FORECASTING · ONSHORE WIND

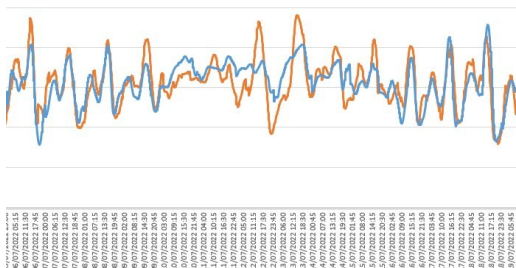
## Lien Lap, Phong Huy and Phong Nguyen Wind Farms

#### OWNER

**PC1 Group JSC**

#### SCOPE OF WORK

- Installation and configuration of the generation forecasting system (ENFOR WINDFOR)
- Support in finalizing electricity market reporting templates



### POWER FORECASTING · OFFSHORE WIND

## Tan Phu Dong 1 & 2 Offshore Wind Farms

#### OWNER

**TTC Group**

#### SCOPE OF WORK

- Installation and configuration of the generation forecasting system (ENFOR WINDFOR)
- Support in finalizing electricity market reporting templates



FEATURED PROJECT · 500 KV SUBSTATION

## Trung Nam – Thuan Nam 500 kV Substation

OWNER

Trung Nam Group

YEAR

2020

SECTOR

500 kV substation

### Challenge

Connect the Trung Nam – Thuan Nam solar complex to the 500 kV transmission grid, meeting the SCADA and monitoring requirements of every dispatch level.



### ITS scope of work

- Configuration of substation SCADA, control computers and FR/PQ/PMU systems to IEC 61850
- Gateway configuration and P2P, E2E acceptance testing with dispatch centers via IEC 60870-5-104
- HMI/SCADA platform: SICAM PAS (Siemens)

**24**

Bays integrated  
4 × 500 kV bays, 20 × 220 kV bays

**6,600**

SCADA data points

**5 months**

From start of works to energization

## FEATURED PROJECTS

# Transmission grid control and automation



### CONTROL CENTER

## Northern Transmission Grid Control Center

### OWNER

**Northern Power Corporation (EVNNPC)**

### SCOPE OF WORK

- IED/BCU configuration for control, acquisition and signal processing to IEC 61850
- Meter data acquisition via Modbus RTU/TCP
- Signal connection to control centers in 3 provinces via IEC 60870-5-104

### HMI/SCADA SOFTWARE

**zenon (COPA-DATA)**



### SUBSTATION AUTOMATION

## SCADA systems for PTC1 220 kV Substations

### OWNER

**Power Transmission Company No. 1 (EVNNPT – PTC1)**

### SCOPE OF WORK

- SCADA upgrade with IEC 61850, IEC 60870-5-101/103 and Modbus RTU/TCP
- Integration of Siemens, ABB, Toshiba, SEL, NARI and Alstom/Schneider IEDs
- HMI design and signal connection to the Northern Regional Load Dispatch Center

### HMI/SCADA SOFTWARE

**zenon (COPA-DATA)**



## FEATURED PROJECTS

# Overhead line and underground cable monitoring



## OVERHEAD LINE MONITORING

## Thuong Tin – Mai Dong 220 kV OHL Monitoring System

## OWNER

Hanoi Power Transmission (EVNNPT – PTC1) · 2025

## SCOPE OF WORK

- Supply of camera systems monitoring asset condition and the right-of-way
- Supply of tower tilt monitoring equipment
- Image recognition with automatic alarms for right-of-way violations



## UNDERGROUND CABLE MONITORING

## Monitoring of 100+ km of Con Dao Power Cables

## OWNER

Vietnam Electricity (EVN) · 2025

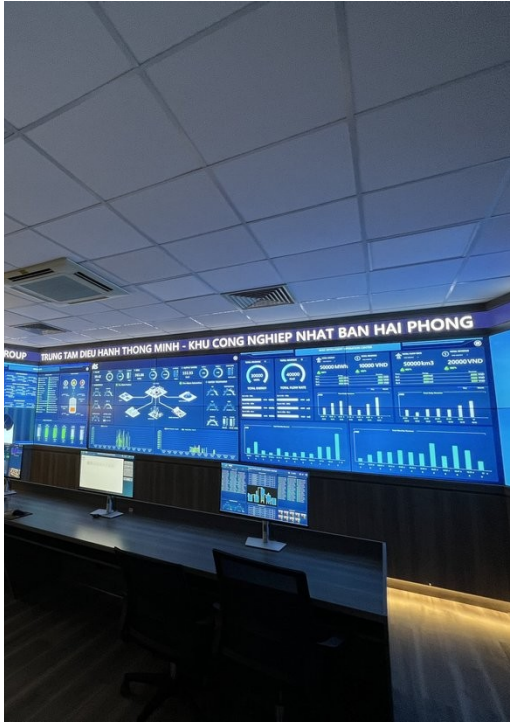
## SCOPE OF WORK

- Distributed temperature (DTS), strain (DSS) and acoustic (DAS) sensing for more than 100 km of submarine and underground cables
- Partial discharge (PD) monitoring at high-risk locations
- Connection of the monitoring system to servers at the substation



## FEATURED PROJECTS

# Smart industrial park operations



### SMART INDUSTRIAL PARK

## Japan – Haiphong Industrial Zone Intelligent Operations Center

#### OWNER

**PC1 Group JSC**

#### SCOPE OF WORK

- Supply of monitoring, control and data acquisition hardware and software
- Communication configuration to IEC 61850, IEC 60870-5-104 and Modbus
- Design and installation of the LAN and VPN
- Integration of the zone's 5 infrastructure systems into the operations center

### MONITORED SYSTEMS

**01**

**110 kV  
substation  
electrical  
systems**

**02**

**Energy and  
tariff metering**

**03**

**Solar PV and  
BESS**

**04**

**Water supply**

**05**

**Wastewater  
treatment**





FEATURED PROJECT · INTERNATIONAL

# Camarines Sur Wind Farm (Philippines)

| OWNER | YEAR | SECTOR                   |
|-------|------|--------------------------|
| CEDI  | 2026 | International renewables |

### Challenge

Connect the 58.5 MW Camarines Sur Wind Farm to the Luzon grid, meeting the requirements of an international owner and the Philippine national grid.



