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WCE
West Coast Engineering Co.,Ltd.

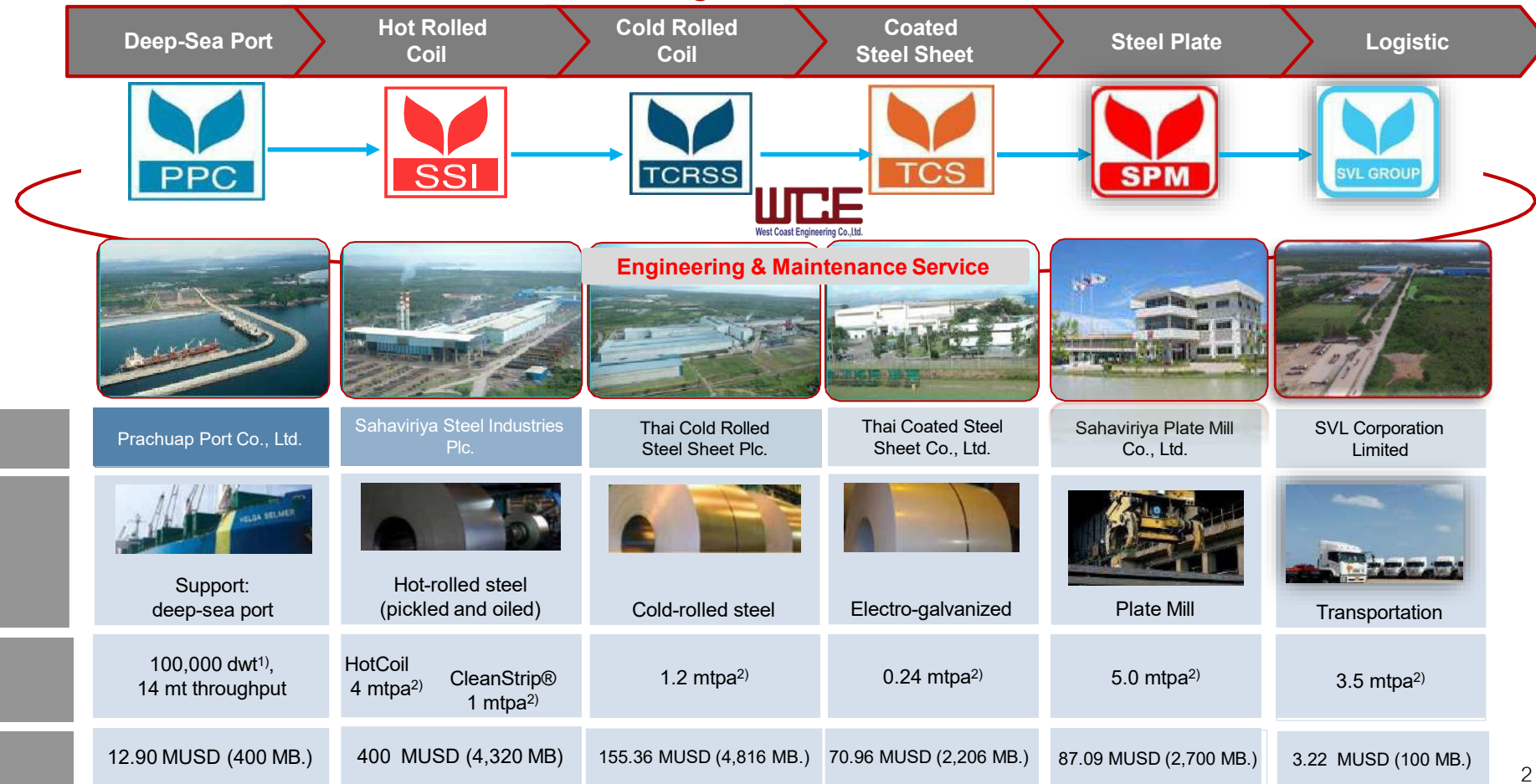
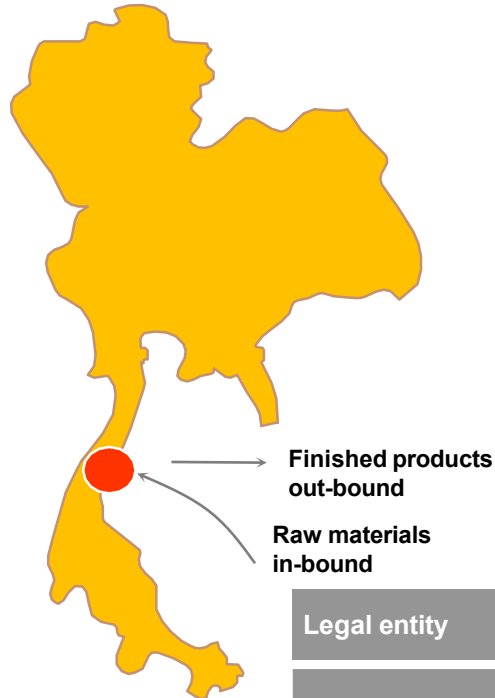
WELCOME



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- 1) Develop technology and engineering solutions and develop the market to provide customers with the highest value and have increased commercial competitiveness.
- 2) Develop the competitiveness of businesses in operations, costs, supply chains and business expansion and investment.
- 3) Develop organizational capabilities, personnel, innovation, knowledge, skills, and expertise, including conducting business with transparency and responsibility to society, communities, and the environment.

ASEAN's Largest Flat Steel Producer

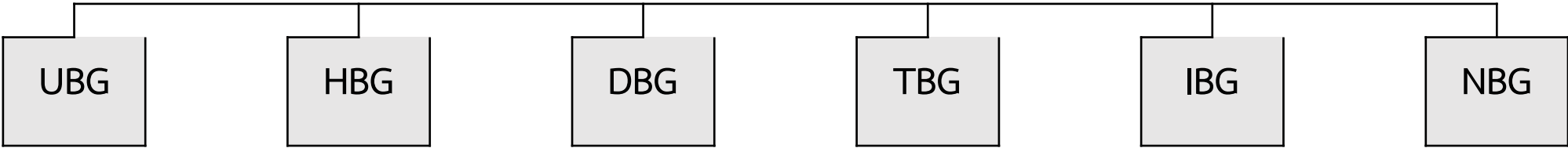


¹⁾ dwt = Deadweight ton

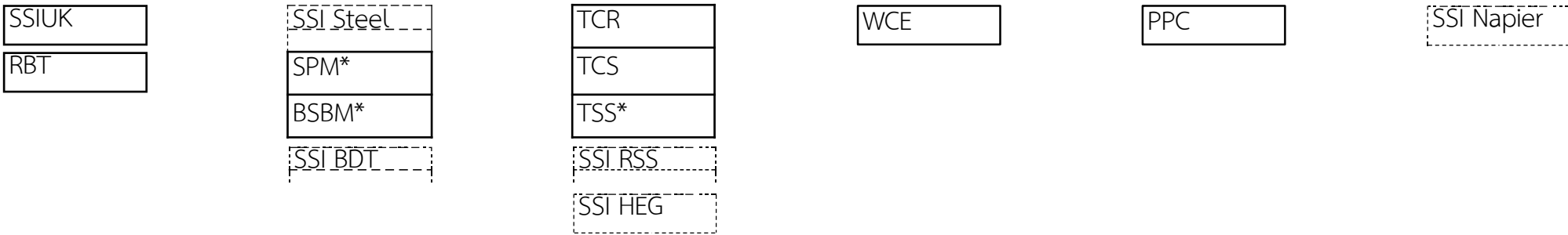


SSI Holding - ภาพโครงสร้างธุรกิจ

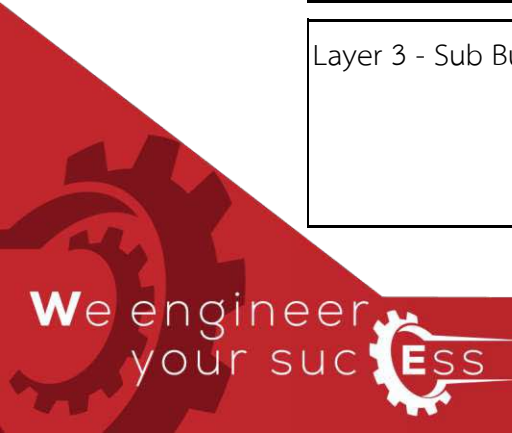
Layer 1 - Business Groups | กลุ่มธุรกิจ



Layer 2 - Business Units | หน่วยธุรกิจ ประเภท (1.1) บริษัทที่เป็น profit center (1.2) บริษัทที่เป็น amalgamation ของ profit center (2) หน่วยงานที่เป็น profit center



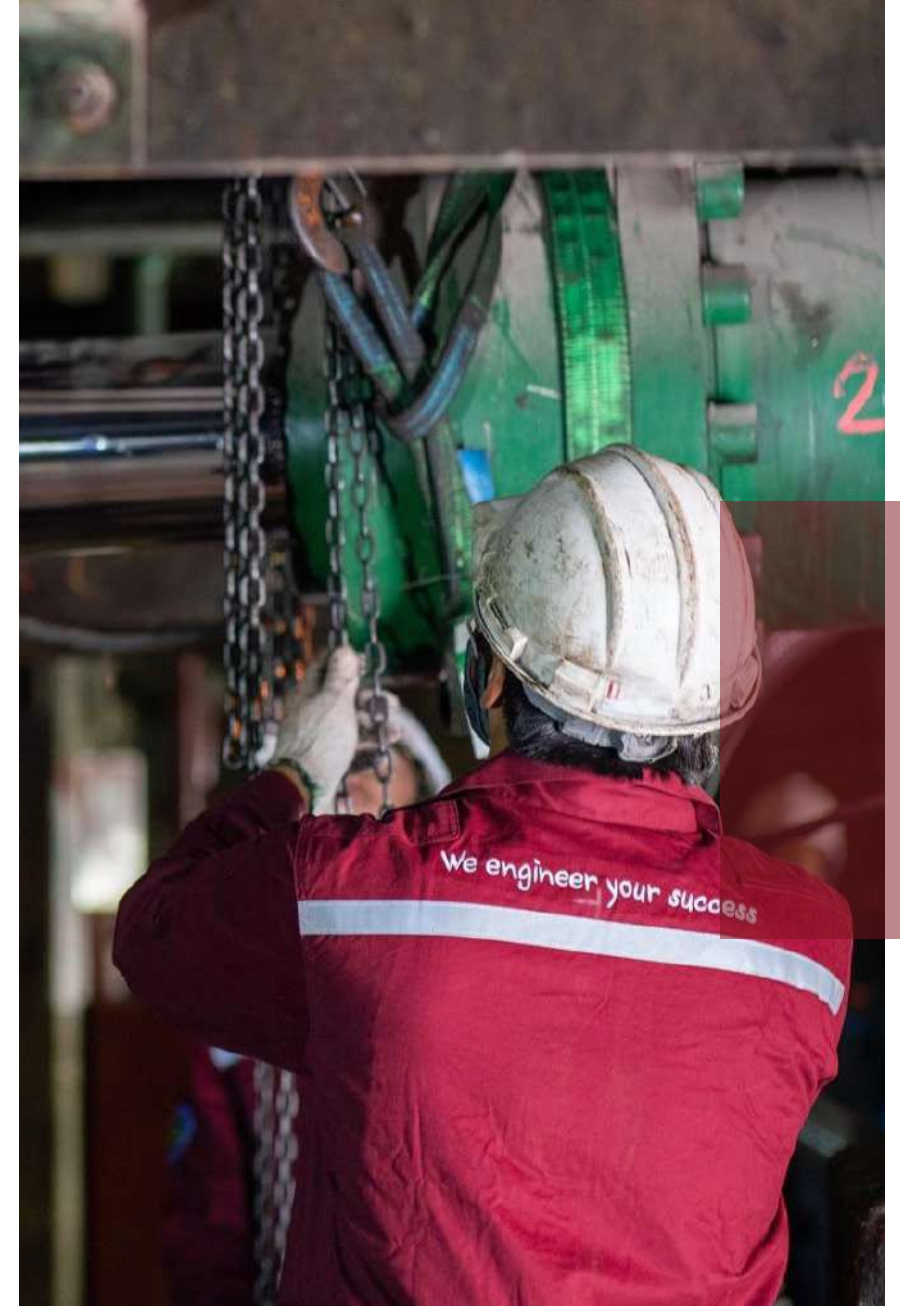
Layer 3 - Sub Business Units | หน่วยธุรกิจย่อย



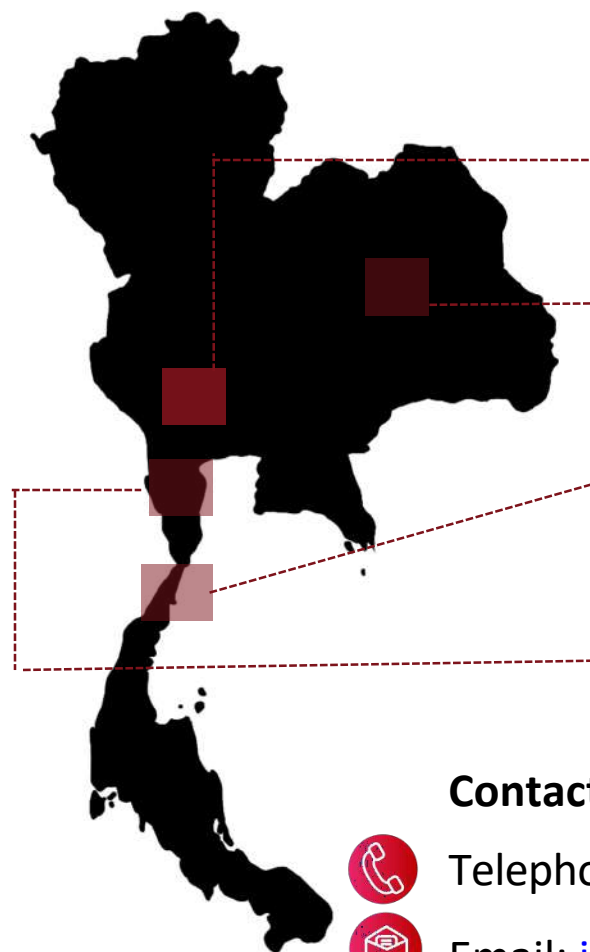
Company Background

West Coast Engineering Co.,Ltd. (WCE) was established in 1999, with a registered capital of 50 million baht, and is a 100%-owned subsidiary of SSI. In 2021 WCE's registered capital was increased to 120 million baht. An affiliated company of Sahaviriya Steel Industries Public Company Limited (SSI), One of Thailand Leading manufacturers of hot rolled coils for the automobile, Cold rolling, electrical & home appliance, steel coating industries, pipe gas cylinder, checked plate and cut sheet.

WCE provide quality engineering services including machinery engineering, maintenance management, steel structure and fabrication ,Engineering Procurement & Construction Rail Engineering and Robotics & Automation .WCE looks forward to achieving a leader of manufacturing engineering service centers according to international standard.



OUR LOCATIONS



Bangkok (Head Office)

Khon Kean (Sale Office)

Prachuap Khiri Khan (Factory)

Ratchaburi (Sale Office)

Contact Us



Telephone: +66 (0) 2234-9487,89



Email: international@wce.co.th



Website: www.wce.co.th



LinkedIn: WCE-West Coast Engineering Co.,Ltd.

Address

Headquarter Bangkok:

16 K&Y Building, 5st Floor, Surasak Road, Silom, Bangrak, Bangkok 10500

Silom / Bangkok



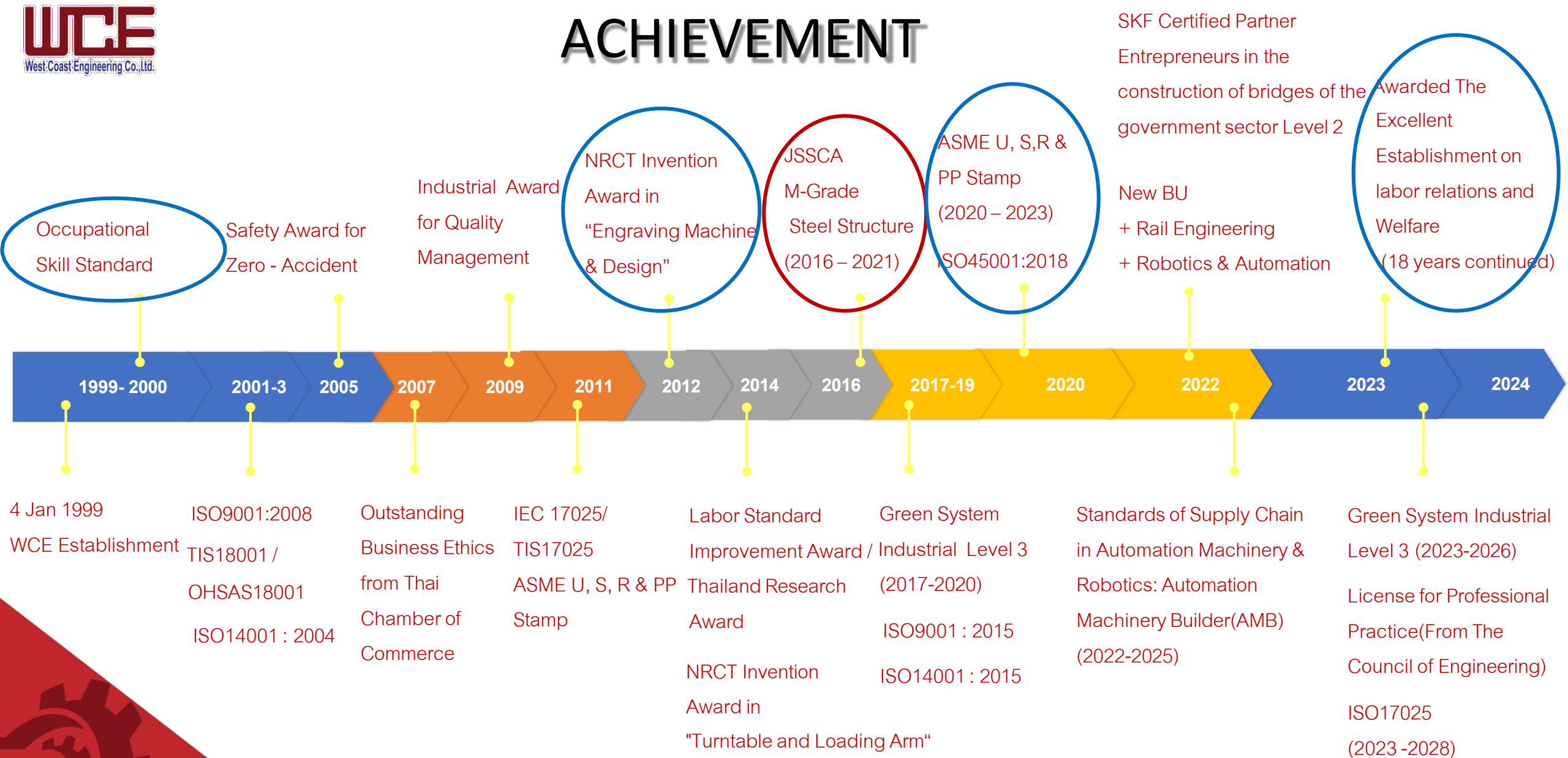
Bang Saphan / Prachuab

Workshop:

