

**Power Line**  

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**Engineering**  

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**Public Company**  

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**Limited**  

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- P** Performance and products meeting total customer's satisfaction
- O** Operating toward vision objectives
- W** Work as a team
- E** Employee's satisfaction
- R** Responsible to society
- L** Leading construction company
- I** Increase values to stakeholders
- N** New technology/knowledge applied
- E** Environmental care



**“ Our services can be brought  
together in any combination  
to provide integrated  
capability for customers. ”**



**Our vision is to be one of  
the best engineering and  
general construction companies**

# Who We Are

## **A Brief Introduction of Power Line Engineering**

Power Line Engineering Public Company Limited (PLE) was established on July 8th, 1988 by a group of engineers led by Mr. Swake Srisuchart and Mr. Amnuay Kanjanopas to engage in the services of design, engineering and installation of mechanical, electrical and plumbing systems (MEP) and civil construction for offices, hotels, complex and plaza buildings, hospital, factories and airport.

We, PLE as one of the leading construction companies in Thailand has undertaken successfully more than 770 projects including many notable projects of which each projects valuing in the range of THB 100 million to THB 14.0 billion in Thailand and overseas during the past years in line with the development of Thailand and the increased demand of various types of modern building construction.





# Our Significant Milestones

1988

Established under the name of Power Line Engineering Co., Ltd.

2000

Awarded ISO 9002 quality standard from BVQI

Purchased ordinary shares of UnimaEngineering Co.,Ltd. to expand business into civil construction

2002

Awarded “Best Business Enterprise” in the area of safety, from Ministry of Labor and Social Welfare

Company listed in Stock Exchange of Thailand (SET)

2005

Being awarded 3 oversea building construction projects totalling value of USD 510 m. in Doha, Qatar

2006

Being awarded 5 stars Resort & Spa construction project totalling value of USD 175 M. in Dubai, UAE

2008

Completed the construction of Chamchuri Square project with totalling areas of 187,912 Sq.m.

1998

Awarded “Thailand Best Contractor” from the Asian Federation of Electrical Engineering Contractor

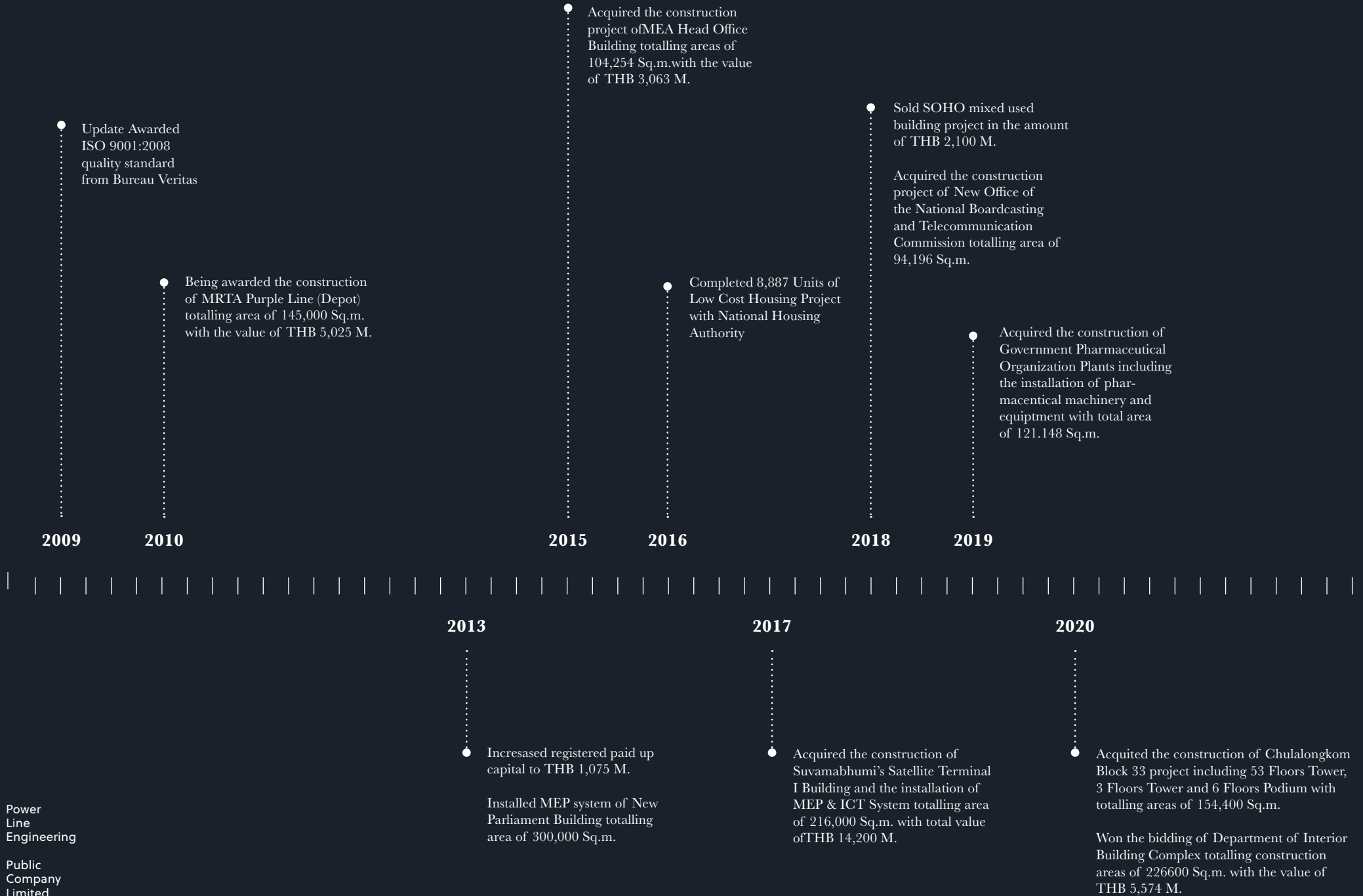
2003

Awarded ISO 9001:2000 quality standard from Bureau Veritas

2007

Completed the construction of SOHO Mixed Used Building with 5 underground floors.