### ITS scope of work

- Supply of secondary systems and auxiliary supply for the project substations
- SCADA software and control computer configuration services
- Gateway configuration and P2P, E2E acceptance testing with the dispatch center

58.5 MW

Plant capacity

2,300

SCADA data points

2026

Construction start

## PARTNERS AND DISTRIBUTED PRODUCTS

# Specialized equipment from our partners



### Welotec (Germany)

Industrial computers and routers for smart energy.

[www.welotec.com](http://www.welotec.com)



### ENFOR (Denmark)

Forecasting and optimization for the energy sector.

[www.enfor.dk](http://www.enfor.dk)



### Sichuan Huiyuan (China)

Transmission tower and overhead line monitoring.

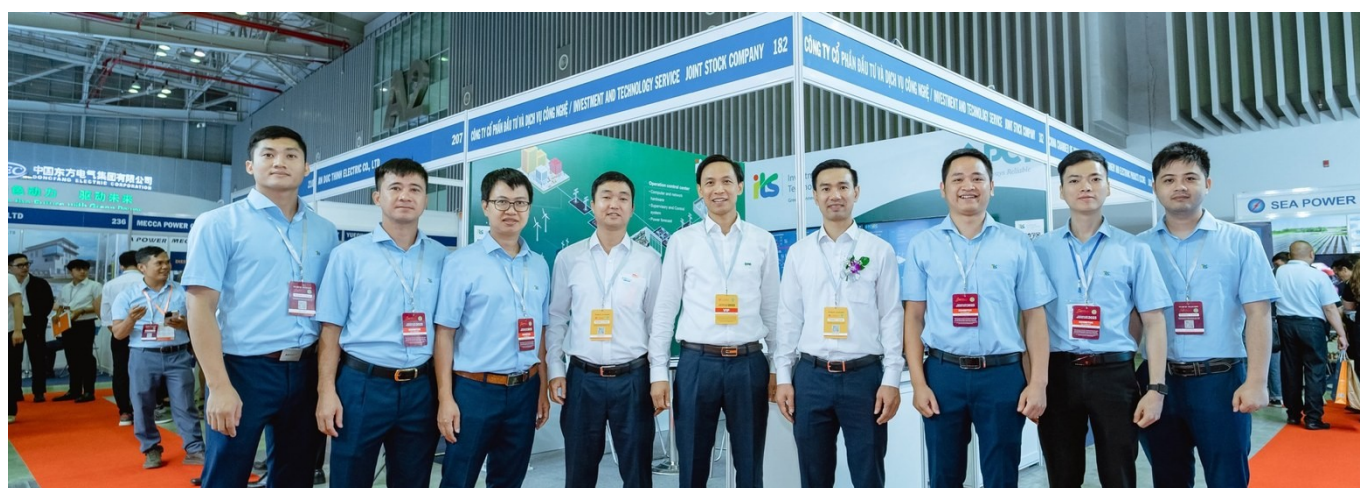
[www.hyoc.com.cn](http://www.hyoc.com.cn)



### 3onedata (China)

Industrial communication equipment.

[www.3onedata.com](http://www.3onedata.com)

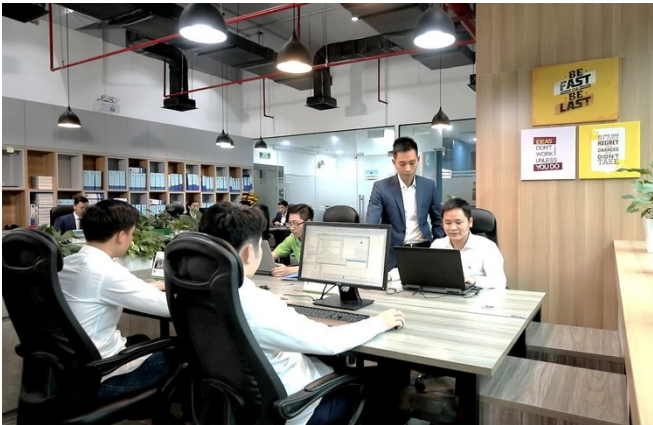


The ITS team at an industry exhibition.

TEAM AND CERTIFICATIONS

# 30 people, 24 specialists and engineers

Our technical team specializes in power systems and automation, and designs, configures and commissions systems on site.



Office



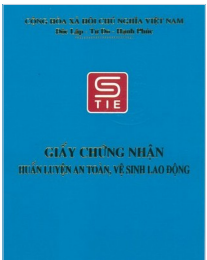
Warehouse and workshop



CERTIFICATIONS



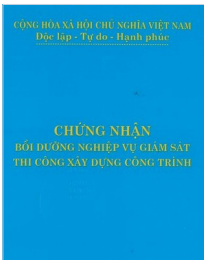
ISO 9001 quality management certificate



Occupational safety and health training certificate



Construction practice certificate



Construction supervision certificate

## KEY CLIENTS

# Trusted by utilities and investors



The ITS team and the owner at the PC1 Group Operations Control Center.



Investment &  
Technology Service  
Green Connection

GREEN CONNECTION

# Together for safer, more efficient and greener power systems

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