9/1 Moo 4 Banklangna - Yaiploy Road, T.Maerumphueng, A.Bangsaphan, Prachuapkhirikhan 77140, Thailand



ACHIEVEMENT



ORGANIZATION



Kittisak Mapanao

Managing Director (MD)



**Pongrapree
Sapankaew**

Machinery and Maintenance
Technology and Engineering
Business Unit (MMT)



**Chaovaratt
Junpradub**

Construction Technology
and Engineering
Business Unit (CTE)



**Ratchata
Jirachotekamjorn**

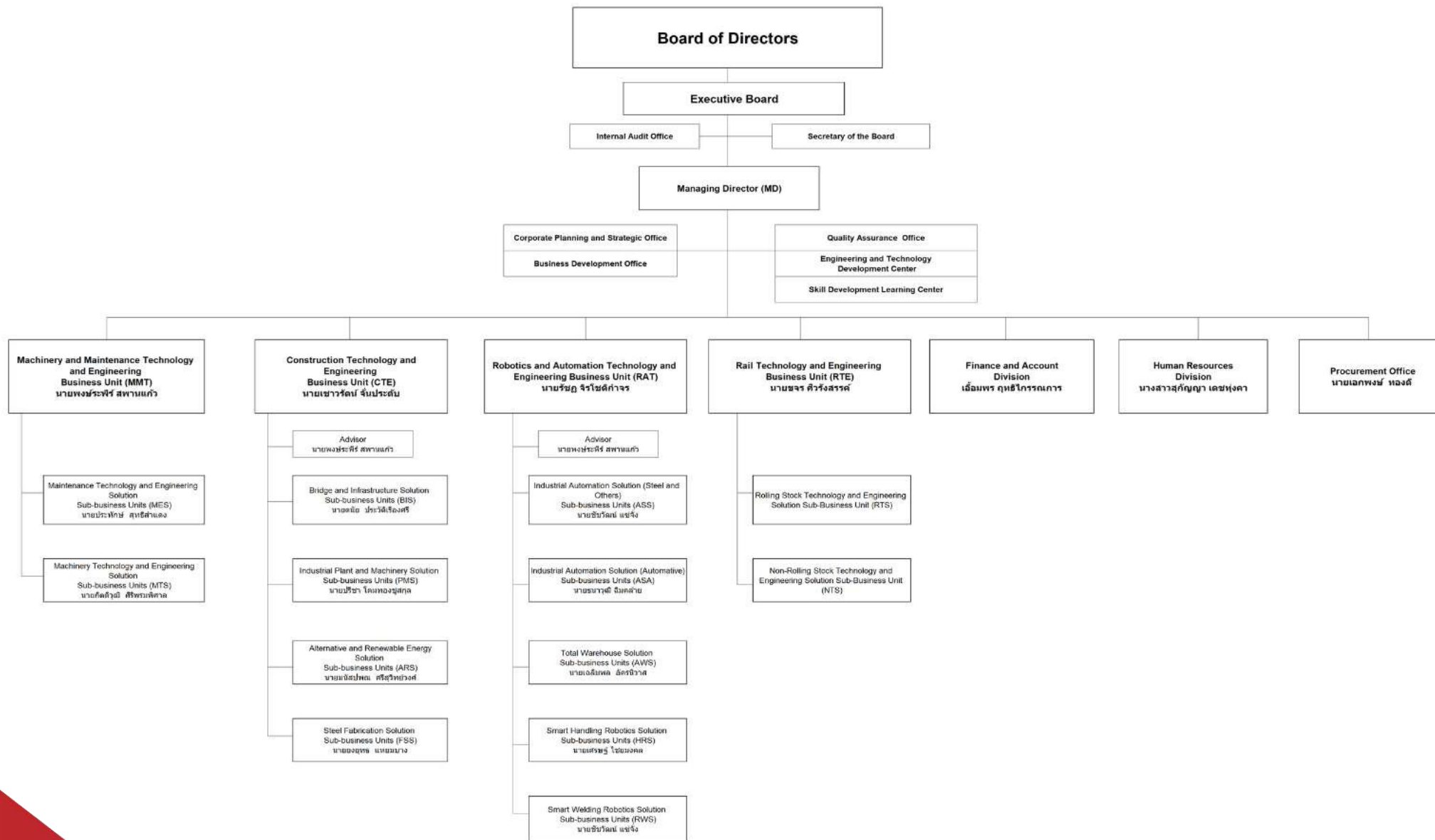
Robotics and Automation
Technology and Engineering
Business Unit (RAT)



**Kajorn
Sivarungson**

Rail Technology
and Engineering
Business Unit (RTE)

West Coast Engineering Co.,Ltd. Draft Organization Chart



Machinery and Maintenance Technology and Engineering Business Unit.



- Maintenance Technology and Engineering Solution Sub-Business Unit.
 - Contract Skilled Supply Services.
 - Mobile Skilled Supply Services
 - Mobile Machine Services.
- Machinery Technology and Engineering Solution Sub-business Unit.
 - Machinery and part supply.
 - Mechanical and electrical repair overhaul Service.
 - Hydraulic Cylinder (Max ID at 400 mm
 - High Pressure Pump (Up to 300 Bar
 - Motor AC (380 V – 6.6 KV Up to 1,200 KV
 - Motor DC (600 V Up to 400 KV
 - Mechanical and electrical engineering solution.

Construction Technology and Engineering Business Unit.



- Bridge and Infrastructure Solution Sub- Business Units .
 - Steel Bridge.
 - Infrastructure - Steel Piping.
- Industrial Plant and Machinery Solution Sub- Business Units.
 - Plant and Machinery Erection
 - M&E
- Alternative and Renewable Energy Solution Sub- Business Units.
 - Solar.
 - Waste to Energy.
- Steel Fabrication Solution Sub- Business Units.
 - Steel Structure.
 - Mechanical Equipment.
 - Heavy Equipment .
 - Pressure Part.

Robotics and Automation Technology and Engineering Business Unit .



- Industrial Automation Solution – Steel & Others.
- Industrial Automation Solution – Automotive
- Total Automated Warehouse Solution.
- Smart Handling Robotic Solution.
- Smart Welding Robotic Solution.



Rail Technology and Engineering Business Unit .

- Rolling Stock Technology and Engineering Solution .
 - Rolling Stock Production and Supply .
 - Rolling Stock Machinery Solution and Service .
 - Rolling Stock Maintenance Service Contract.
- Non-Rolling Stock Technology and Engineering Solution .
- Research and Development Project.





01

Machinery and Maintenance Technology and Engineering Business Unit (MMT)



Maintenance Technology and Engineering Solution Sub-Business Unit

Skilled technician supply and services of preventive, predictive, corrective and emergency of maintenance engineering (mechanical, fluid, electrical and crane performance inspection) with highly skilled technicians and experienced with certificates of competence and work.

Maintenance Technology and Engineering Solution Sub-Business Unit

Capabilities

Our Scope:

Maintenance planer or Co-planer
Preventive, corrective and breakdown maintenance
Routine inspection
Machine installation and alignment
Pipe & steel fabrication and installation
Regular or major shutdown services
Facilities maintenance
Welding services

**> 22 Years
Experience**

**> 2,761,824
Skilled Mandays
Supply**

**> 3000 Tools &
Equipments Service**

**>10
Long-Term Contracts**

Maintenance Technology and Engineering Solution Sub-Business Unit

1. Maintenance Contract

Our performance-based maintenance contract services help you manage the through-life costs of your assets. Clearly defined performance indicators and managed risk transfer ensure that you only pay for solutions that benefit your operations.

We flexible long-term contract services provide a range of technical and commercial options.

- Mechanical / Fluid
- Electrical
- Industrial Vehicle
- Inspection / NDT

2. Specific Maintenance

We operate this services 24/7 to meet customer needs whenever and wherever required. It is supported by highly skilled and experienced workforce with well tools, equipment and workshop. We bring our team and resource to deliver the services anywhere you need in time and cost.

- Major, Annual, Periodical
- Emergency Shutdown
- Maintenance Job Services





MAINTENANCE CONTRACT SERVICES

Customer	Manpower (Man)	Contract (Years)
SSI	176	3
TCRSS	95	3
SKIC-BP	155	4
SKIC-WS	147	4
PPPC	112	2

SHUTDOWN SERVICES

- SSI
- TCRSS
- G-Steel
- GJ Steel
- Posco Thainox
- SCG Group



Project: Maintenance Contract Service
Customer: Sahaviriya Steel Industries PCL
Location: Bang Saphan ,Prachuap Khirikhan
Scope of Work : Furnace ,Milling line ,Electrical distribution ,Water Treatment ,heavy vehicles
Capacity : Up to 1,500 M-D Manpower

Maintenance Technology and Engineering Solution Sub-Business Unit



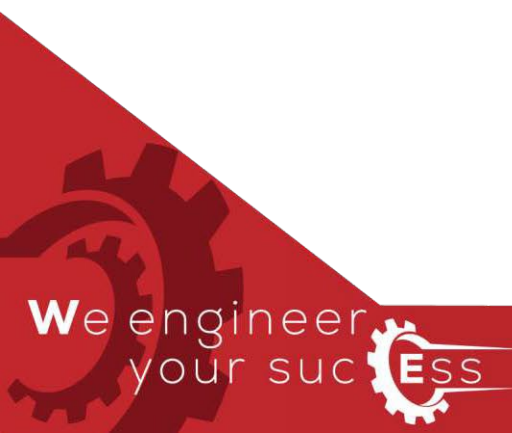
Project: Maintenance Contract Service
Customer: Siam Kraft Industry Co.Ltd
Location: Ban Pong District of Ratchburi
Scope of Work : Pickling , Coupled Pickle / Tandem Cold Mill, Batch-type Annealing Furnaces, Temper Mill / Recoiling Line
Capacity : 300 M-D Manpower

Maintenance Technology and Engineering Solution Sub-Business Unit



Project: Maintenance Contract Service
Customer: Phoenix Pulp & Paper Public Company Limited
Location: Khon Kaen
Scope of Work: Gear Inspection, Daily Maintenance Services.
Capacity: 120 M-D Manpower

Maintenance Technology and Engineering Solution Sub-Business Unit



Project: **Major Shutdown Maintenance Services**
Customer: POSCO – THAINOX
Location: Rayong
Scope of Work : Consists of dismantling, repairing, and replacing machine parts.

Maintenance Technology and Engineering Solution Sub-Business Unit





Machinery Technology and Engineering Solution Sub-business Unit

Services include design, repair, upgrade, and manufacturing of machinery and components related to mechanical, fluid, and electrical systems, as well as providing inspection, measurement, testing, and calibration services relevant to the industrial sector.



Machinery Technology and Engineering Solution Sub-business Unit

With the experience in manufacturing and repair overhaul mechanical parts with modern machinery for more than 22 years, covering various industries in THAILAND and abroad, such as the Steel industry, Energy industry, Cement industry, Paper industry, Chemical industry, Food industry and others.

>6,000 Parts
Mechanic /Fluid
Repair & Overhaul

> 20,000 Parts
Tailor Made and
Reverse Engineering

SERVICE INDUSTRY
 > 22 YEARS
 > 2,340 MB

> 3,500 Parts
Motors and Electrical
Repair & Overhaul

> 1,000 Parts
Onsite Machining
Service



Project High-light References



1. Machinery and part supply

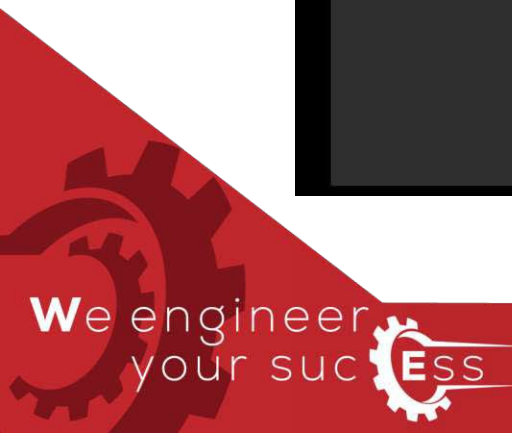
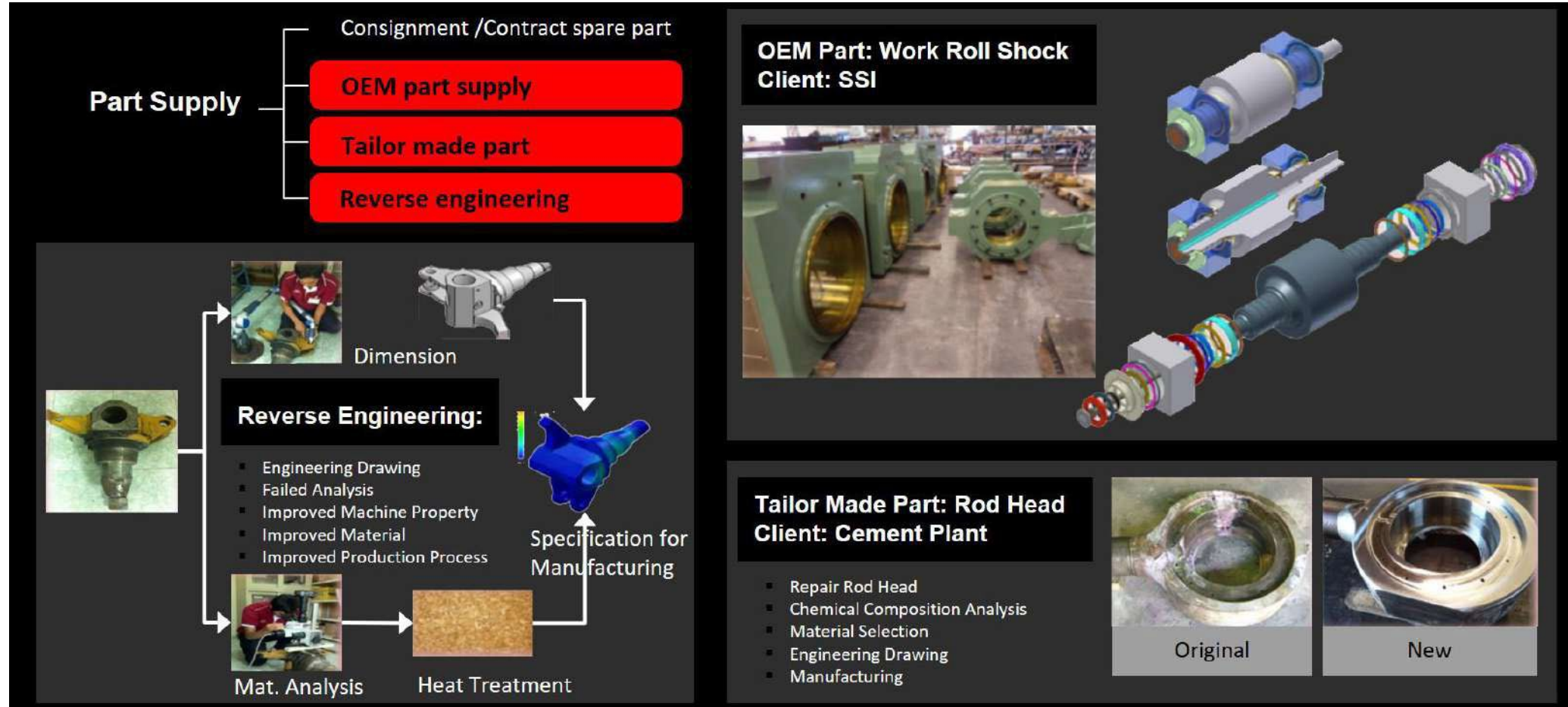
WCE provide solution for supply spare part to heavy industrials including steel industry , cement industry, paper industry , agroindustry etc.

1) Machinery and part supply



1. Machinery and part supply

1) Machinery and part supply



1) Machinery and part supply

Project Name : Industrial Part Supply - Steel industries



Stripper G05255-6 pos.12

Grinding side trimmer knife



Shaft Pos.1 Baf Base Fan
(Mat.SUS316)

Grinding Scrap Shopper Knife



Connection Plate Of Crane

2ECL-Bridle Roll Grinding Surface Dia.915x1500L



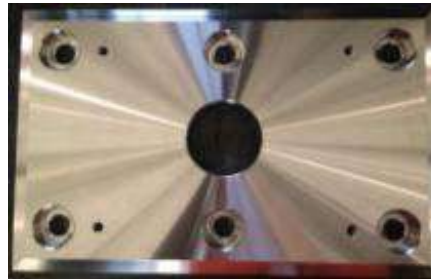
Wheel for Chock 1 CW
(Material: SCM440
Induction 45-50 HRC)



PIN P/N.5J1825
(Material SCM440 Hardness 50-55 HRC)



Spindle Ass'y Elwood 4"
(Material SUS 431)



Bottom liner WR F1-F3
(Material SUS 420 hardness 50-55 HRC)



Cover Descaling



Guide pos.6 for extractor furnace



1) Machinery and part supply

Project Name : Industrial Part Supply



Sleeve of Inlet Valve Stem



Jig for Seal ring housing Row#4



Wearing Diffuser
CWP BPK-T03



Safety Handrails for DOZERS



Shaft Mix6.



Tooth Ring Mix5



Rod Head, Dwg.No.07-3710-015



STICK EXCAVATOR (Terex)



FRAME TRACK, RH & LH



988 Wheel loader cutting edges LIPS



Grouser Bar



Customer: Thai Cold Rolled Steel Sheet Public Company Limited

Project: Machining Middle Spacer For Base Coil

Making wooden designs for the first production of new workpieces / casting workpieces
/ M/C forming workpieces according to the specified design.

1) Machinery and part supply



Customer: Sahaviriya Plate Mill Company Limited
Project: Maching Bottom Spacer For Base Coil DIA. 2300 mm
First manufacturing of new parts/casting/M/C. Forming parts as required.

1) Machinery and part supply



2. Mechanical and electrical repair overhaul Service

WCE provide solution for repair and overhaul industry machinery and expertise for recondition & recovery steel industries machine .