An aerial photograph showing several construction workers in high-visibility vests and hard hats working on a large concrete slab. They are using tools to spread and level the concrete. The scene is set in an open area with some rebar visible in the foreground.

**Enhance the effectiveness and efficiency of  
staffs and organization for performing work,  
which meet total customers' satisfaction as  
well as the public' recognition is our mission.**



# Nothing Impossible

## The insight of Suvarnabhumi Midfield Satellite Building 1

The construction and installation of facilities system of the First Midfield Concourse Building and the Connection to the Southern Tunnel (Sub-Structural Works) of Suvarnabhumi Airport (ZAT 1) which acquires the construction areas of 216,000 Square meters, 28 Bays for A-380 and Boeing-747 and fully equipped facilities for airport services. This ZAT 1 is also consisted of 28 passenger boarding bridges, visual docking guidance system, gate assignment, ICT and security systems and baggage handling system, connecting to the existing main passenger building. We are proud of our success in this challenging project, which we can complete it in time and are well regarded with the client 's total satisfaction. There are some of the dramatic challenges which we would like to described as follows

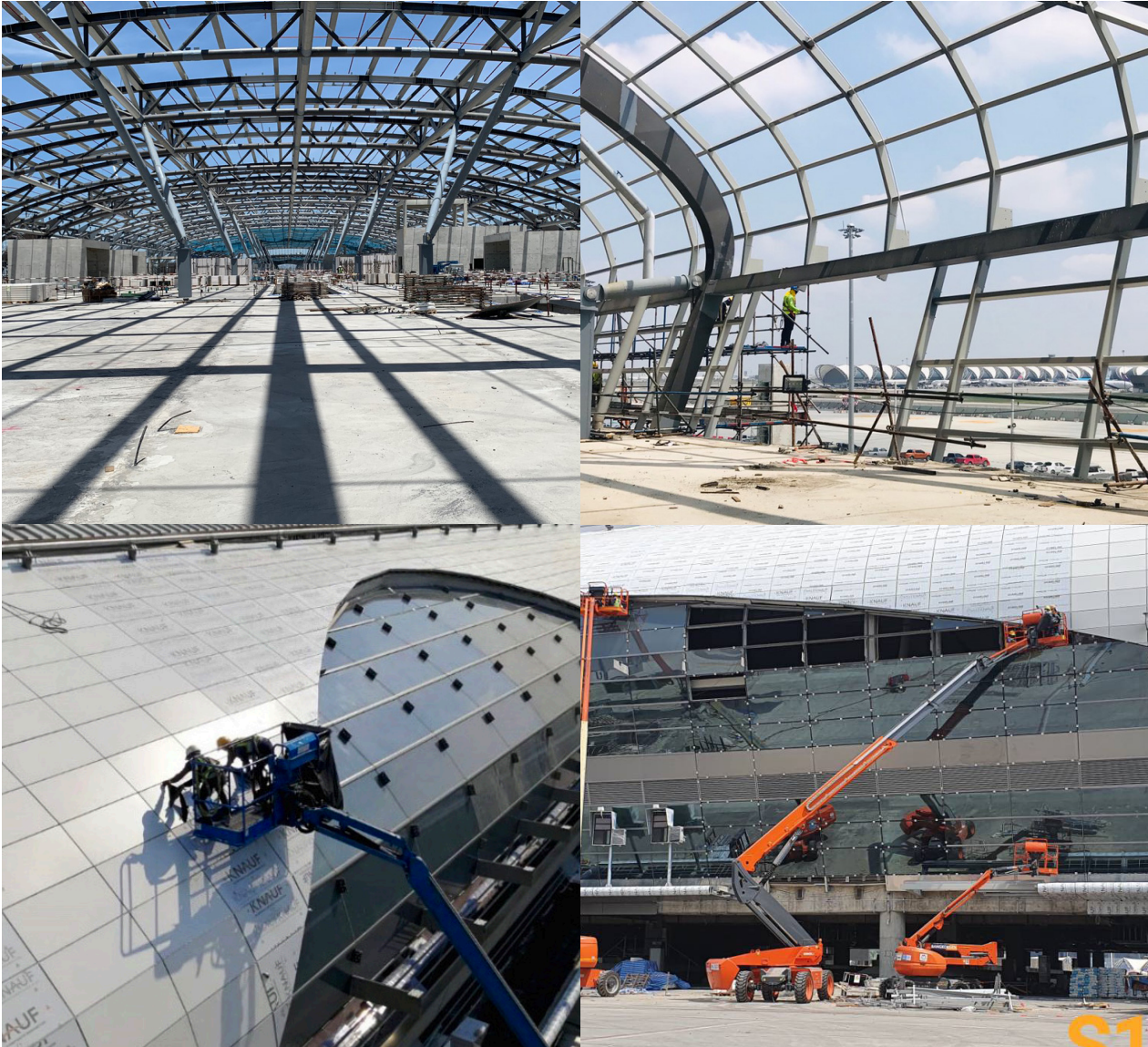




# Suvarnabhumi Airport Midfield Satellite Building 1







The Challenge of Concourse D Working Condition

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## What Are the Main Challenges in Making this Airport?