Specific Repair and Overhaul

- Mandrel Overhaul and Service
- Hydraulic Capsule Overhaul and Service
- Gear/Gear Box Overhaul and Service.
- HYD/Pump/Valve Overhaul and Service
- Wear Part Mechanical Overhaul and Service
- Motor Overhaul and Service



2. Mechanical and electrical repair overhaul Service

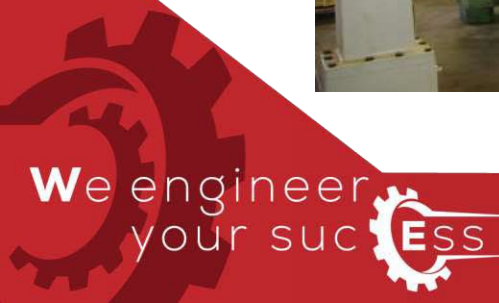
General Repair and Overhaul

- Mechanical Overhaul and Service
- Fluid Overhaul and Service
- Electrical Overhaul and Service



Customer: Sahaviriya Steel Industries PCL
Location: Bang Saphan ,Prachuap Khirikhan
Scope of Work : Mandrel ,Gear box ,Spindle and Hydraulic repair

2. Mechanical and electrical repair overhaul Service



Customer: Phubia Mining
(Mill Drive Gear / David Brown)

Scope of Work: Pre-disassembly, Gear Checks, Input, and output shaft check, Gearbox housing / Bearing and seal retaining plates check, Sandblast and undercoat all external surfaces / Reassembly, Testing by no-load test, Painting blue color

2. Mechanical and electrical repair overhaul Service



Customer: Pranburi Sugar Industry
Project: Repair Driving Gear by Joint Welding

Customer: SCG Cement Thung Song Co.,Ltd
Project: Repair Driving Gear by Joint Welding

2. Mechanical and electrical repair overhaul Service



Customer: Sahaviriya Steel Industries PCL
Location: Bang Saphan ,Prachuap Khirikhan
Scope of Work: Revamp the main motor for steel mill up to 5,200 KW / Rewinding motor up to 400 KW / Dynamic balancing /Repair of electronic card / Calibration of temperature and pressure device.

2. Mechanical and electrical repair overhaul Service



Customer: Posco – Thaibox Public Company Limited
Project : Repair & Overhaul Mandrel Complete Set

2. Mechanical and electrical repair overhaul Service



Customer: TATA STEEL (Thailand) Public Company Limited

Project: Overhaul Gearbox

Dismantle, inspect/repair damaged bearing pedestal through painting and M/C/assembly and test.

2. Mechanical and electrical repair overhaul Service



Customer: Sahaviriya Plate Mill Company Limited

Project: Overhaul Vertical Centrifugal Pump

Inspection /Overhaul - Bearing change /Balance impeller & assembly

2. Mechanical and electrical repair overhaul Service



Customer: NS BlueScope (Thailand) Limited
Project: MCL2 Repair Hot Bridle Bidding Repair Roller
(Welding Repair) Repair, change the flange 1 side,
and connect the shaft shoulder Dynamic balance

2. Mechanical and electrical repair overhaul Service



Customer: Thai Cold Rolled Steel Sheet Public Company Limited

Project: Repair Inner & Out Mast Ram truck No.2

Repair by replacing parts of the rail structure, cutting, welding,
and Machine, Assembling bearings, and testing.)

2. Mechanical and electrical repair overhaul Service



2. Mechanical and electrical repair overhaul Service

Project Name :DYNAMIC BALANCE GEAR SHAFT
Client : Tata Steel Ltd

Project Name :DYNAMIC BALANCE ROLLER
Client : TCS

Project Name :DYNAMIC BALANCE IMPELLER
Client : TCRSS



DYNAMIC BALANCE

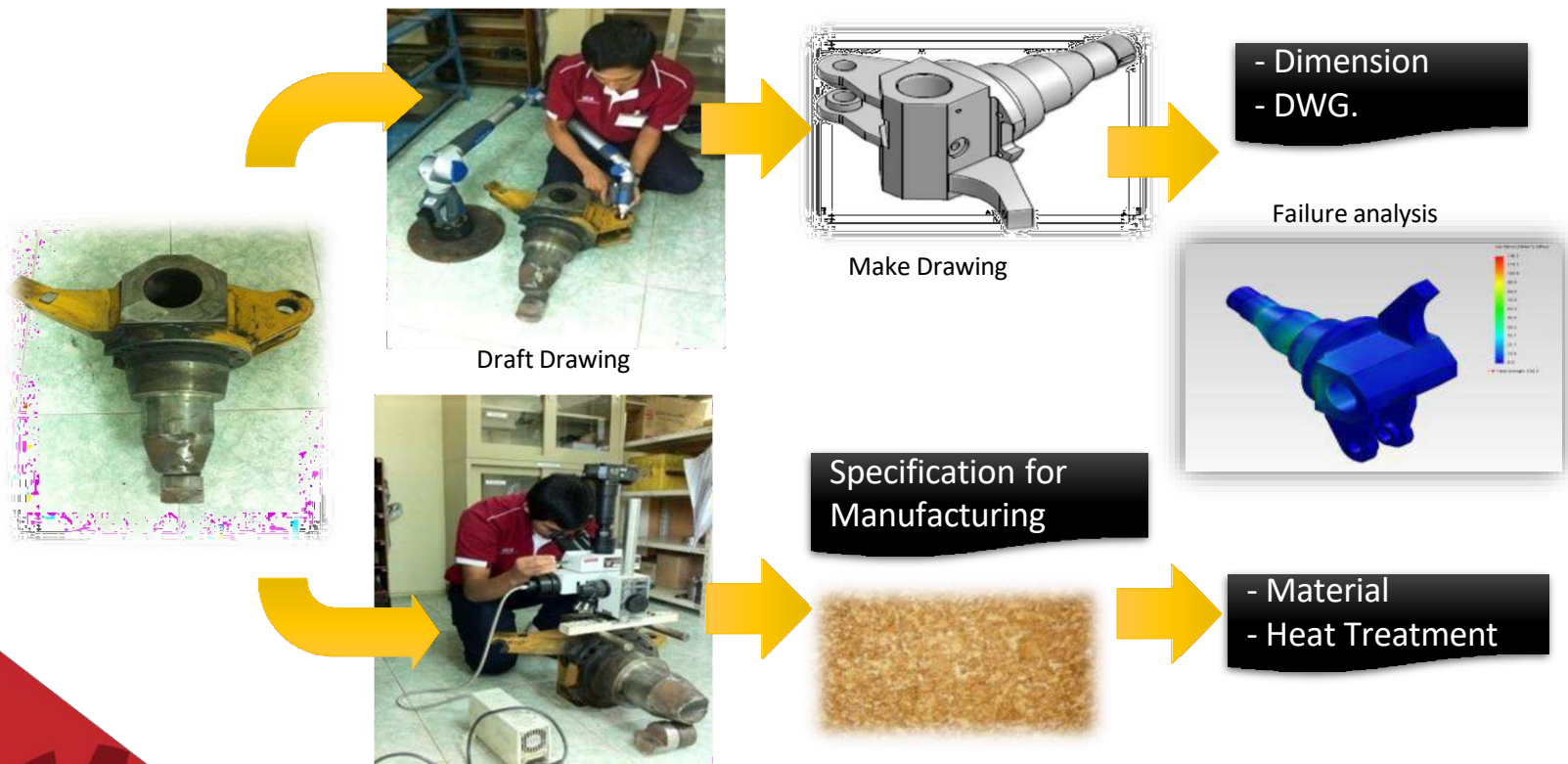
DESCRIPTION	MIN	MAX	UNIT
SHAFT	25	150	mm
SPEED	150	500	RPM
LENGTH	0.5	5	M
WEIGHT	.-	4	Ton
DIAMETER	0.3	1.5	M



3. Mechanical and electrical engineering solution

3. Mechanical and electrical engineering solution

Reverse and Development Program



CMM Mobile Servicing

- Faro Laser tracker
- Faro Arm
- Laser Scan 3D



NDT Servicing

- Dry penetrant test
- Magnetic particle inspection
- Ultrasonic testing
- Thermal image
- Hardness test

Customer : Phu bia mining

Type of machine : Mining Vehicle

Location: Lao PDR

Duration: 10 days

Problem : cracking and wear

Scope of work : Milling & Facing

3. Mechanical and electrical engineering solution



Customer : Lotus hall Mining

Type of machine : Mining Vehicle

Location: Pichit

Duration: 14 days

Problem : cracking and wear

Scope of work : Milling & Facing

3. Mechanical and electrical engineering solution



Customer : Hitachi

Type of machine : Mining Vehicle

Location: Lampang

Duration: 5 days

Problem : Crack

Scope of work : MT & UT Inspection

3. Mechanical and electrical engineering solution



Customer : EGAT

Type of machine : Inlet Valve Dam

Location: Yala

Duration: 14 days

Problem : cracking and wear

Scope of work : Milling

3. Mechanical and electrical engineering solution



Customer : EGAT

Type of machine : Inlet Valve Dam

Location: Surat Thani

Duration: 30 days

Problem : cracking and wear

Scope of work : Milling & Flange facing

3. Mechanical and electrical engineering solution



Special Tools



Faro Laser Tracker



Faro Arm with Laser
Lines Probes

- 8 AXIS System
- Measurement range : 2.7 M
- Accuracy : 0.02 mm
- Laser Probe Accuracy : 0.025 mm
- Repeatability: 0.025 mm



Laser Scanner 3D



- Faro Focus Plus 150
Ranging Unit : 153m @
2 million point/Sec
- Color Resolution : Up to 165 megapixel color
 - HDR Camera
 - Field of view : 300° Vertical / 360° Horizontal

Support Equipment



Dye Penetrant Kit



USM Go Ultrasonic
Flaw Detector



Welding Gauges



Microstructure Testing



Y-1 Yoke
230V/50-60Hz, 3.7max
amp draw



Hand held UV lamps



Ultrasonic thickness gauge



Hardness Tester



Metal
Hardness
Tester



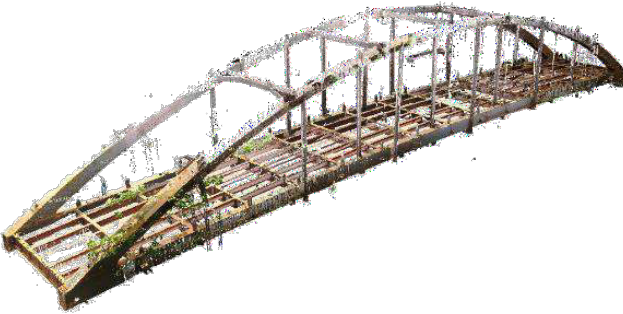
Dry Film Thickness Gauges



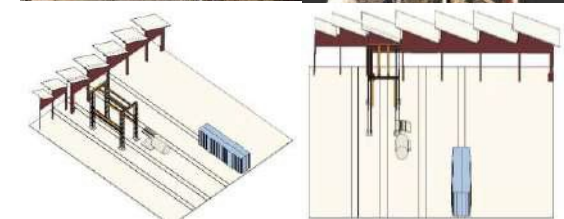
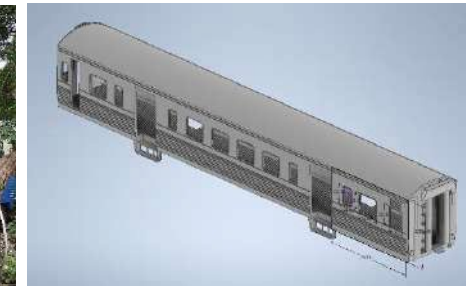
Portable Surface Roughness Tester

3. Mechanical and electrical engineering solution

Project Name : 3D Inspection

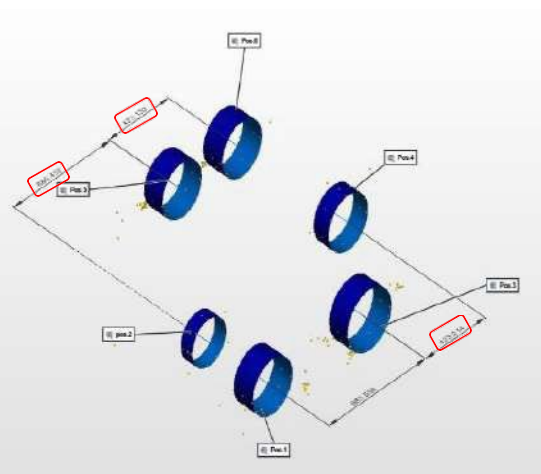
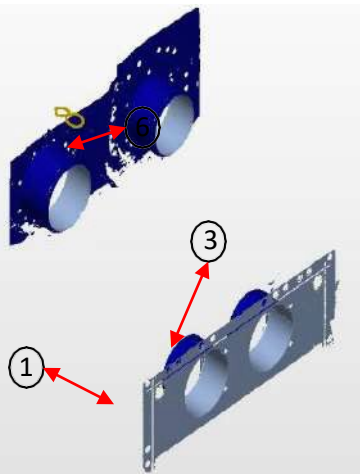
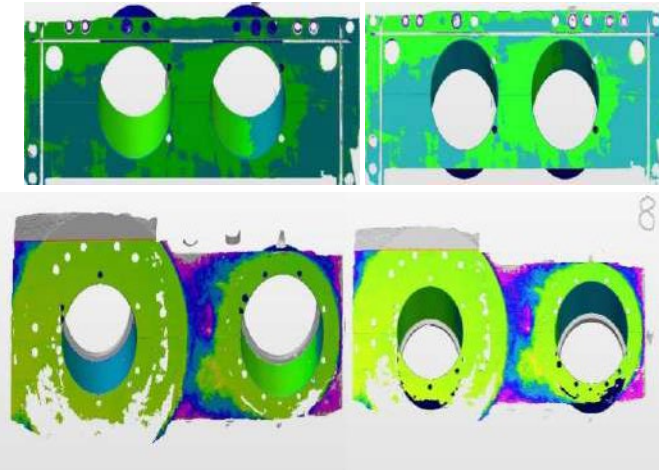


Site Survey & Re-Locations
Gentry Crane



3. Mechanical and electrical engineering solution

Project Name : CMM Inspection



Customer : Sentury tire
Type of machine : Tire Maker



Customer: Auto Alliance

Type of machine: Jig Fixture

Location: Rayong

Duration: 10 days

Problem : Install new machine

Scope of work: Check alignment before and after setup



- Alignment and dimension to original tolerance

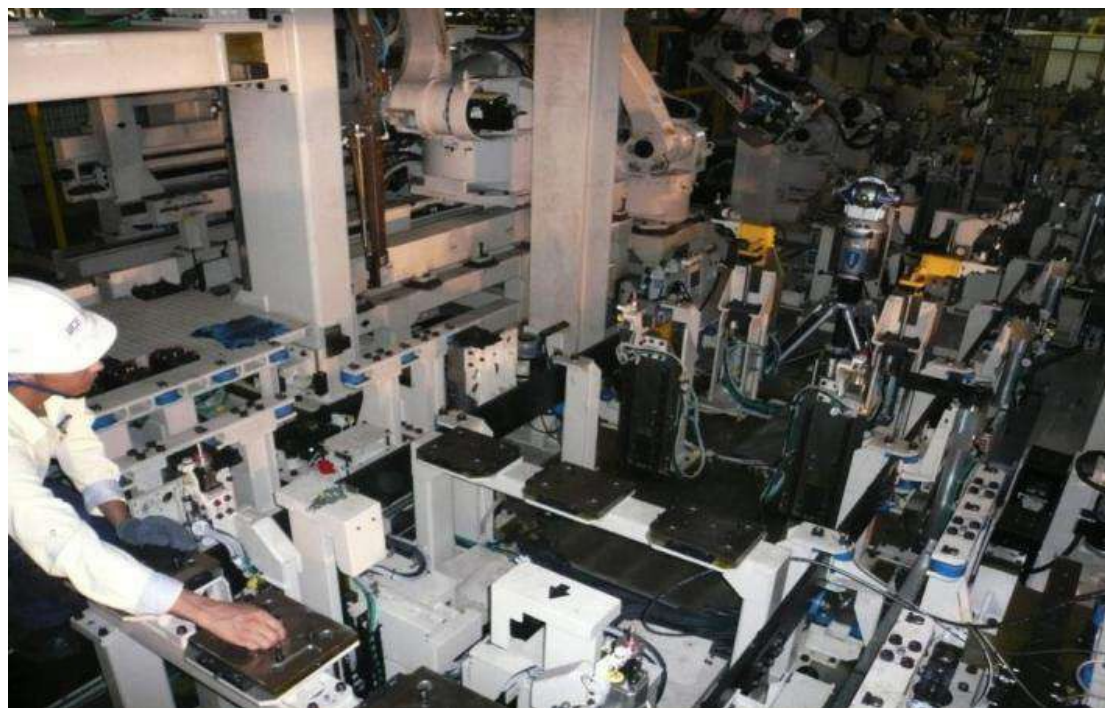


- Time saving 50% from previous method (20 days)



- Cost saving 50% compare previous method

3. Mechanical and electrical engineering solution





02

Construction Technology and Engineering Business Unit (CTE)

Providing engineering design, procurement, construction, installation and testing services until ready for use. O&M service, consulting service and turnkey contracting project services

Capabilities

> 15
Experience
(years)

> 100 Projects

> 1,500 MB
Project Delivered

With our rich experience team can help to provide consulting assistance or independent project execution service. Services include

Engineering

- Site investigations & Inspections
- Conceptual design
- Feasibility studies
- Scope, Schedule and Budget setup
- Detail engineering
- Term of reference (TOR)



Construction

- Site management and site safety
- Construction and erection management
- Site monitor and control project work
- Scope, Schedule and Cost control
- Testing, commissioning and supervision



Procurement

- Domestic and global sourcing
- Procurement process management
- Technical BID analysis
- Expedition and quality control



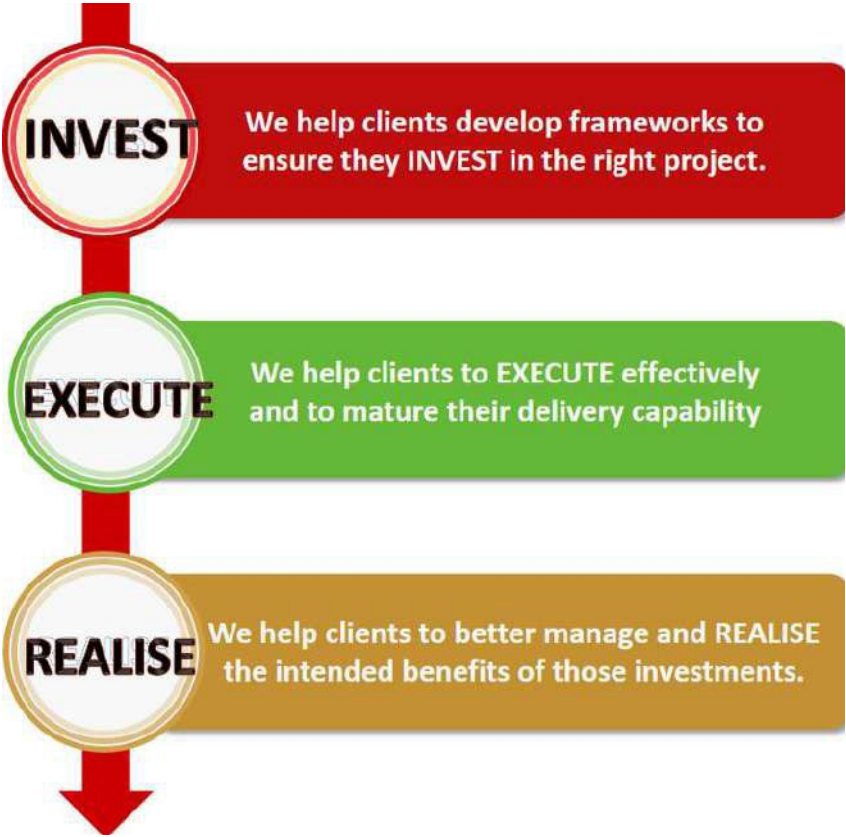
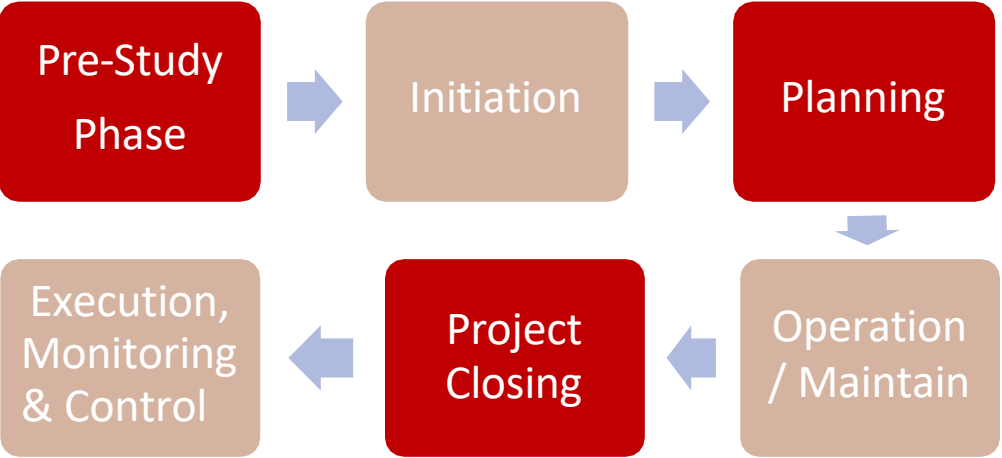
Project Management

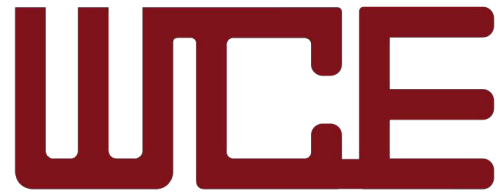
- Contract management
- Risk management
- Resource management
- Project costs control
- Claim management
- Project Consultant



We are committed to achieving the results you need by delivering the best solutions.

From Concept to Handover
We offers a comprehensive range of services
throughout a project life cycle from design, phase
to commissioning and operation.





West Coast Engineering Co.,Ltd.

Bridge and Infrastructure Solution Sub- Business Units (BIS)



STEEL ARCH BRIDGE

Project: Steel Arch Bridge 80 M. (Arch)

Customer: Department of Rural Road . (DRR)

Location : Phitsanulok Province

**Bridge and Infrastructure
Solution Sub- Business Units
(BIS)**



Project: Steel Bridge 50m, 56m. (4 Bridges)

Customer: STECON

Location: Phetchaburi province, Thailand

Scope of work: Material supply, Fabrication, Assembly, HDG and Installation

**Bridge and Infrastructure
Solution Sub- Business Units
(BIS)**



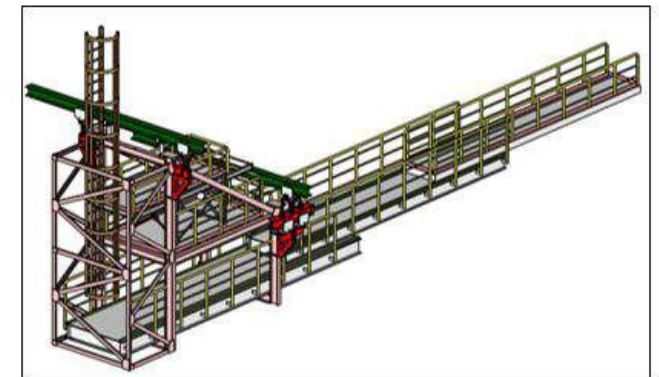
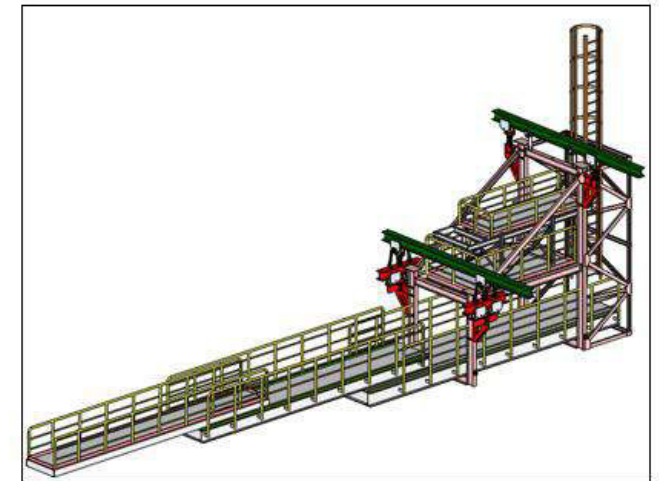
Project: Gantry crane under Rama IX bridge project.

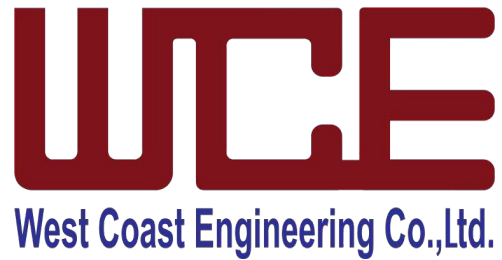
Customer: Expressway Authority of Thailand.

Location: Bangkok Province, Thailand.

Scope of work: Engineering design, fabrication, and erection, testing, and commissioning.

**Bridge and Infrastructure
Solution Sub- Business
Units (BIS)**





Industrial Plant and Machinery Solution Sub- Business Units (PMS)



Project: Wood pellet machine installation – Kahl.

Customer: SS Green Energy.

Location: Suratthani Province, Thailand.

Scope of work: Fabrication work, installation & paint work.

**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**



Project: Turntable and loading arm.

Customer: Italian-Thai development public company limited.

Location: Prachuapkhirikhan Province, Thailand.

Scope of work: Engineering design, fabrication and erection, testing, and commissioning max. load 5,000 tons.

**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**



Project: Foundation, structure, and pipe rack for biomass boiler.

Customer: Thai Cold Rolled Steel Sheet Public Company Limited.

**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**



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Project: PO. line and acid regeneration plant (PPPL 750,000 Tons/ARP 4,300 Lt/Y).

Customer: Sahaviriya Steel Industries Public Company Limited.

Location: Prachuabkirikhan Province, Thailand.

Scope of work: Material supply/fabrication work & and erection work.

**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**



Project: Momentive solvent base project.

Customer: Momentive Specialty Chemicals.

Location: Chonburee and Samutsakorn, Province, Thailand.

Scope of work: Machine erection and relocation of solvent Base Unit / Electrical work for solvent base package, and power distribution.

**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**



Project: SKIC Banpong coal warehouse, and coal handling system.

Customer: Siam Kraft Industry Co., Ltd.

Location: Ban Pong, Ratchaburi, Province, Thailand.

Scope of work: Engineering design, erection, fabrication, installation, testing, and commissioning total weight: 1,000 tons.

**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**



Project: New Brushing unit

Customer: POSCO THAINOX

Location: Rayong

Scope of work: Fabrication, Machine, Assembly, Operation Test, Erection

Industrial Plant and Machinery Solution Sub- Business Units (PMS)



Project: Machine installation work.

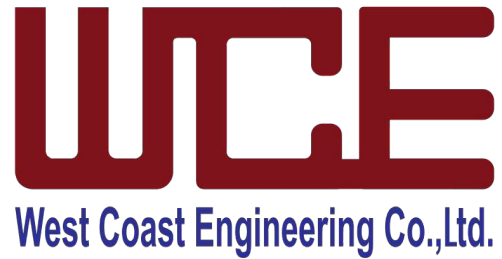
Customer: Kampot Cement Co., Ltd.

Location: Cambodia.

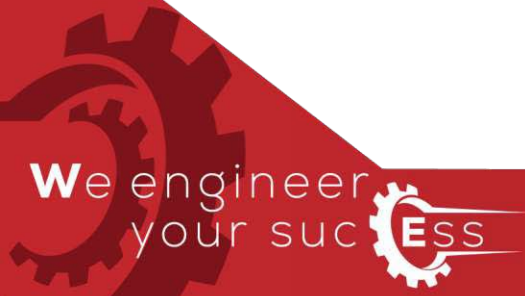
Scope of work: Erection, installation, and testing / total weight: 300 tons.

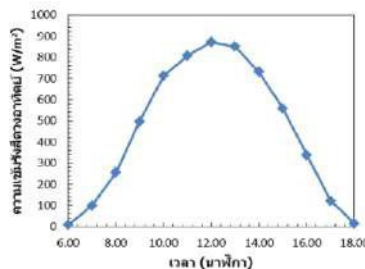
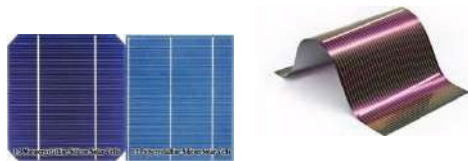
**Industrial Plant and Machinery
Solution Sub- Business Units
(PMS)**





Alternative and Renewable Energy Solution Sub- Business Units (ARS)





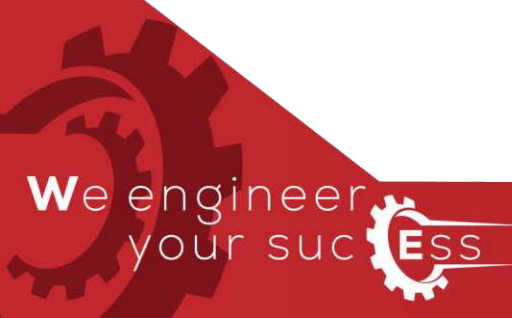
เนื่องจากพลังงานไฟฟ้าปัจจุบันมีแนวโน้มที่ถูกลง ทำให้ค่าไฟฟ้ามีแนวโน้มที่จะเพิ่มขึ้นตามความต้องการของผู้ใช้ไฟและภาวะมลพิษด้านสิ่งแวดล้อม ก็จะทำให้ความรุนแรงมากขึ้น

ดังนั้นการนำพลังงานแสงอาทิตย์ซึ่งเป็นพลังงานสะอาดและเป็นมิตรกับสิ่งแวดล้อม มาผลิตเป็นพลังงานไฟฟ้าเพื่อจ่ายเข้าสู่ระบบไฟฟ้าภายในองค์กร เป็นการลดค่าภาระค่าไฟในช่วงเวลากลางวัน และลดภาระการใช้น้ำมันและแก๊สธรรมชาติในการผลิตไฟฟ้า และยังช่วยรักษาระดับแรงดันไฟฟ้าให้มีความมั่นคง

Alternative and Renewable Energy Solution Sub- Business Units (ARS)

ประโยชน์ที่จะได้รับจากโครงการ

1. ลดค่าไฟที่ต้องจ่ายให้การไฟฟ้า 30-80%
2. รักษาเสถียรภาพด้านระบบไฟฟ้าคือทำให้แรงดันไฟฟ้าไม่เปลี่ยนแปลงไปตามการไฟฟ้า
3. มีความมั่นคงด้านพลังงาน
4. เสริมสร้างภาพลักษณ์ขององค์กรด้านสิ่งแวดล้อม (CSR)
5. เป็นการลงทุนที่คุ้มค่าในระยะยาวเนื่องจากแผงเซลล์มีอายุการใช้งานนานถึง 25 ปี
6. สามารถสร้างรายได้ที่มั่นคงในระยะยาว (กรณีขายไฟให้การไฟฟ้าหรือหน่วยงานอื่น)
7. เพิ่มมูลค่าให้ทรัพย์สิน
8. ปรับปรุงทัศนียภาพให้กับพื้นที่ทำงาน
9. ช่วยยืดอายุของอุปกรณ์ไฟฟ้าที่ต่อร่วมกัน



Solar Cell System

รูปแบบการใช้งาน Solar มี 3

รูปแบบ

1. Off Grid คือ รูปแบบที่ไม่ต้องเชื่อมต่อกับไฟของการไฟฟ้าเหมาะกับพื้นที่ห่างไกลสายส่งและต้องการใช้ไฟตลอดเวลาหรือต้องการสำรองไฟไว้ใช้ยามฉุกเฉิน
2. On Grid คือ รูปแบบเชื่อมขนานกับไฟของการไฟฟ้าเหมาะกับลูกค้าที่มีพื้นที่บนหลังคาและพื้นที่ดินเปล่าและต้องการลดค่าไฟ, ขายไฟ หรือเพิ่มประสิทธิภาพด้านการใช้พลังงานภายในองค์กร
3. Hybrid คือ ระบบที่ผสมผสานข้อดีของแบบ On Grid และ Off Grid

Benefits of Solar Cell System (ประโยชน์ที่่ได้จากการใช้ระบบ Solar)

1. ช่วยประหยัดเงินจากการจ่ายค่าไฟฟ้า
2. ใช้ระยะเวลาในการคืนทุน :
 - โรงงานอุตสาหกรรม ระยะคืนทุนประมาณ 3 – 4 ปี (ขนาด 500 – 1.0 MWp)
 - บ้านพักอาศัย ระยะคืนทุนประมาณ 5 – 7 ปี (ขนาด 5 - 20 KWp)
3. เป็นมิตรต่อสิ่งแวดล้อมช่วยลดปริมาณคาร์บอนไดออกไซด์ได้ ด้วยพลังงานสะอาดจากแสงอาทิตย์

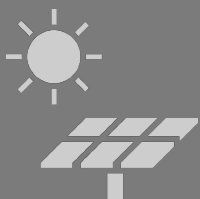


Scope of Work

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**

Engineering

Design
solar cell
system, solar
rooftop,
electrical work
and civil work



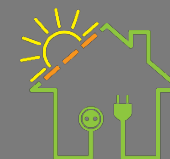
Procurement

**Permitting &
Supply**
PV panels,
inverter,
mounting and
all electrical
component



Construction

Installation
all
components
and test-
commission
until ready
to use





10 ขั้นตอนการดำเนินการติดตั้ง **Solar Cell System**

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**





บริการขอใบอนุญาตสำหรับการติดตั้ง **Solar**

1. การขออนุญาตติดตั้ง Solar PV (โรงงานอุตสาหกรรม)

- ขอใบอนุญาตดัดแปลงอาคาร (อ.1)
- ขอใบอนุญาตประกอบกิจการโรงงานผลิตพลังงานไฟฟ้า (ร.ง.4)
- ขอใบอนุญาตให้ผลิตพลังงานควบคุม (พค.2)
- ขอใบอนุญาตประกอบกิจการพลังงานที่ได้รับการยกเว้นไม่ต้อง

ขอรับใบอนุญาต

- ขออนุญาตขอขนานไฟฟ้าจากการไฟฟ้าส่วนภูมิภาค

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**





การรับประกันวัสดุอุปกรณ์และการติดตั้ง

Solar Rooftop

1. รับประกันผลิตภณที่แผงโซลารเซลล์ 12 ปี (Efficiency) และ 25 ปี (Product)
2. รับประกันผลิตภณที่ Inverter 5 ปี / Optimizer 5 ปี
3. รับประกันผลิตภณที่ Mounting Structure 10 ปี
4. รับประกันงานคณภาพ 2 ปี หลังจากมการลงชอรบมอบนงานนี้ นเอก
สารโบรมอ บงาน
5. รับประกันการติดตัง เป็นระยะเวลา 2 ปี
6. O&M และ PM เป็นระยะเวลา 2 ปี ตรวจเช็กระบบและทาความสะอาดแผง 2 ครั้ง
ต่อปี

TCRSS – Bang Saphan (Phase 1: Capacity 650 kWp)

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**



Energy production : 950,460 kWh/y

Electricity Saving : 3.5 MB/y

IRR : 20.0%



Capacity : 650 kWp

Technology : Solar PV – Monocrystalline

Inverter – On Grid Smart Inverter

Expected investment : Feb 2021

TCRSS – Bang Saphan (Phase 2:)

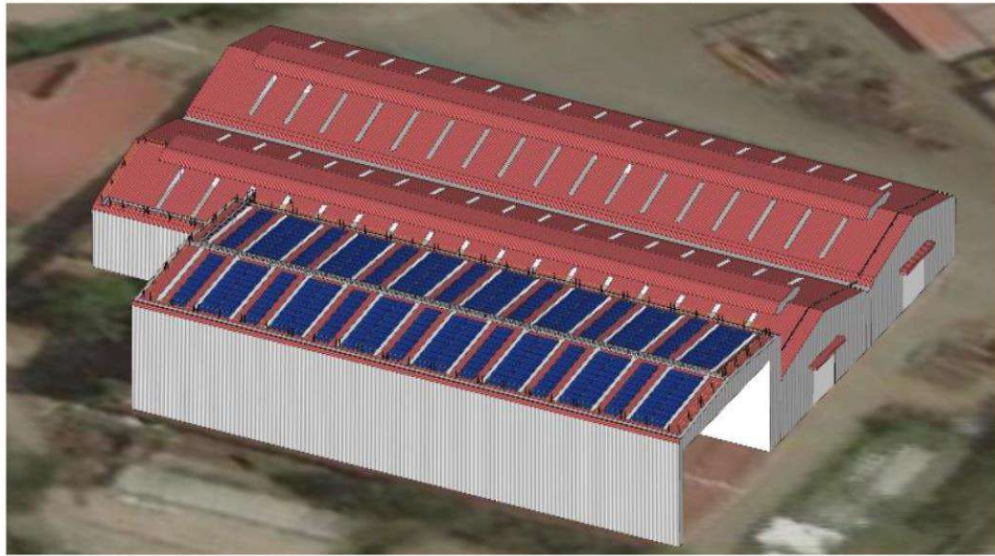
**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**

Capacity : 4,000 kWp



WCE Bang Saphan (Phase 1: Capacity 352 kWp) Our Project/Ongoing

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**



Energy production : 335,000 kWh/y
Electricity Saving : 1.98 MB/y
IRR : 24.5%



Capacity : 352 kWp
Technology : Solar PV – Monocrystalline
Inverter – On Grid Smart Inverter
Expected investment : July 2023



Solar Rooftop

for Bangsaphan Hospital (Capacity 100 kWp)

Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)



Capacity : 100 kWp
Technology : Solar PV – Monocrystalline
Inverter – On Grid String Inverter

Project Value : 4.11 MB (inc. VAT)
Completion Date : 6 July 2019

ร้านอาหาร **NOMIMONO** : 15.0 kWp

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**



Technology : Monocrystalline
Inverter Model : On Grid Smart Inverter 15 KW
Energy Production : 7.5 MWh/y

บางสะพาน : 10.0 kWp

**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**



Technology : Monocrystalline
Inverter Model : On Grid Smart Inverter 10 KW
Energy Production : 3 MWh/y