The Challenge In Construction Condition

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## Curved Roof Structure

- The curved roof structure required high precision for fabrication and installation.
- Main members of roof steel structure must be fabricated from abroad
- Complicated works especially curved architectural works and 5-stars interior works



The Challenge of Concourse D Working Condition

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## What Are the Main Challenges in Making this Airport?

The Challenge of Connecting to ZAT 1

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## Concourse D Working Condition

- Odd working hours from 23.00 – 05.00 hrs.
- Renovation works at night and normal operation of AOT in the daytime
- Lots of regulation, paper works and tight security requirements
- Had to demolish the original MEP works
- Unclear scope of works





The Challenge of Project Scale

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# What Are the Main Challenges in Making this Airport?

The Challenge of Project Scale

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## Large Scale Projects

- Large scale project to accommodate up to 60 million passengers per year with limited construction period
- Working with many contractors at the same time and area (Interface and Co-ordination among several contractors)





# What Are the Main Challenges in Making this Airport?

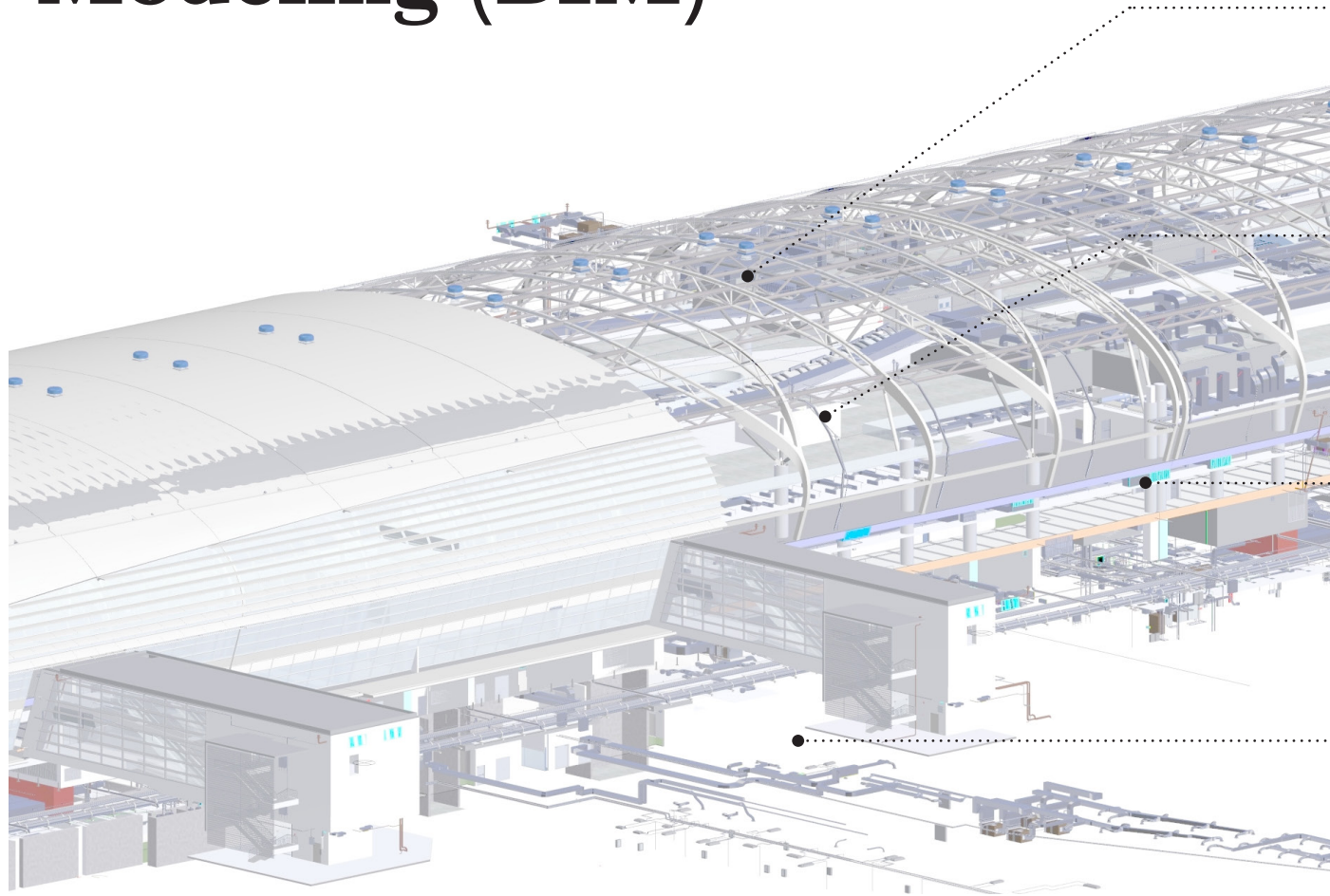
**Integrated monitoring system and controlling systems of a number of specialized system in order to facilitate airport specific processes**

Which consists of the following systems

- ICT Systems and security system including FIDS, CASS, FDAS and SMS
- Special building equipment and airport special system including AMS, PLB, VFGS and AMS
- MEP and fire protection systems for airport facilities including special device and equipment



# Building Information Modeling (BIM)



## Plan

Inform project planning by combining reality capture and real-world data to generate context models of the existing built and natural environment.

## Design

During this phase, conceptual design, analysis, detailing and documentation are performed. The preconstruction process begins using BIM data to inform scheduling and logistics.

## Build

During this phase, fabrication begins using BIM specifications. Project construction logistics are shared with trades and contractors to ensure optimum timing and efficiency.

## Operate

BIM data carries over to operations and maintenance of finished assets. BIM data can be used down the road for cost-effective renovation or efficient deconstruction too.