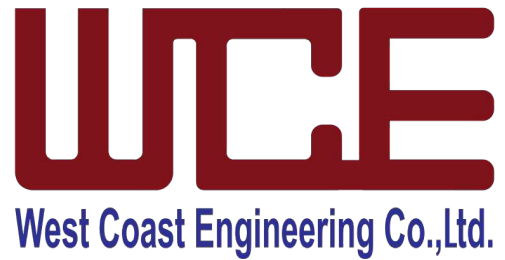


SSI Bangsaphan : 1200 Wp

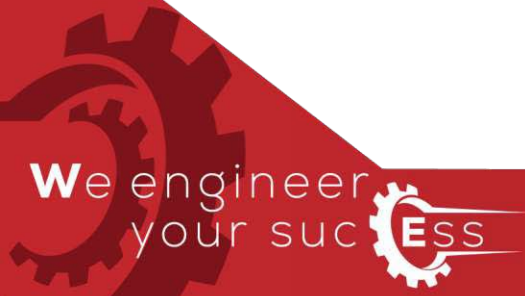
**Alternative and Renewable
Energy Solution Sub- Business
Units (ARS)**



SSI Project : Submersible Solar AC/DC pump
Technology : Polycrystalline
Inverter Model : Solar Pump



Steel Fabrication Solution Sub- Business Units (FSS)





Workshop 3:
Chachoengsao 40,000 sqm.
Capacity 2,000 Tons/Month



Workshop 4:
Nakhon Ratchasima 8,000 sqm.
Capacity 400 Tons/Month



Workshop 2:
Chonburi 12,000 sqm.
Capacity 600 Tons/Month



Workshop 1:
Prachuap khirikhan 11,850 sqm.
Capacity 500 Tons/Month
380 km. from Bangkok
Only 3 km. from Prachuap deep sea Port

Headquarter Bangkok



No.	Location	Area (Sq.m.)	Capacity (Tons / Month)
W/S 1	Prachuap khirikhan	11,850	500
W/S 2	Chonburi	12,000	600
W/S 3	Chachoengsao	40,000	2,000
W/S 4	Nakhon Ratchasima	8,000	400
Total		71,850	3,500

CERTIFICATES & ACCREDITATION

Steel Fabrication Solution Sub- Business Units (FSS)

2016 JSCA M-Grade

Steel Structure

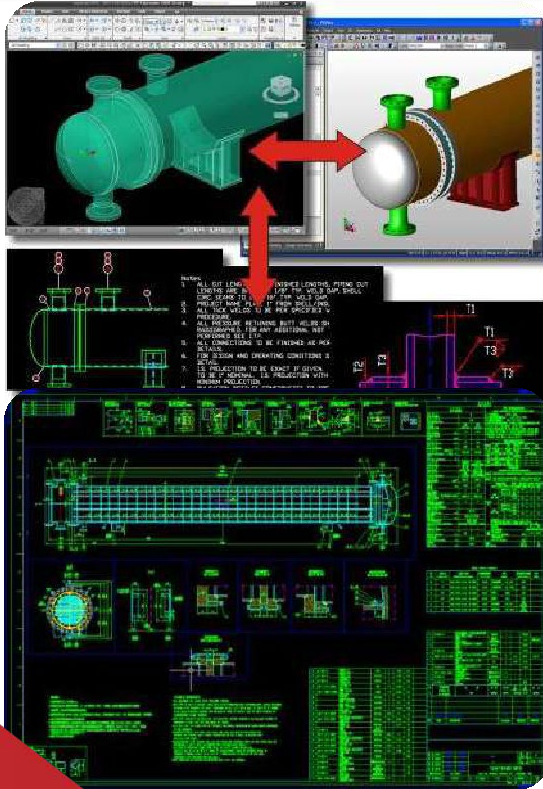


2011 ASME U,S,R & PP

We provide our industrial clients fabrication services for structural, and mechanical from Engineering design, manufacturing and Installation.

Steel Fabrication Solution Sub- Business Units (FSS)

Engineering Design



Manufacturing



Installation & After Sales Service



>20

EXPERIENCE
(Years)

>25,000

TOTAL WEIGHT
(Ton)

>400

DOMESTIC JOBS

>180

OVERSEA JOBS

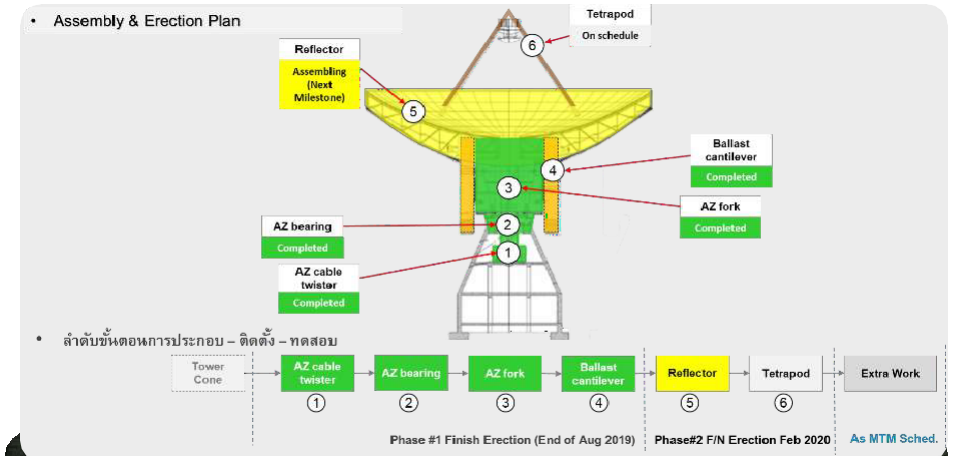
Project: Radio Telescope Diameter 40m.

Customer: MT Mechatronic GmbH. (Germany)

Location: Chiang Mia province, Thailand

Scope of work: Material supply, Fabrication, Assembly, Erection and commissioning

Steel Fabrication Solution Sub- Business Units (FSS)



Project: **Launching Truss.**

Customer: Premier Metal [2003] Co., Ltd.
Location: Samutprakarn Province, Thailand.
Scope of work: Material supply, fabrication, and painting.

**Steel Fabrication Solution
Sub- Business Units (FSS)**



Project: DEPOT Stabling Building for MRTA Green Line Extension.

Customer: Premier.

Location: Samutprakarn Province, Thailand.

Scope of work: Material supply, fabrication work, and Installation.

Steel Fabrication Solution Sub- Business Units (FSS)



Project: Ducting structure for dryer unit.

Customer: SS Green Energy.

Location: Suratthani Province, Thailand.

Scope of work: Material supply/Fabrication / Installation / Sand blast and painting.

Steel Fabrication Solution Sub- Business Units (FSS)



Project: Build up Beam

Customer: Mitsui

Location: WCE Bangsaphan, Thailand

Scope of work: Built up H beam under M-Grade certify & make to order for H Type

Steel Fabrication Solution Sub- Business Units (FSS)



Project: Inner Cover (Dia.1910) for batch annealing process

Customer: Thai Cold Rolled Steel Sheet PLC

Location: TCRSS Bangsaphan, Prachuapkhirikhan province, Thailand

Scope of work: Material supply/Fabrication / Machine / Assembly / Painting

Steel Fabrication Solution Sub- Business Units (FSS)



Project: PA Fan - Axial statics / F D Fan - Axial statics

Customer: HOWDEN UK

Location: Talin Power plant Taiwan

Scope of work: Material supply/Fabrication / Machine / Assembly / Sand Blast and Painting

Steel Fabrication Solution Sub- Business Units (FSS)



Project: Stack 60m.

Customer: MKK Asia Co., Ltd

Location: Rayong province, Thailand

Scope of work: Material supply/Fabrication / Assembly / Sand Blast and Painting / Installation

Steel Fabrication Solution Sub- Business Units (FSS)



Project: Tank for Fiberboard Project

Customer: Chaiyo Tripple A Co., LTD

Location: Prajinburi province, Thailand

Scope of work: Design / Material supply / Fabrication / Machine / Assembly / Erection

Steel Fabrication Solution Sub- Business Units (FSS)



Project: CHP II Project (HRSG)

Customer: Toyo – Thai Engineering Co.,Ltd.

Location: IRPC Plant, Rayong Province (Thailand)

Scope of work: Fabrication and Installation of Large bore and Small bore (CHP II Project) : PP & A STAMP

Steel Fabrication Solution Sub- Business Units (FSS)



Project: Piping work for SRC Facility Improvement.

Customer: Esso (Thailand) Public Co., Ltd.

Location: Chonburi province (Thailand)

Scope of work: Supply / Fabrication / Installation Piping

Steel Fabrication Solution Sub- Business Units (FSS)



03

ROBOTICS & AUTOMATION TECHNOLOGY AND ENGINEERING BUSINESS UNIT (RAT)

Design, manufacture install and test industrial robotic and industrial automation systems with over 20 years of expertise

WCE is the company which provide unique services of Robotics & Automation technology and innovation. The company is strongly and continuously offer distinctive value to customers locally and globally. Over the 15 years of services to the customer engaged in the manufacturing industry, we deliver the service of the system integration from concept to completion , from architect to implement with the support from our partners as customers needed.

Capabilities

> 50

Resource
(persons)

>15

EXPERIENCE
(Years)

>1000

**DOMESTIC
JOBS**

>20

**OVERSEA
JOBS**

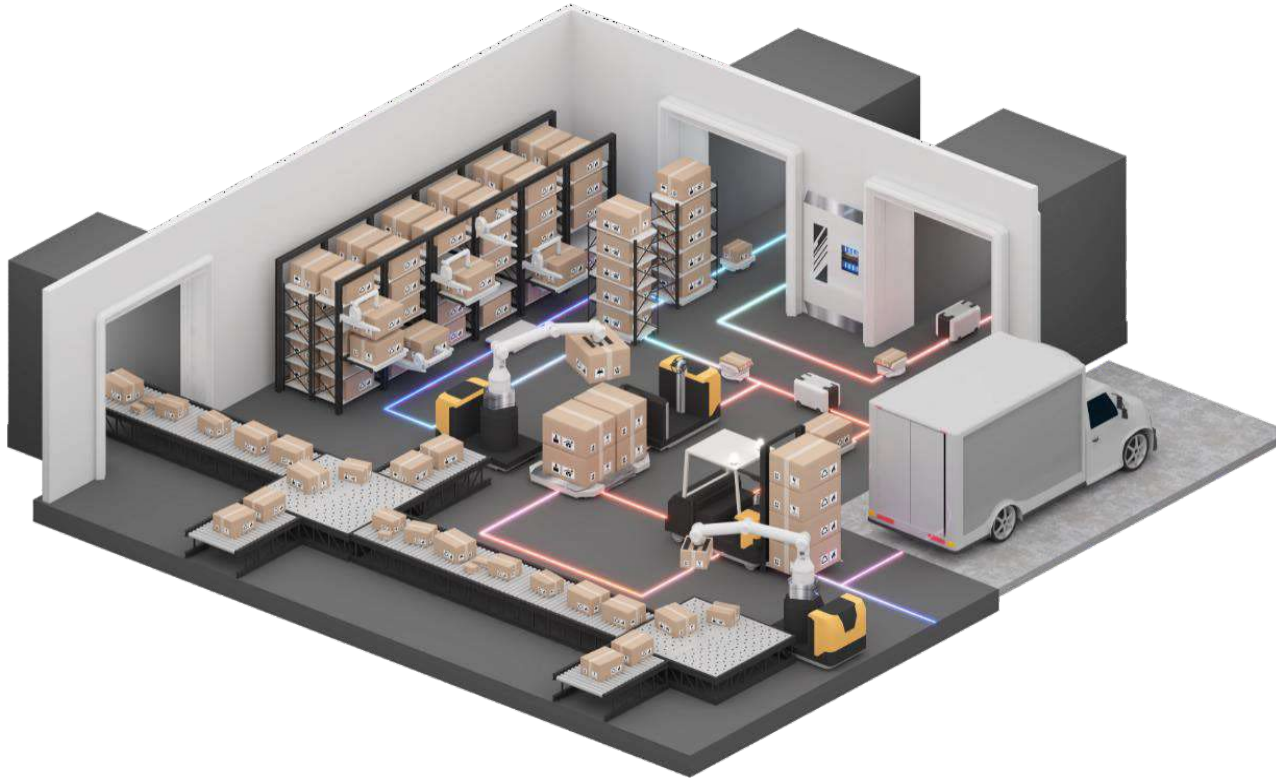
The scope of services included design, engineering, erection, testing, commissioning and handover of ;

- Welding Robot for Blower and Transformer Tank
- Field Instrument (Flow ,Pressure ,Level transmitter,etc)
- Computerize Gauge
- Electrical Drives
- PLC based process automation solution
- HMI and SCADA
- Trouble shooting service offsite and onsite
- Obsolescence Management
- ASRS (Automated Storage and Retrieval System)
- CEMs (Continuous Emission Monitoring System)

Total Warehouse Solution



Total Warehouse Solutions



Total Warehouse Solution incorporates prefabricated steel structures and various automated warehouse technologies, including:

- ASRS Racking
- Automated Stacker Crane System
- Conveyor and Sorter System
- Warehouse Management System (WMS)
- Handling Robot System

Stacker Crane/Mini-load ASRS

We also provide a Stacker Crane/Mini-load ASRS system specifically designed for containers, trays, boxes, and other small items.

Pusher Conveyor Sorter

To enhance the efficiency of product sorting and improve warehouse management convenience, we offer a Pusher Conveyor Sorter. This system streamlines product sorting processes, saving labor and reducing costs.

Our Curved Stacker Crane is designed with incorporate buffer Shelf to optimize time and energy efficiency. It ensures high throughput, saving both time and energy. Additionally, it offers optional features that enable it to operate on Curve Rails and aisles changing.



ASRS Racking and Pallet

Our ASRS Racking and Steel structure design is optimized for efficient storage.

It features horizontal storage compartments and vertical stacking (Racking System) tailored to the system requirements.

We also provide suitable pallets for the system, ensuring quick convenience and time savings during the construction of the ASRS system.

Video link >>

<https://www.youtube.com/watch?v=XrciPykR4ng>

Rail Guided Vehicle (RGV)

For handling heavy goods or operating in areas with heavy usage conditions, we have the Rail Guided Vehicle (RGV). It has a payload capacity up to 30 tons and run on turning rails to reach designated pick-up points.

Automated Guided Vehicle (AGV)

We have developed and enhanced forklift and Power Stacker, transforming it into an Automated Guided Vehicle (AGV) that can move autonomously and capable of lifting heavy goods.

Video link >>

<https://www.youtube.com/watch?v=x0yms0PFM84>

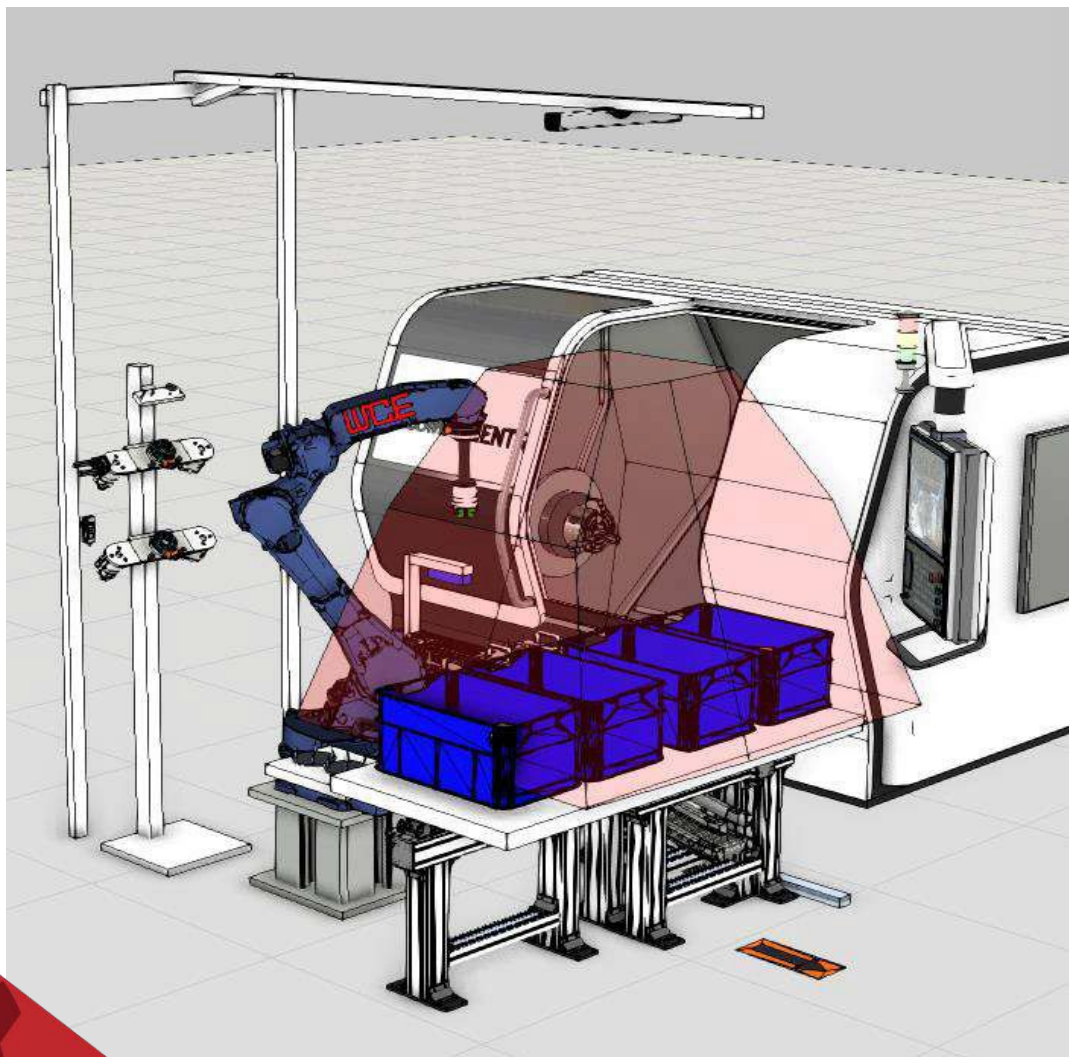
<https://www.youtube.com/watch?v=3Uj585T6dQM>

<https://www.youtube.com/watch?v=KHgdrP2PODk>



Smart Handling Robotic Solution





In today's changing work environment and market demands, where there's a shortage of workers and a growing need for automation to handle products faster and more safely for production line, **WCE** has developed The Pick and Place robot systems. These systems, equipped with 3D camera positioning, automatically adjust to meet customer needs.

The Pick and Place robotic automation system is designed for flexibility, cutting down on the need for mechanical components. The 3D camera integration makes it easy to operations, streamlining the workflow for collaborative robot systems.

This not only saves on operating costs but also reduces expenses for modifying jigs and fixtures when changing product models, ultimately boosting overall efficiency.