## 1 General Civil Construction

- Infrastructure
- Building construction
- Road Work
- Factory Plant
- Water Treatment Plant
- Power Plant
- Irrigation System



## 2 Electrical and Communication Systems

- Power Substation
- Power Distribution
- Electrical Power Supply
- Lighting System
- Telephone System
- Public Address System- Master Antenna
- Security System
- Lightning Protection System
- Building Automation System
- Energy Management System
- Solar Power System

# Everything Under One Roof

## 3 Air Conditioning and Ventilation Systems

- Air Conditioning System
- Ventilation System
- Refrigeration
- Clean Room
- Automatic Temperature and Humidity Control System
- Pressurized System
- Variable Air Volume System (VAV)
- District Cooling System

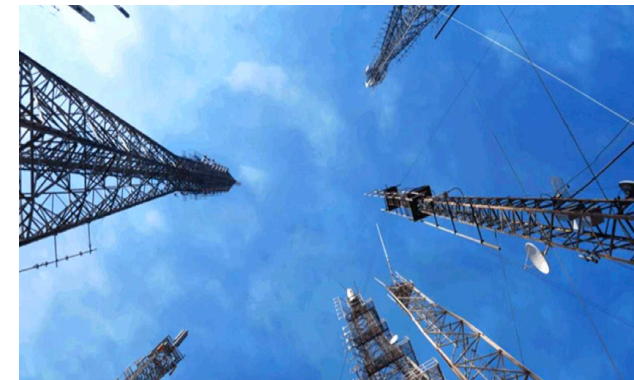


## 4 Plumbing, Sanitary and Fire Protection Systems

- Plumbing System
- Fire Alarm System
- Fire Pumps and Controller
- Fire Extinguishing Equipment
- FM200 System
- Water Treatment Plant System
- Waste Water and Sewage Treatment Plant
- Gas System
- Swimming Pool System

## 5 Telecommunication systems

- Telephone Network System
- Data Communication System
- TDMA/CDMA Telephone System
- SDH/Fiber Optic Communication Network System
- Self – Support, Guyed Mast Tower Antenna

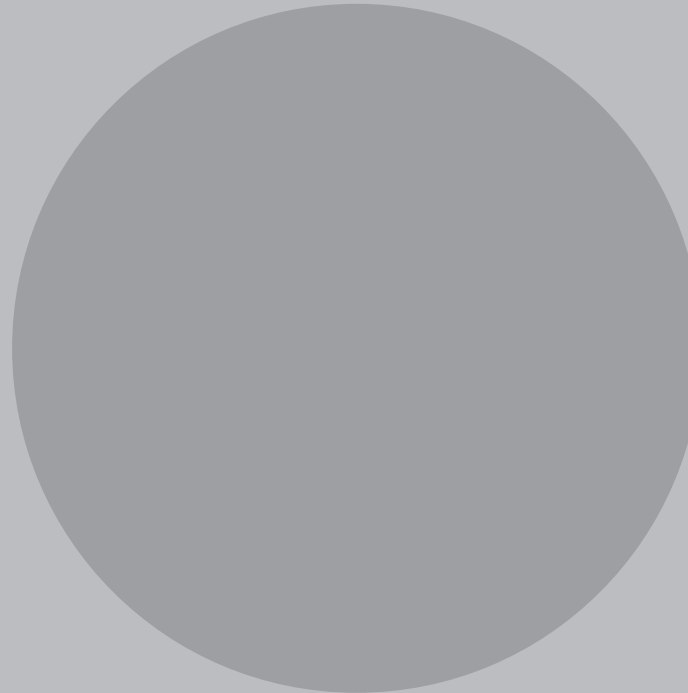




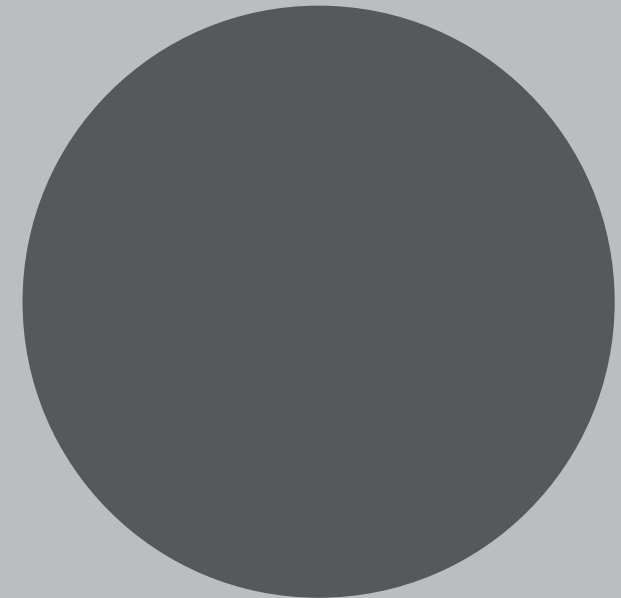
# Revenues from Our Services

Power Line Engineering Public Co., Ltd. (PLE) operates business as the general contractor for the design, engineering and construction for civil, mechanical, electrical and all MEP works.