COMMON INDUSTRIES

Automobile Factory

Semi-conductor producers

KEY BENEFITS

- Reduced Cost : Fully Autonomous Process
- Easy Model Change : No Mechanical Jig & Fixture
- Easy Teaching : User friendly Vision Software with Cad Based and AI
- Fast installation and Commissioning Flexible : Minor Mechanical Component
- Workforce Reduction : Reduce 2-3 workers in part alignment process and working process

CELL OPTIONS

- Grippers: Custom Design
- Safety : Laser scanner, Safety fence & light curtain
- 3D Vision : Part Location and classification
- Electrical Control : HMI & PLC



Bin Picking for
Machine Tending

Are you struggling with picking objects
from a bin that are either randomly placed
or have different shapes and sizes?





PRODUCT TYPE : CASE/CARTON



By rising labor costs and an escalating market demand for machinery that minimizes human interaction with packaging, **West Coast Engineering Company Limited** presents a perfect solution “The LLPR Robot Palletizing System” designed to operate efficiently within constraints like low ceiling limitations and limited installation space, offers easy installation, consequently reducing maintenance costs.





MINIMUM FOOTPRINT REQUIREMENT

l x w x h = 3.0m x 3.5m x 2.6m*

ROBOTS SPECIFICATION



IC20DC

ROBOT MODEL**	
BRAND	
CONTROLLER AXIS	6
MAXIMUM PAYLOAD	20 Kg
REPEATABILITY	±0.5mm
MAXIMUM REACH	1,700 mm
POWER REQUIREMENTS YRC1000 YRC1000micro	3 Phase 380 VAC 3 Phase 200 VAC
POWER RATING	1.5 kVA
WEIGHT	140 Kg

*Case full stack high 2.0 m (In case 1.5-1.7m h=2.5m)

**Other robot brands must be firstly discuss.

KEY BENEFITS

- **Less space**
- **Fast installation**
- **Flexible:** System can move and redeployed as need change
- **Palletizing full:** high 2.0 m.
- **Workforce Reduction:**
Can replace 2-3 workers
- **Safety:** No barricade (COBOT)
- **Easy teaching:** User friendly
- **Easy Create new pattern:** Template palletize module

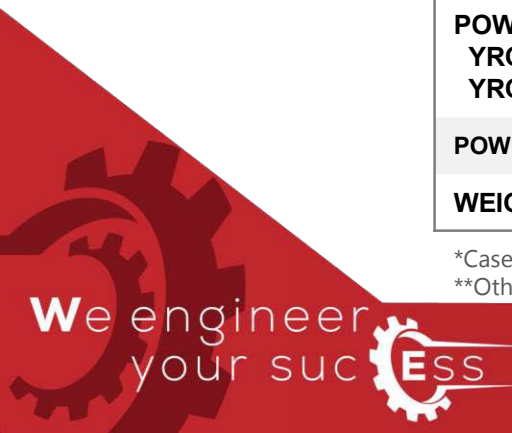
CELL OPTIONS

- **Grippers*** :** Vacuum and etc.
- **Safety :** Laser scanner, Safety fence & light curtain
- **Vision on hand :** Auto Work Object Posture Define
- **EE Control :** HMI & PLC
- **Easy Teach :** Direct Teaching
- **User friendly :** Palletize software

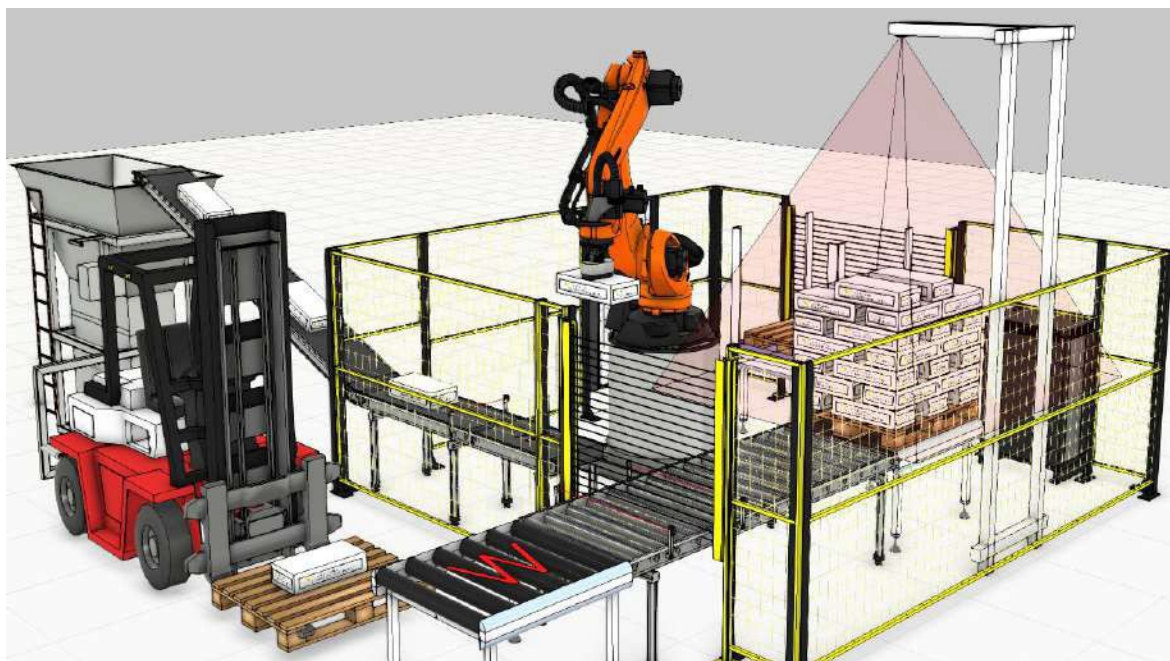
COMMON INDUSTRIES

Pharmaceutical

Cosmetic



DE-PALLETIZER ROBOT



Introducing the De-palletizer Robot System from **WCE** a smart solution to simplify your palletizing operations and enhance your production line. This system offers adaptable handling for diverse packaging, ensuring seamless processing of materials. Customizable programming enhances operational flexibility, saving time and resources. Its seamless integration minimizes disruptions, prioritizing human safety and optimizing production lines.

Beyond core functions, the De-palletizer Robot System boosts cost efficiency by reducing manual handling and minimizing product damage. Its adaptability eases transitions between product models, cutting down on costly modifications. Embrace automated manufacturing with the De-palletizer Robot System for heightened efficiency, flexibility, and safety.



COMMON INDUSTRIES

Factory
Automate Warehouse
Tire

KEY BENEFITS

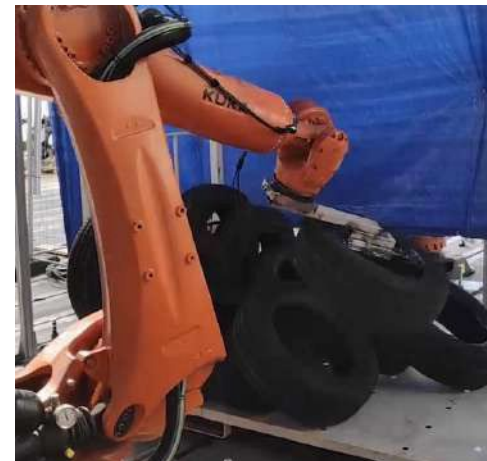
- Reduced Cost : Fully Autonomous Process
- Easy Model Change : No Mechanical Jig & Fixture
- Easy Teaching : User friendly Vision Software with AI
- Fast installation and Commissioning Flexible : Minor Mechanical Component
- Workforce Reduction : Reduce 2-3 workers in working process

CELL OPTIONS

- Grippers*** : Sack, Box etc.
- Safety : Laser scanner, Safety fence & light curtain
- 3D Vision : Part Location and classification (AI or Cad based depend on customer object)
- Electrical Control : HMI & PLC

Automated
Tire handling

Automated handling of rubber objects focuses on the post-production stage of the tire vulcanization. Using vision-guided robotics and advanced localization techniques it is no longer required to handle the heavy objects with human force.



De-palletizer
Robot

Bring your warehouse effectiveness to the next level with AI-powered Universal De-palletizer. (non-standard boxes that do not need to be stacked in patterns)

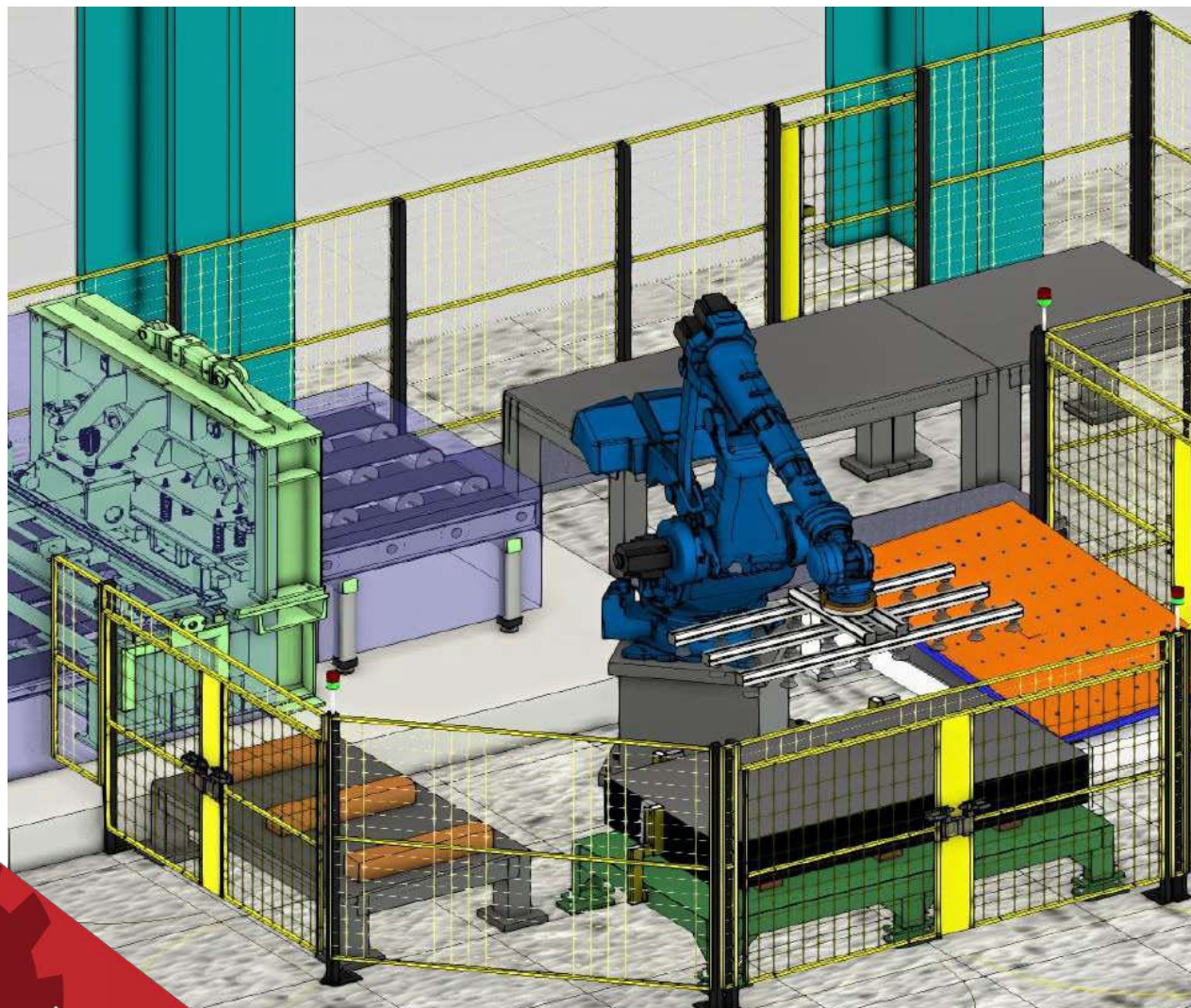


Singulation
and Sorting
System

Picking of objects with deformed surfaces that change under the slightest pressure made easy through AI algorithms.

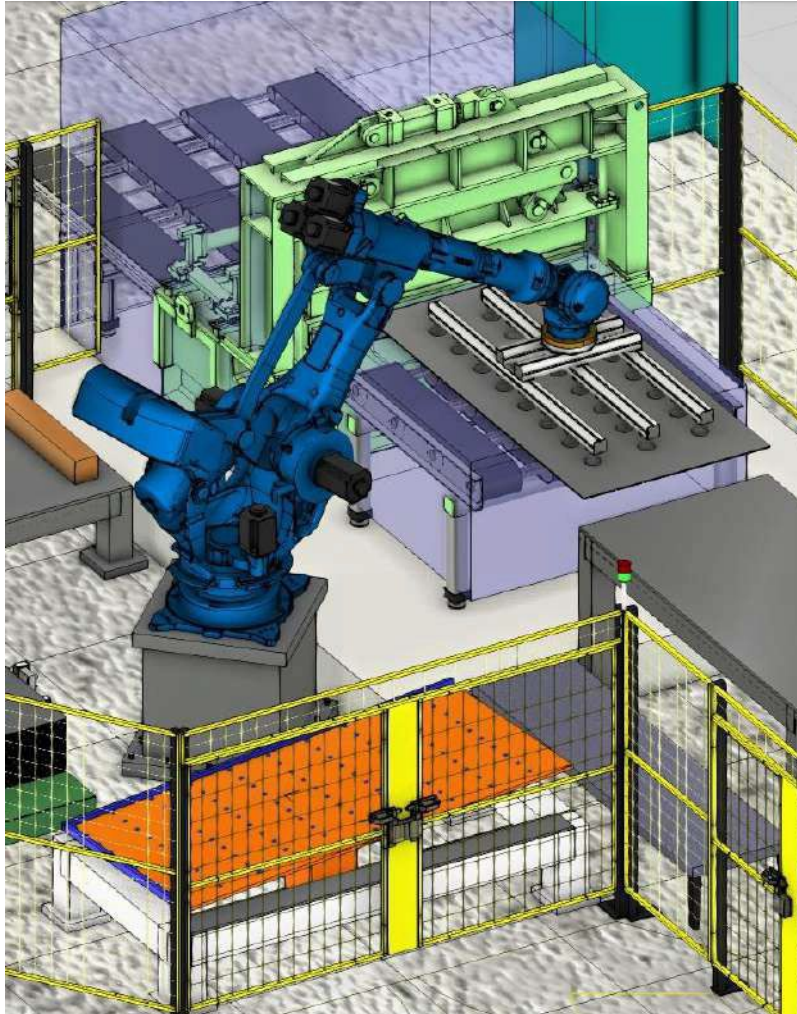


METAL SHEET TRANSFER FOR SHEARING MACHINE



Integrate robotic automation into your metal sheet production line to reduce operational costs and boost productivity. **WCE** presents a tailored solution for metal sheet transfer to shearing machines. Our Automatic Metal Sheet Transferring System for Shearing Machines is a customized automation solution designed to integrate with your existing machinery.

This system is adapting to area limitations, ensuring user-friendly operation, and comes with a low-cost maintenance structure. The robotic system efficiently picks up metal sheets, one at a time, and places them on the centering table. Subsequently, the sheets are automatically fed into the shearing machine. The entire process runs seamlessly, and the operator's role is simplified to merely replacing the full metal sheet pallet.



KEY BENEFITS

- Custom Solution Design:
customized for customer usage
- Fast installation: Ready to start
- Flexible:
System can move and redeployed
as need change
- Workforce Reduction:
Can replace 2-3 workers for
sheering (cutting or blanking)
process
- Safety:
No human operation needed
- User friendly:
No Programming, Model
Selection

COMMON INDUSTRIES

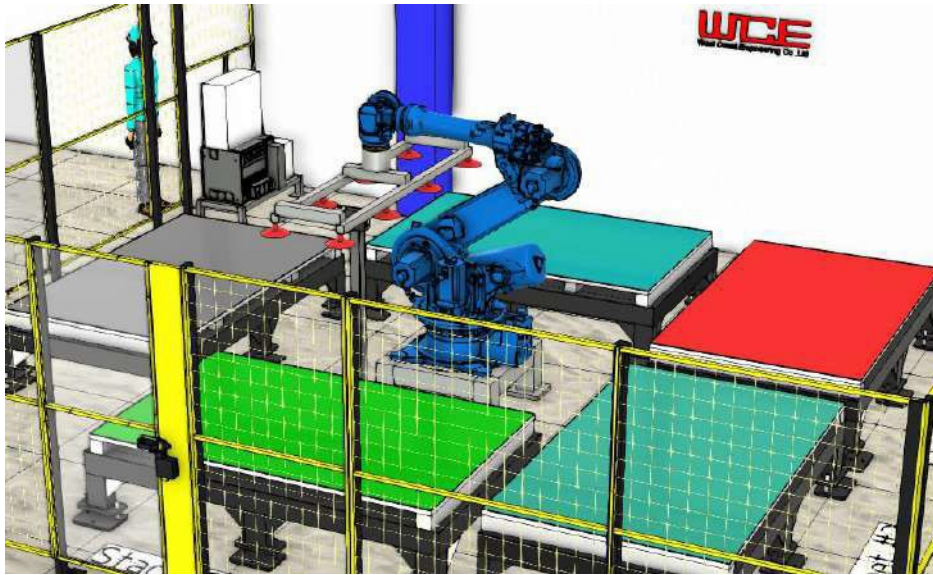
STEEL SHEET DISTRIBUTOR
STEEL CUTTING
STEEL MAKER

CELL OPTIONS

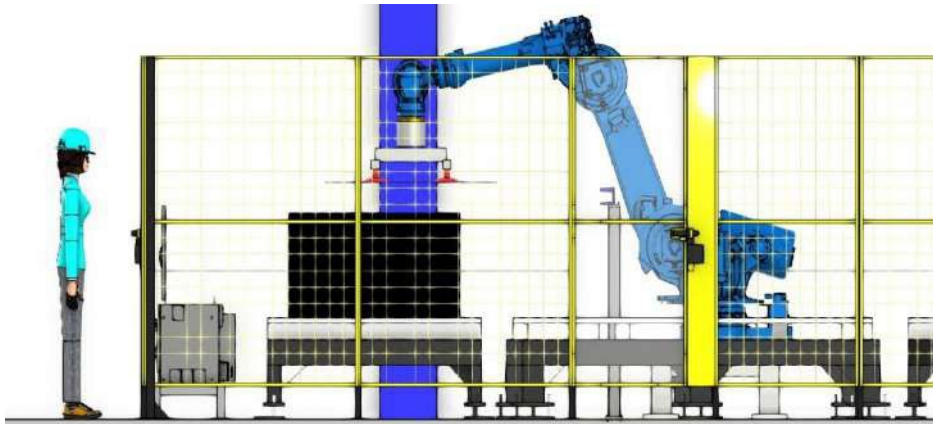
- Grippers : Vacuum Cup /
Magnetic
- Safety : Laser scanner, Safety
fence & light curtain
- EE Control : HMI & PLC
- Easy Teach : Direct Teaching
- User friendly : Model
Selection

This solution from **WCE** addresses the need for enhanced efficiency, reduced operational costs and processes in the metal sheet production industry. Contributing to a more productive and cost-effective.

METAL SHEET THICKNESS CLASSIFICATION



Enhance your metal sheet production with robotic automation to reduce costs and elevate productivity. **WCE** introduces a customized solution for metal sheet thickness classification. Our Thickness Classification Robot System is tailored for each customer, ensuring a design and implementation that perfectly aligns with product specifications, manufacturing processes, productivity requirements, and available space within each factory.



Our unique technique will preventing double sheet pick up, using a high-precision tool for thickness measurement. The system autonomously classifies the thickness and places the sheets on a pallet. The entire process operates automatically, with the operator's role simplified to refilling the pallet and supplying the full metal sheet pallet. After completion, the operator can easily retrieve the fully classified pallet. This solution addresses the specific needs of manufacturers, offering a seamless integration of automation, precision, and efficiency into the metal sheet production process.

METAL SHEET THICKNESS CLASSIFICATION

COMMON INDUSTRIES

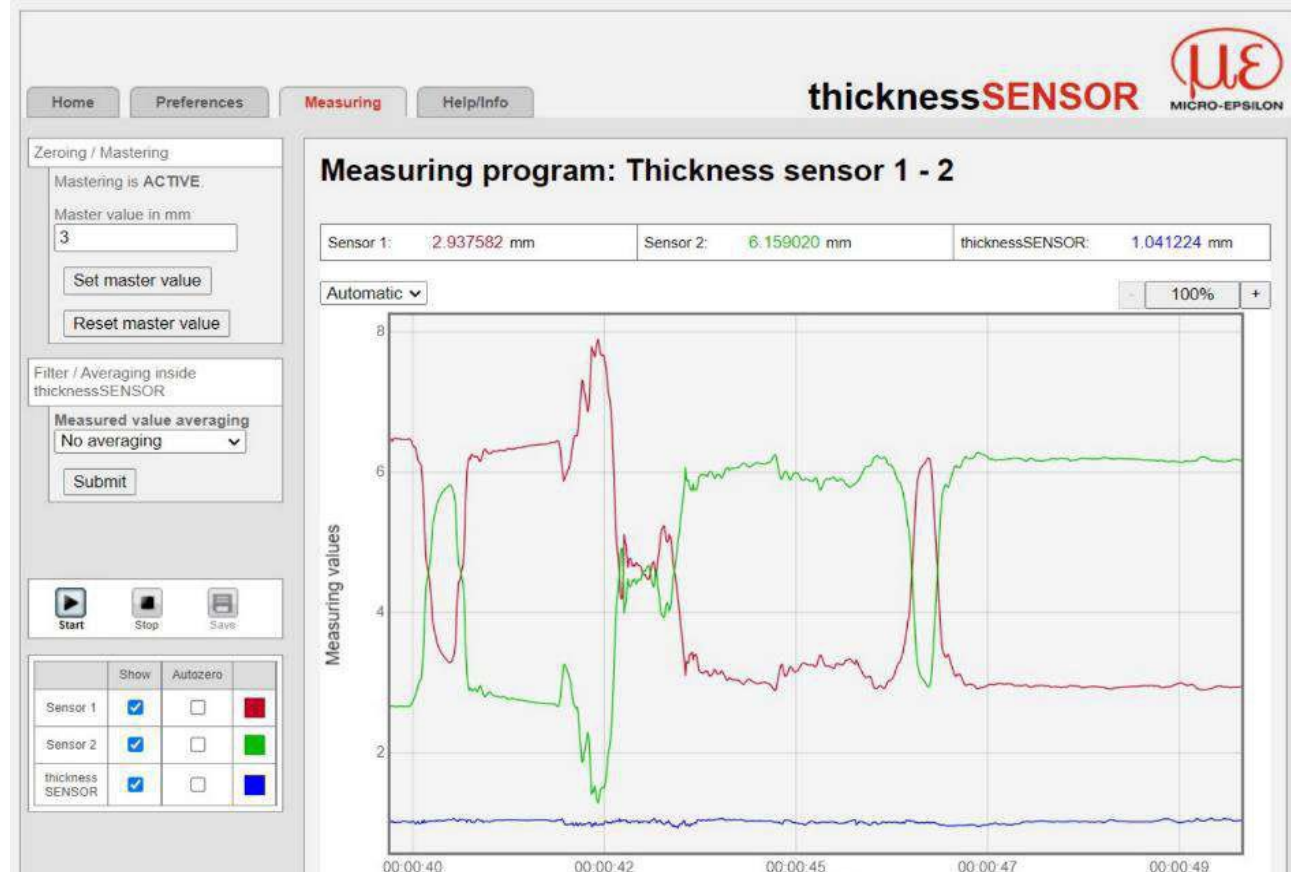
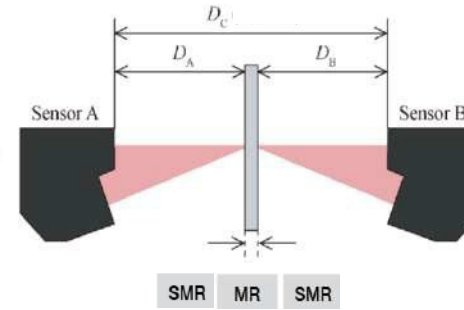
STEEL MANUFACTURE

KEY BENEFITS

- **Fit to your Factory:** tailored for space within your factory
- **Workforce Reduction:** Can replace 5 workers for thickness classification process
- **Safety:** No human operation needed
- **User friendly:** No Programming , Easy thickness Selection
- **Productivity:** 24/7 Work

CELL OPTIONS

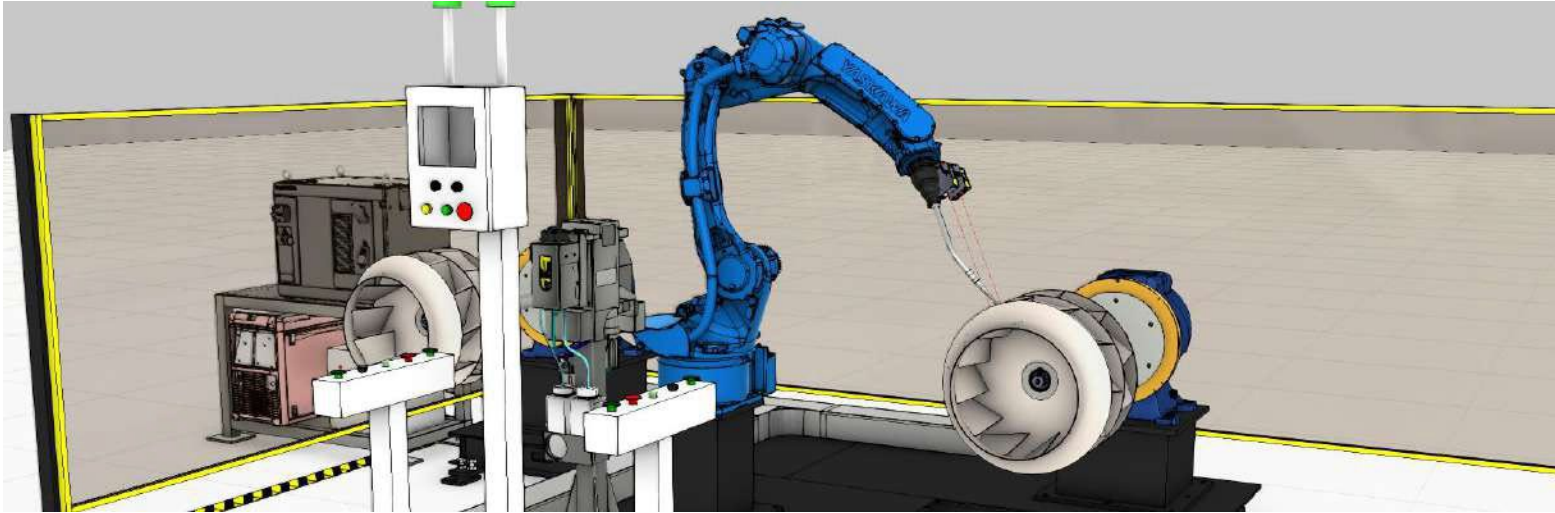
- **Grippers :** Vacuum Cup or Magnetic
- **Safety :** Safety fence & light curtain
- **Thickness Measurement :** Displacement Sensor
- **Easy Control :** HMI & PLC
- **Easy Teach :** Direct Teaching
- **User friendly :** Model Selection



Smart Welding Robotic Solution



BLOWER WELDING ROBOT



In the current factory situation, where every second counts and every weld matters, **West Coast Engineering (WCE)** stands at the forefront of innovation. Tasked with enhancing blower manufacturing, WCE engineers present a revolutionizing robotic welding. A specialized Welding Robot crafted for Blower welding. Equipped with welding search sensors and advanced programming, this system eliminated the need for Jig & Fixture setups, accommodating different sizes and models of workpieces. As the welding arc moved with precision, a transformation occurred. We are forming a robust, reliable finished products. With each weld, efficiency soared, material waste diminished, and product quality reached new heights.

In the busy production line, WCE's Blower Welding Robot stood as a high quality welding and innovation, empowering manufacturers to deliver high standard welded seam for every workpieces while optimizing production costs. With WCE's dedication, the future of blower manufacturing had never looked brighter.



BLOWER WELDING ROBOT

COMMON INDUSTRIES

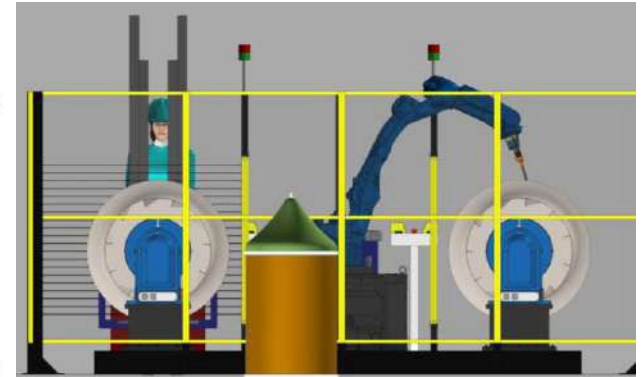
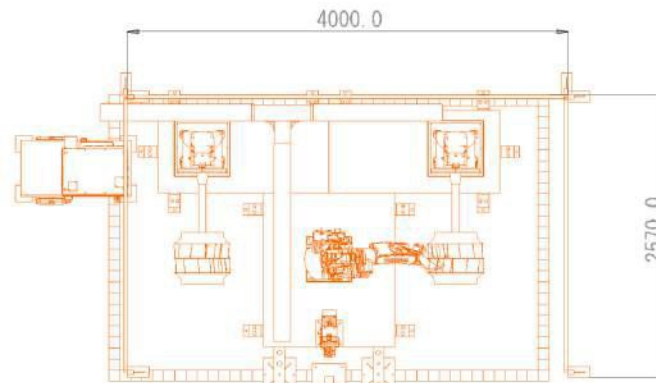
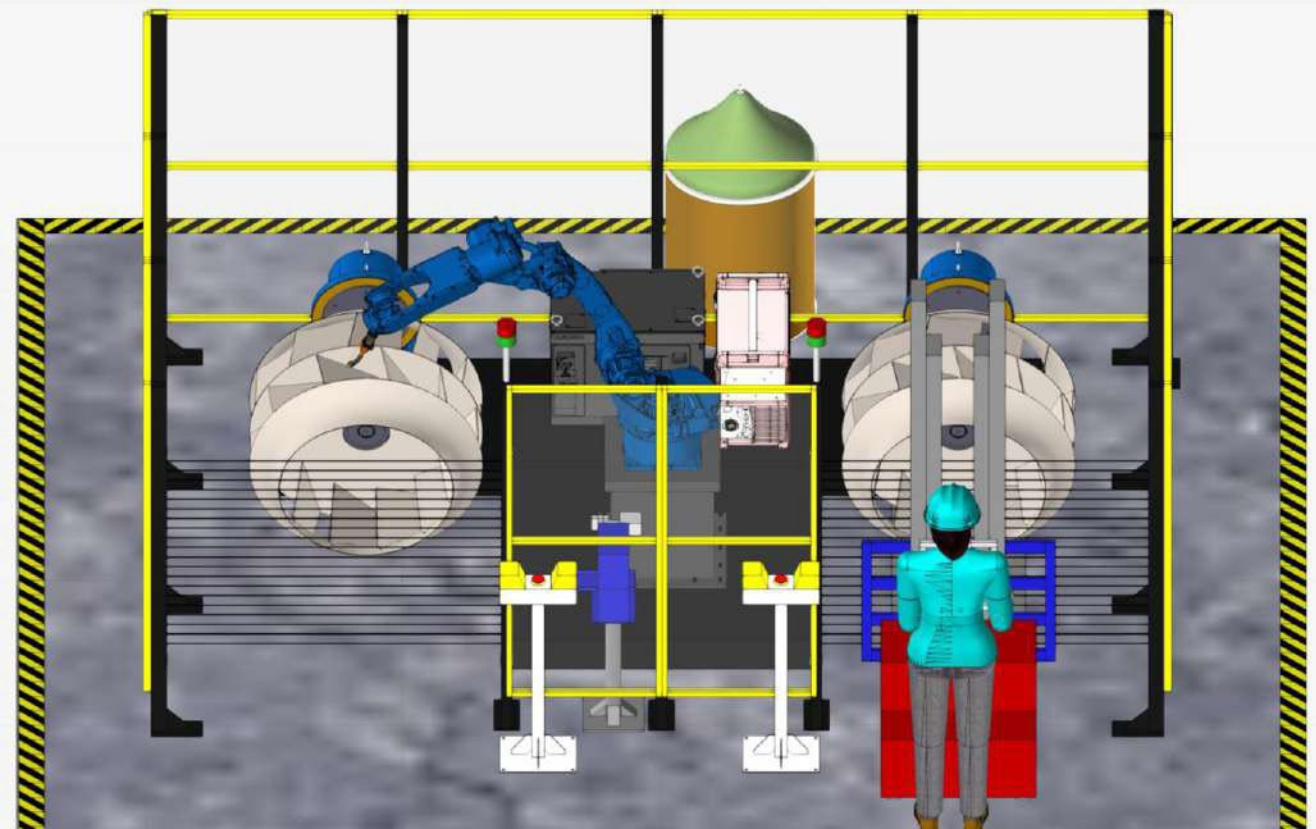
Blower Factory
High Precision Welding Factory

KEY BENEFITS

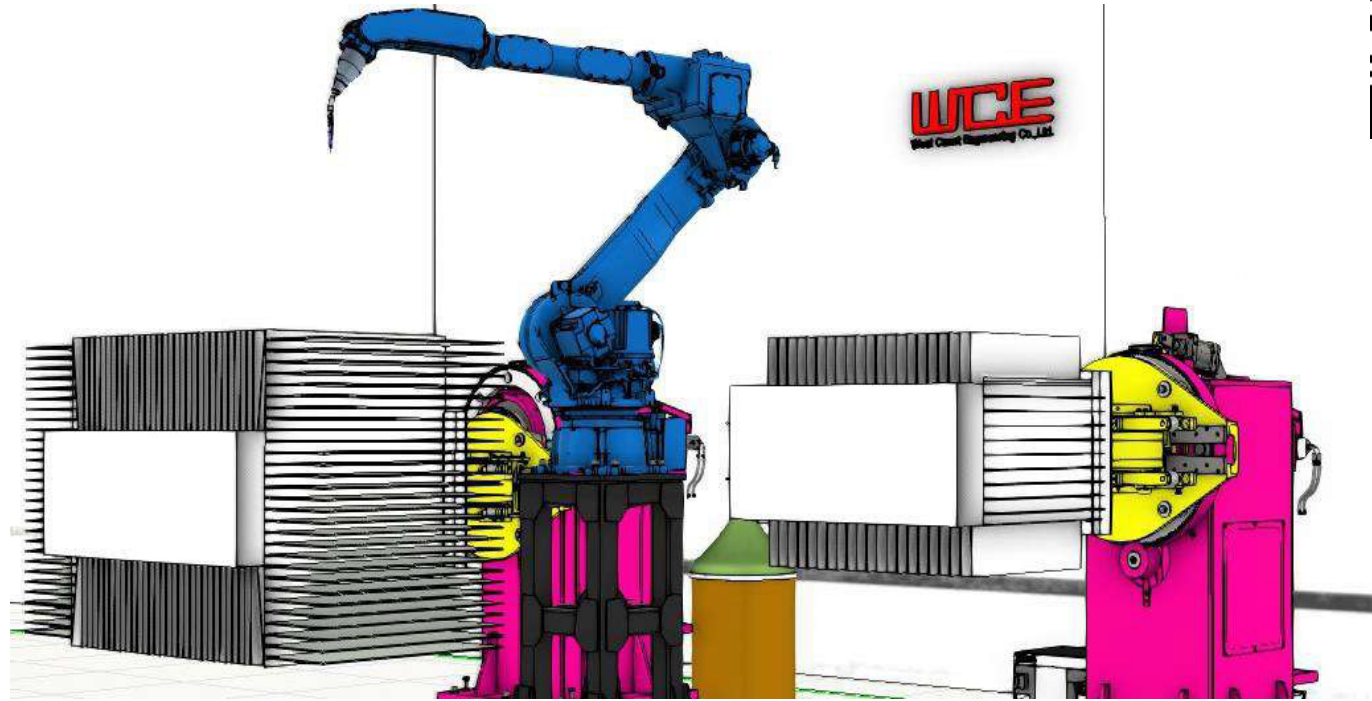
- **Reduced Cost** : Fully Autonomous Welding Process
- **Easy Blower Model Change** : No Mechanical Jig & Fixture , Only Model Change in Model Selection Software
- **No Teaching** : User friendly Software with parametric Robot Programming
- **Workforce Reduction** : Reduce process in part alignment process

CELL OPTIONS

- **Torch Cleaner Station**
- **Safety** : Laser scanner, Safety fence or light curtain
- **3D Profiler** : Part Location and classification
- **Electrical Control** : HMI & PLC



TRANSFORMER WELDING ROBOT



At **West Coast Engineering (WCE)**, we are thrilled to introduce our Transformer Welding Robot, carefully crafted to handle the precise welding for transformer assembly. Say goodbye to costly rework and labor-intensive manual welding setups. With our Transformer Welding Robot, embrace a seamless transition to automated precision welding, resulting in heightened efficiency, reduced production time, and superior-quality welds. Experience the assurance that every weld is executed with utmost precision, leading to significant cost savings and enhanced productivity for transformer manufacturing processes.