PLE's Business are summarized into 2 parts according to type and area of services, Civil Construction and Mechanical, Electrical & Plumbing System (MEP)



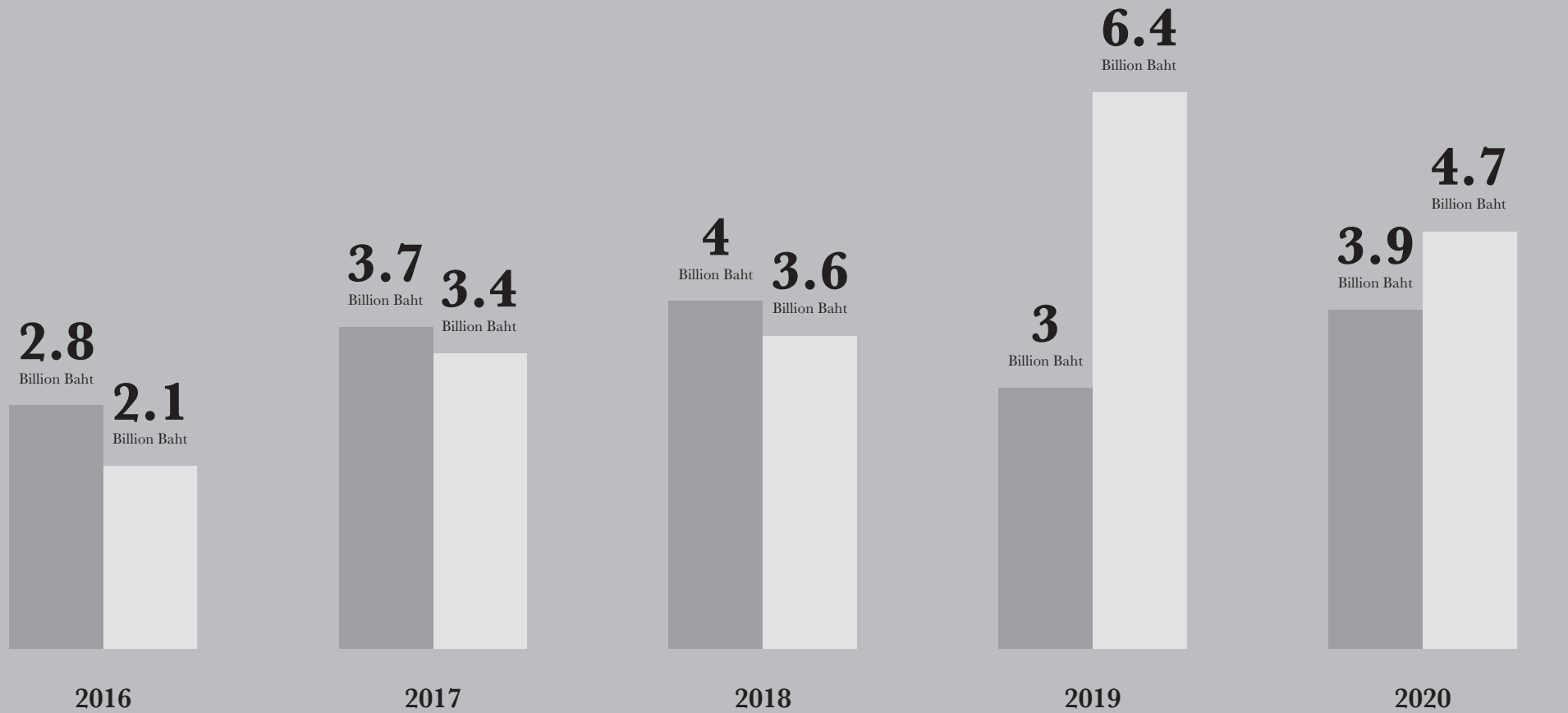
**55%**  
MEP 4,718 MB.



**45%**  
Civil 3,861 MB.

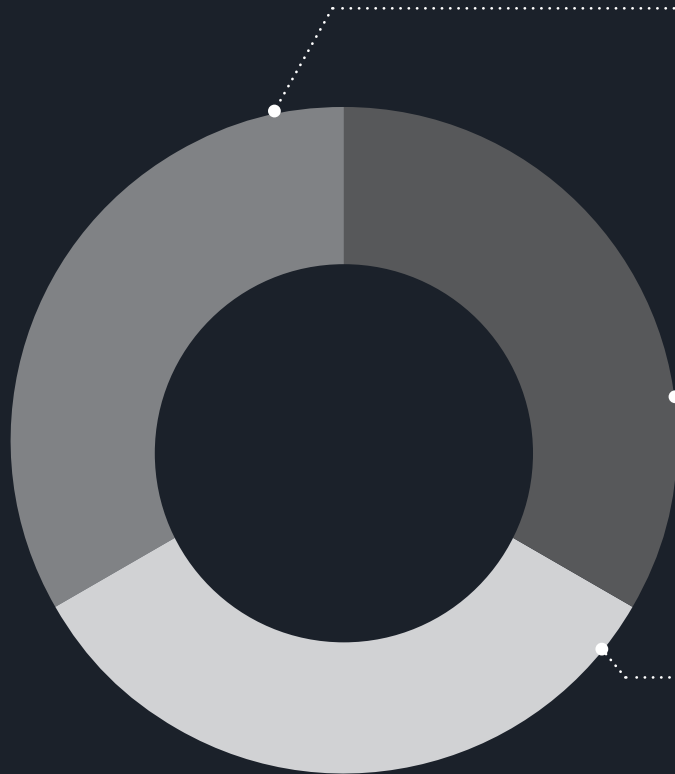


# Revenues from Our Services





# How We Work



## 1. Quality

Value for customers, employees and those involved with quality products and services from operational processes, technology development.

## 2. Time

Time equals money. Regardless of your role in a construction project, time is one of the most valuable assets at your disposal.

## 3. Cost

Expense incurred by a contractor for labor, material, equipment, financing, services, utilities, etc., plus overheads and contractor's profit.

# 1 Quality Management

## Quality Procedure of Project Management (ISO 9001:2015)

**Quality Policy :** “Leader in MEP System & Installation and Civil Work, as per International Standards, Impressive Service and Continued Work Development.”

Quality	Procedure Description		
<u>Preparation for Construction</u>			
QP-ENG-01	Construction Project Preparation and Installation	QP-WHC-01	Tools and Equipment Maintenance and Control
QP-MEP-01	Project Schedule and Report	QP-WHC-02	Tools and Equipment Maintenance and Control Incoming and Outgoing
QP-MEP-03	Project Budget Preparation and Control	QPWHC-03	Tools/Equipment And Maintenance Tools/Equipment Traceability and Identification
QP-ADM-01	Tools and Equipment Movement		
QP-PUR-01	Supplier/Sub-contractor Selection and Assessment		
QP-PUR-02	Purchasing		
<u>Construction</u>			
QP-DWG-01	Shop Drawing, As-Built Drawing Preparation		
QP-ENG-02	Design, Equipment Approval and Amendment		
QP-ENG-03	Product Control Delivered by Customer		
QP-ENG-04	Change operation agreement		
QP-ENG-05	Nonconforming Products Control		
QP-ENG-06	Corrective Action and Preventive		
QP-ECV-01	Construction Work Control		
QP-ECV-02	Construction Project Budget Preparation and Control		
QP-ECV-03	Equipment Calibration and Testing Preparation		
QP-ECV-04	Construction Work Testing and Inspection		
QP-MEP-02	Work Installation Control		
QP-MEP-04	Inspection and Testing		
QP-MEP-05	Inspection and testing status		
QP-SEV-02	Inspection, Measurement and Equipment Testing Control		
<u>Work Delivery &amp; Guarantee</u>			
		QP-ECV-05	Construction Project Completion Control
		QP-MEP-06	Project Hand Over
		QP-ENG-06	Corrective Action and Preventive Service
		QP-SEV-01	Service
			<ul style="list-style-type: none"> <li>• Quality control point in project</li> <li>• Inspection item of installation work</li> <li>• Response person in Project Management</li> <li>• Special process declaration (if required)</li> <li>• Control of M/C Equipment used</li> <li>• Safety procedure in installation work</li> <li>• Qualification of all staffs must be elected base on their high performance and experience in project management skill</li> <li>• Monitoring by Check sheet included detail of inspection, finding, report to construction management at least once a month</li> <li>• Analyze risks and opportunities before starting work to determine how to eliminate them</li> </ul>



# 2 Time Management

## **Break Down Structure**

- Analyze Critical Path of Work to set Master Schedule
- Focus on Critical Work in Master Schedule
- Prepare on related manpower/equipment in man-day, quantity suitably to each Critical Work
- Project monitoring every week to catch up working Schedule, properly revise master schedule to appropriate work load

## **Management Lead Time**

of purchase Material / equipment that will affect to project schedule by expedition log that our Engineer will follow up on every material/ equipment delivery on time property

## **Co-ordinate with other-Trade**

for internal meeting to review over all progress of work

## **To conclude to find solution**

for Trouble/ problem that will affect to Project Schedule

## **Adjust/Revise sequence of work**

conform to Master schedule of project owner

## **Project Insurance**

to prevent risk that will occurs

## **Monitoring by**

- Progress of work (Daily Report)
- Weekly Report to conclude progress of work that achieves in each week compare with master schedule
- Catch up by revise weekly plan in critical path in manpower/equipment Resources Need in each system property by maintain consistent mile-stone in Master Schedule

# 3 Cost Management

- Earned Value Management (EVM)
- Cost Change Control System
- Performance Measurement
- Budget Control System of company
- Monitoring by Budget Update and Revised Cost Estimates



Company  
Profile

**Enhance the effectiveness and efficiency of  
staffs and organization for performing works,  
which meet total customers' satisfaction  
as well as the public' recognition.”**

Power  
Line  
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# A Yeild of Achievement

## The Trust We Earn From Our Clients

During the past 30 years, we successfully completed more than 700 projects of various types of building for our valuable clients. Our great track record of quality works, delivering projects on time and acceptable and suitable cost together with after sales services which was supported by our professional engineering teams and skilled and experienced staffs ensured that our clients having the most satisfaction as well as PLE earning repeat orders from them. The development of engineering aspects and environmental care are continuously applied for our works delivering to both clients and public society. Hence, we are very grateful and proud to earn the trust of clients and public.





Project Name

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## Suvarnabhumi Airport Midfield Satellite

Contract Price (Baht)

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**14,165,249,000**

Area (Sq.m)

---

**220,000**

Project Description

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The Midfield Satellite 1 building, parking bays for Midfield Satellite 1 building extension connecting the south tunnel and passenger transportation system

Scope of Work

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**Construction +  
MEP + Security  
System**

Location

---

**Samutprakarn**

Project Owner

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**Airports of Thailand Public  
Company Limited (AOT)**





Project Name

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## Block 33 Samyan

Contract Price (Baht)

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# 2,957,000,000

Area (Sq.m)

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# 154,800

Project Description

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Mixed use development includes residence,  
retail shop, office and car park  
Plot A : Tower A 50 stories  
          Tower B 43 stories  
Plot B : 7 stories

Scope of Work

---

## Construction + MEP

Location

---

## Bangkok

Project Owner

---

### PMCU Property Management of Chulalongkorn University



Project Name

---

**The Rice**

Contract Price (Baht)

---

**990,000,000**

Area (Sq.m)

---

**55,669**

Project Description

---

Mixed use project (retail shop, office and car park) 28 stories and 1 basement

Scope of Work

---

**Construction +  
MEP**

Location

---

**Bangkok**

Project Owner

---

**Srisupharaj Asset Co.,Ltd.**





Project Name

---

**NBTC Headquarter**

Contract Price (Baht)

---

**2,470,093,457**

Project Description

---

Office complex of 8 buildings includes Office buildings, Museum and Library, Conference Hall, Cineplex and Public Plaza

Area (Sq.m)

---

**94,196**

Scope of Work

---

**Construction +  
MEP**

Location

---

**Nonthaburi**

Project Owner

---

**Office of National Broadcasting  
and Telecommunications  
Commission**



Project Name

---

## Creative Learning Center and Recre- ation Facilities

Contract Price (Baht)

---

**442,990,655**

Area (Sq.m)

---

**24,500**

Project Description

---

3 Building (a,b,c) office building, Museum  
and utilities building.

Scope of Work

---

**Construction +  
MEP**

Location

---

**Bangkok**

Project Owner

---

**Bank of Thailand**





Project Name

---

**Porto de Phuket**

Contract Price (Baht)

---

**159,780,000**

Project Description

---

Life Style Retail Cluster of 8 Buildings

Area (Sq.m)

---

**13,300**

Scope of Work

---

**Construction +  
MEP**

Location

---

**Phuket**

Project Owner

---

**Central Department Store Co.,  
Ltd.**



Project Name

---

## Rangsit Pharma- ceutical Plant

Project Description

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Building Compund including  
01 Roads, Drainage system and Public Utilities  
02 Raw Material Warehouse and Packing  
Building (3 Storey)  
03 Drug Production Building (3 Storey)  
04 Pharmaceutical Cream / Wax Building Drug  
for External use and Injection (4 Storey)  
05 Manufacture of Tablets (4 Storey)  
06 The Central Utility Building (2 Storey)  
07 Waste Water Treatment Building (1 Storey)  
08 Engineering and Mainternance Building (3  
Storey)  
09 Raw Water Reserve Building (1 Storey)  
10 Water Recycling Building (1 Storey)  
11 Steam Building and Fuel Filling Yard (1  
Storey)  
12 Director of the Building (3 Storey)  
13 The Cafeteria (3 Storey)  
14 Parking Building and Resting Garbage (5  
Storey)

Contract Price (Baht)

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**4,919,626,168**

Area (Sq.m)

---

**121,148**

Scope of Work

---

**Construction +  
MEP + Machine  
Installation**

Location

---

**Phatum Thani**

Project Owner

---

**The Government Pharmaceutical  
Organization**



## Chamchuri Square

### Project Name

---

Mix-used building complex consist of 25 stories apartment, 5 stories atrium, 42 stories office, 10 stories parking



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
2,568,224,299 Baht

**Area :**  
187,912 Sq.m.

**Owner :**  
PMCU

**Location :**  
Bangkok

## TIPCO Headquarter Building

### Project Name

---

34 Stories office building and 2 basement



---

**Scope of Work :**  
MEP Works

**Contract Price :**  
370,000,000 Baht

**Area :**  
64,000 Sq.m.

**Owner :**  
Thanomwongse Service Co., Ltd.

**Location :**  
Bangkok

## New North Eastern Region Office Bank of Thailand

### Project Name

---

4 Stories office building and 2 villas



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
353,899,028 Baht

**Area :**  
14,463 Sq.m.

**Owner :**  
Bank Of Thailand.

**Location :**  
Khon Kaen

## New Metropolitan Electricity Authority Office

### Project Name

---

Office Complex includes Office Building A 25 Stories, Parking Building B 13 Stories. Operation Building C 4 Stories



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
3063,760,000 Baht

**Area :**  
104,254 Sq.m.

**Owner :**  
Metropolitan Electricity Authority

**Location :**  
Bangkok

## Grand Mercure Patong

### Project Name

---

7 Stories hotel and resort and 7 villas.  
318 Rooms



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
1,193,000,000 Baht

**Area :**  
30,907 Sq.m.

**Owner :**  
S Triumph Land Co., Ltd.

**Location :**  
Patong, Phuket

## Radisson Plaza Sukhumvit

### Project Name

---

33 Stories hotel building (23 stories hotel  
290 rooms, 4 stories officer, 5 stories car  
park) and 1 basement



---

**Scope of Work :**  
MEP Works

**Contract Price :**  
345,000,000 Baht

**Area :**  
35,130 Sq.m.

**Owner :**  
G & P Asset Holding Co.,

**Location :**  
Bangkok

## So Sofitel Bangkok Hotel

### Project Name

---

28 Stories Hotel Building. and 2 Basement



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
443,800,000 Baht

**Area :**  
39,822 Sq.m.

**Owner :**  
Oak Tree Co., Ltd.

**Location :**  
Bangkok

## Marriott Bangkok Hotel Sukhumwit

### Project Name

---

34 Stories hotel building. And 3 basement  
(352 units)



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
406,500,000 Baht

**Area :**  
42,000 Sq.m.

**Owner :**  
Benchasiri Park Property Co., Ltd.

**Location :**  
Bangkok



## Inter Continental Huahin

### Project Name

---

Group of building with 3 stories hotels,  
5 stories hotels and 3 villas buildings



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
641,000,000 Baht

**Area :**  
22,000 Sq.m.

**Owner :**  
Proud Resort Hua Hin Co.,Ltd.

**Location :**  
Prajub Kirikhun

## Centara Grand Beach Resort Phuket

### Project Name

---

Hotel and resort consisting of 5 stories  
9 hotel building, 9 villas, 11 others build  
(include swimming pool )



---

**Scope of Work :**  
Construction Works

**Contract Price :**  
480,000,000 Baht

**Area :**  
37,222 Sq.m.

**Owner :**  
Central Samui Beach Resort

**Location :**  
Karon Beach, Phuket

## Renaissance Hotel Phuket

### Project Name

---

Hotel and resort consisting of 4 stories  
hotel buildings, 26 villas, restaurant, spa,  
swimming pool and office



---

**Scope of Work :**  
Construction Works

**Contract Price :**  
475,000,000 Baht

**Area :**  
39,733 Sq.m.

**Owner :**  
Secon Hotel and Resort Co., Ltd.

**Location :**  
Mai Kaew, Phuket

## Marriott Hotel Huahin

### Project Name

---

4-6 Stories, 17 building hotel and resort



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
555,000,000 Baht

**Area :**  
36,344 Sq.m.

**Owner :**  
TCC Luxury Hotels and Resort Co., Ltd.

**Location :**  
Prajub Kirikhun

## Veranda Residence

### Project Name

---

36 Stories condominium 1 basement  
2 stories villa 4 buildings



---

**Scope of Work :**  
Construction Works

**Contract Price :**  
439,252,336 Baht

**Area :**  
36,078 Sq.m.

**Owner :**  
Veranda Beach Pattaya

**Location :**  
Pattaya

## Noble Revo Silom

### Project Name

---

32 Stories hotel building and 1 basement  
( 319 units )



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
493,000,000 Baht

**Area :**  
25,388 Sq.m.

**Owner :**  
Noble Development Company Limited

**Location :**  
Bangkok

## Four Seasons Residences

### Project Name

---

Residential building, 73 stories  
and 1 basement



---

**Scope of Work :**  
MEP Works

**Contract Price :**  
813,084,112.15 Baht (Exclude VAT)

**Area :**  
103,700 Sq.m.

**Owner :**  
Country Group Company Limited., Ltd

**Location :**  
Bangkok

## XT Phayathai

### Project Name

---

2 Residential towers ( 1,435 units )  
Tower A: 41 stories  
Tower B: 37 stories



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
2,542,074.76 Baht (Exclude VAT)

**Area :**  
127,239 Sq.m.

**Owner :**  
Siri Smart Tree Co., Ltd

**Location :**  
Bangkok



## Siam Square One

### Project Name

---

7 Stories shopping plaza and department store building and 2 basement.



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
1,470,093,458 Baht

**Area :**  
74,500 Sq.m.

**Owner :**  
PMCU

**Location :**  
Bangkok

## Central Plaza Phitsanulok

### Project Name

---

6 Stories shopping plaza and department store building



---

**Scope of Work :**  
Construction Works

**Contract Price :**  
653,271,028 Baht

**Area :**  
80,000 Sq.m.

**Owner :**  
Central World Co., Ltd

**Location :**  
Phitsanulok

## Central West Gate

### Project Name

---

9 Stories shopping plaza and 1 basement



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
2,555,146,187 Baht

**Area :**  
300,490 Sq.m.

**Owner :**  
Central Pattana Co.,Ltd.

**Location :**  
Nonthaburi

## Central Festival Phuket 2

### Project Name

---

4 Stories shopping mall building and 1 basement



---

**Scope of Work :**  
Construction Works

**Contract Price :**  
614,000,000 Baht

**Area :**  
68,669 Sq.m.

**Owner :**  
Central Pattana Co.,Ltd.

**Location :**  
Phuket

## Medina Centrale (Qatar)

### Project Name

---

Entertainment complexes; retail & residential (7 building 5 to 7 stories), cinema (1 building 2 stories), parking (7 building 5 stories), Sub station (7 building 1 storey) restaurants & café (4 building 1 storey)



---

**Scope of Work :**  
Construction Works and MEP Works

**Contract Price :**  
850 Million. (Dhr.)

**Area :**  
309,640 Sq.m.

**Owner :**  
United Development Company

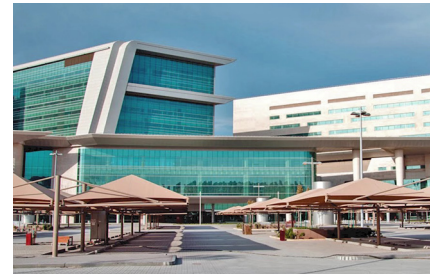
**Location :**  
Doha, Qatar

## Hamad Medical City

### Project Name

---

Group building; 9 high rise buildings containing 655 nurses units, 5 stories 23 buildings containing 216 married staff units. The mosque within the married staff area. Infrastructure and services installation.



---

**Scope of Work :**  
MEP Works

**Contract Price :**  
138.5 Million. (Dhr.)

**Area :**  
246,400 Sq.m.

**Owner :**  
Ministry of Municipal Affairs & Agriculture,  
Building Engineering Department of Qatar

**Location :**  
Doha, Qatar

## Al Sharq Village Resort & Spa

### Project Name

---

A unique 'boutique' luxury five star resort. 14 Villas, include 160 luxury rooms, a six senses spa, a traditional qatari souk, food & beverage and entertainment



---

**Scope of Work :**  
MEP Works

**Contract Price :**  
63.75 Million. (Dhr.)

**Area :**  
200,000 Sq.m.

**Owner :**  
QNHC Qatar National Hotels Company.

**Location :**  
Bandocha, Qatar





**“ System Engineering Leader, standard installation, customer’s impression on services, and development of the work to an international stage. ”**

# To Know Us More

## Name

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**Desert Technology  
Trading & Contracting**

## Address

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7041 King Abdulaziz Bin Abdulrahman Saud Rd,  
Ar Rabie Dist. 2401, P.O. Box 13316 Riyadh KSA.

## Contact Information

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Tel: +966 50 300 0563

Email: [admin@desertstechnology.com](mailto:admin@desertstechnology.com)

## Further Detail

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