TRANSFORMER WELDING ROBOT

COMMON INDUSTRIES

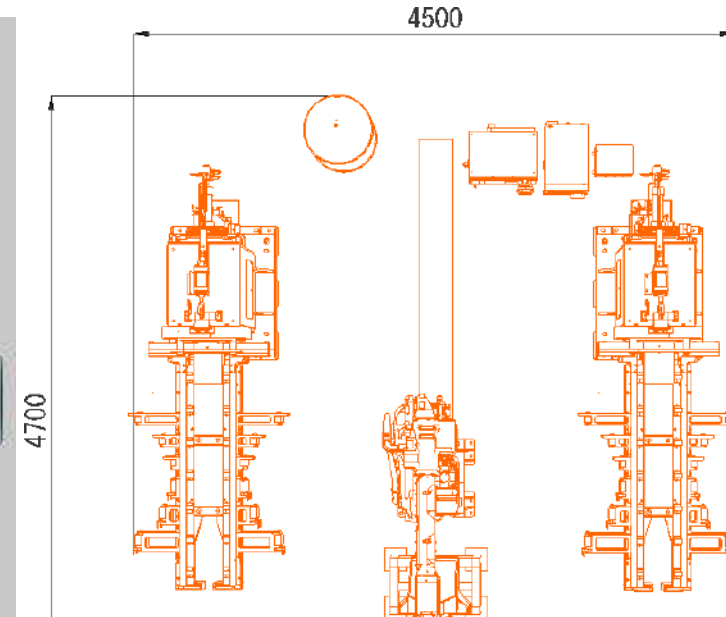
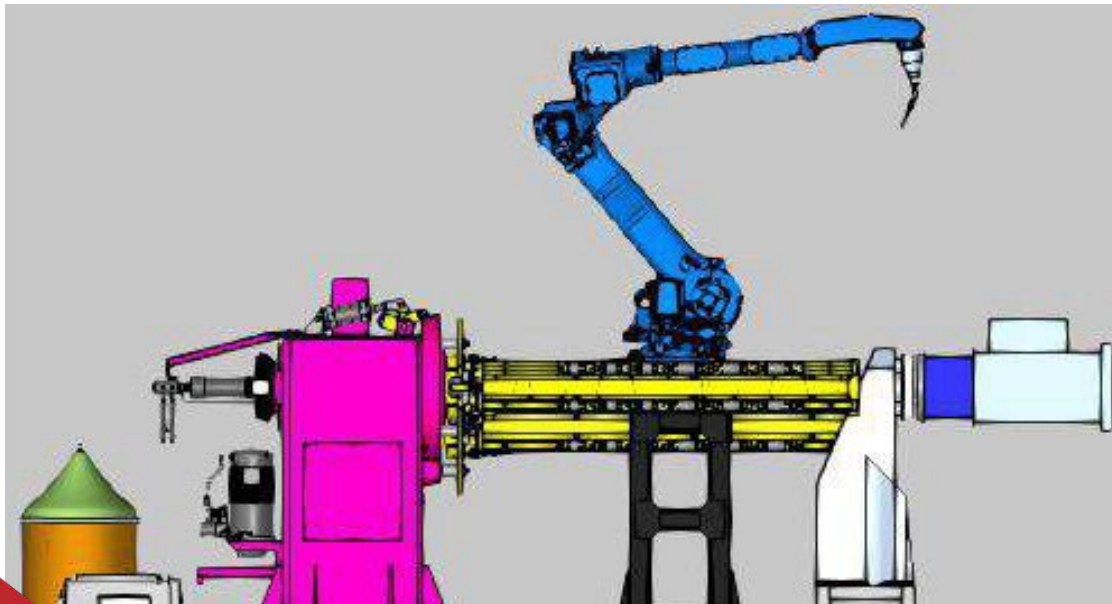
Transformer Producer

KEY BENEFITS

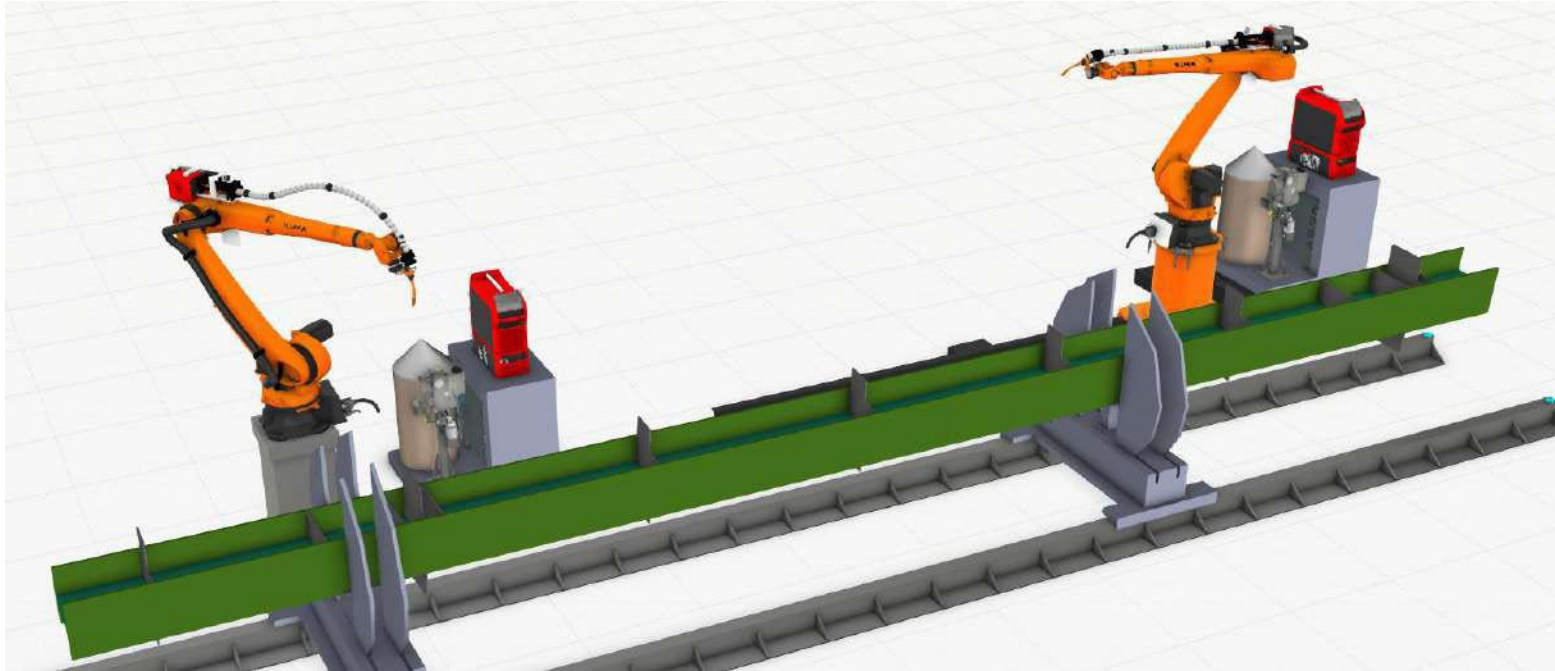
- **Reduced Cost** : Autonomous Welding Process
- **Easy Model Change** : Semi Auto Mechanical Jig & Fixture with Model Selection Function Built-in
- **Fast installation and Commissioning Flexible** : Minor Mechanical Component
- **Workforce Reduction** : Reduce working time and working process for robot re-teaching due to error part for assembly
- **Human Error Prevention System**

CELL OPTIONS

- **Welding Source**
- **Torch Cleaner Station**
- **Safety** : Laser scanner, Safety fence & light curtain
- **3D Vision** : Seam Finder / Seam Tracking
- **Electrical Control** : HMI & PLC

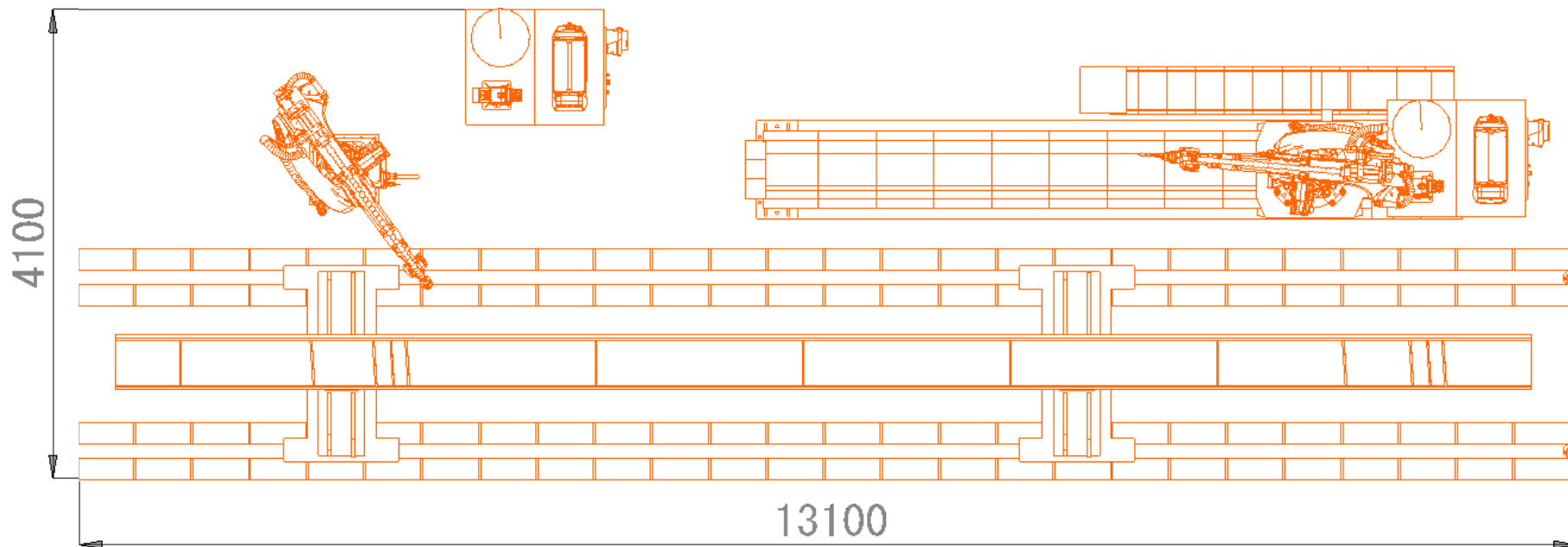


STEEL FABRICATION WELDING ROBOT



In the realm of steel fabrication, precision, and consistency are paramount. At **West Coast Engineering (WCE)**, we understand the challenges faced by manufacturers in achieving flawless welds against the complexities of steel structures. We are proud to introduce Steel Fabrication Welding Robot, meticulously engineered to tackle tough welding tasks with unparalleled accuracy. Equipped with precision sensors and advanced robotic arms, our Welding Robot seamlessly integrates into your production line, ensuring a perfect fit for your fabrication processes.





COMMON INDUSTRIES

Steel Fabrication Factory

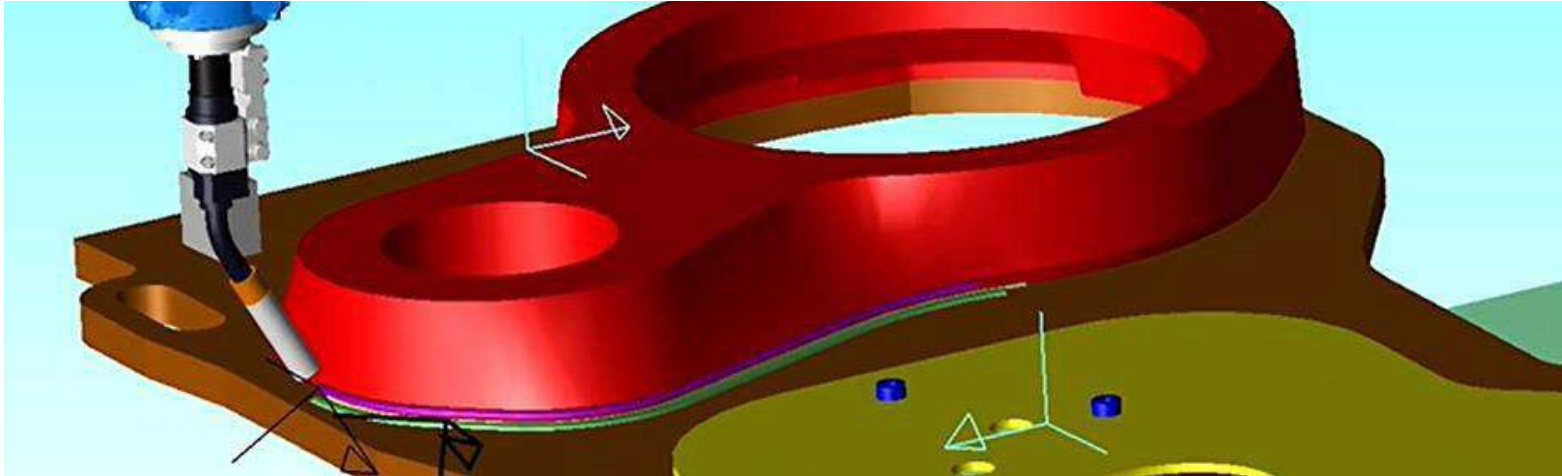
KEY BENEFITS

- **Reduced Operation Cost :** Autonomous Welding Process
- **Easy Model Change :** Flexible Jig & Fixture design for Steel Beam
- **High Welding Quality**
- **Improve Production Efficiency**

CELL OPTIONS

- **Welding Source*****
- **Torch Cleaning Station**
- **Safety :** Laser scanner, Safety fence & light curtain
- **3D Vision :** Seam Finder / Seam Tracking
- **Electrical Control :** HMI & PLC

Multi-layers Welding



What is Multi-layers welding?

Multilayer welding involves depositing multiple layers of material to create a strong, uniform bond. Our Multilayer Welding Program, developed by engineers at [West Coast Engineering Co., Ltd. \(WCE\)](http://www.wce.co.th), is a software solution designed to simplify this process. Unlike traditional methods requiring onsite teaching for each welding seam, our program revolutionizes the workflow by allowing customers to teach the robot only once. With our program interface, users can easily input parameters and specifications for the desired weld, eliminating repetitive programming. Once the initial layer is welded, the program can also automatic shifts or manual shift for the next layers, saving valuable time, labor costs, and ensures consistent weld quality.



COMMON INDUSTRIES

AUTOMOTIVE & GENERAL INDUSTRIES

Key Benefits

- **Simplifies welding processes** reducing the need for repetitive onsite teaching.
- **Saves valuable time and labor costs** accelerating production cycles.
- **Consistent weld quality** enhancing productivity and profitability for manufacturers.

Key functions

- **One-time teaching:** eliminating the need for repetitive onsite training.
- **Easy input:** for parameters and welding specifications.
- **Intelligent shifting of starting points for subsequent layers:** optimizing production



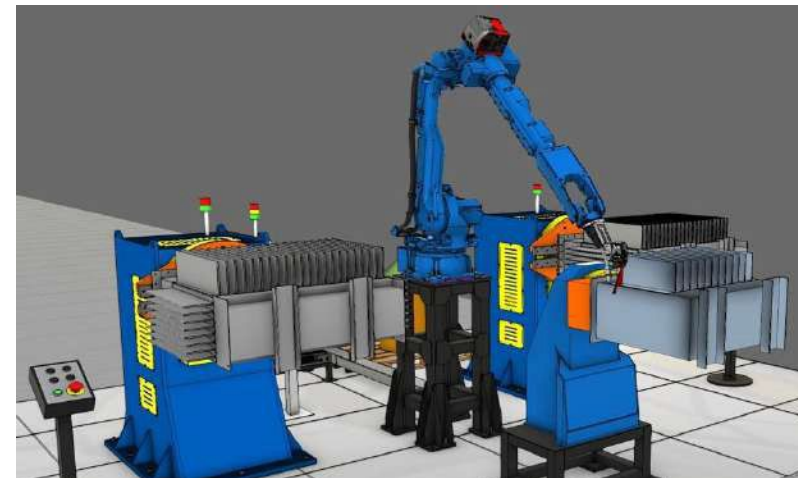
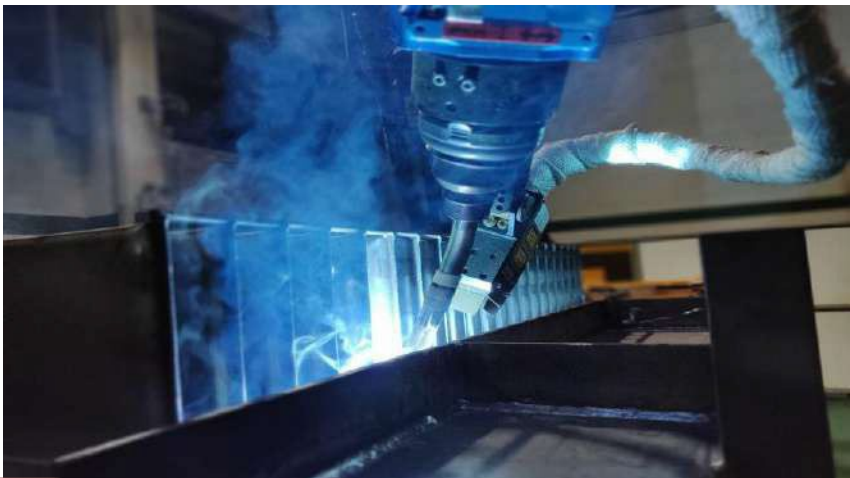
Project: Welding Robot for Transformer Tank

Customer: Fuji Tasco, Thailand

Location: : Samutprakarn , Thailand

Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

**ROBOTICS & AUTOMATION
TECHNOLOGY AND ENGINEERING
BUSINESS UNIT (RAT)**



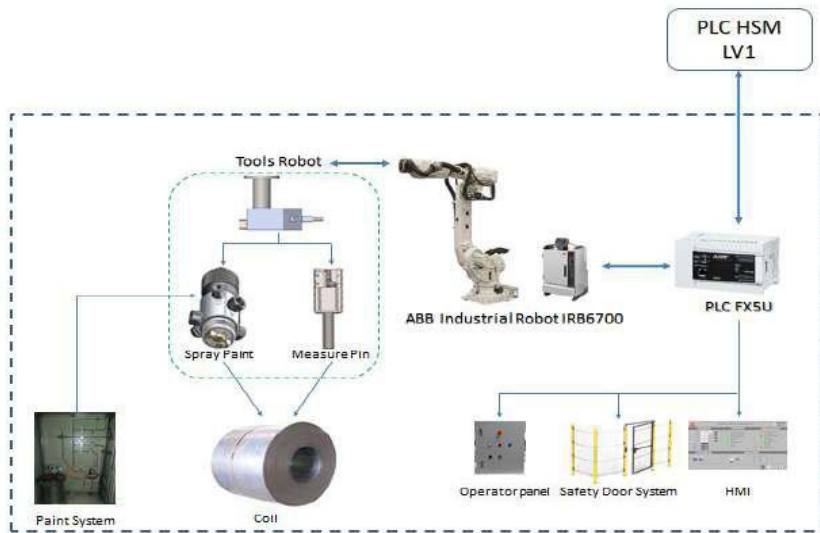
Project: Revamp Robotics coil marking area down coiler 2

Customer: Sahaviriya, Thailand

Location: : Prachuabkirikhan , Thailand

Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

**ROBOTICS & AUTOMATION
TECHNOLOGY AND ENGINEERING
BUSINESS UNIT (RAT)**



Functional Description:

Marking machine for the hot strip mill is based on a standard industrial robot with - Measuring pin

- Nozzle marking head
- HMI
- Safety door system

to write the characters onto the flat face and circumference of the coil

Project: Enchantment SLAB Slitting Machine

Customer: SSI-UK, United Kingdom

Location: : Teesside, United Kingdom

Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

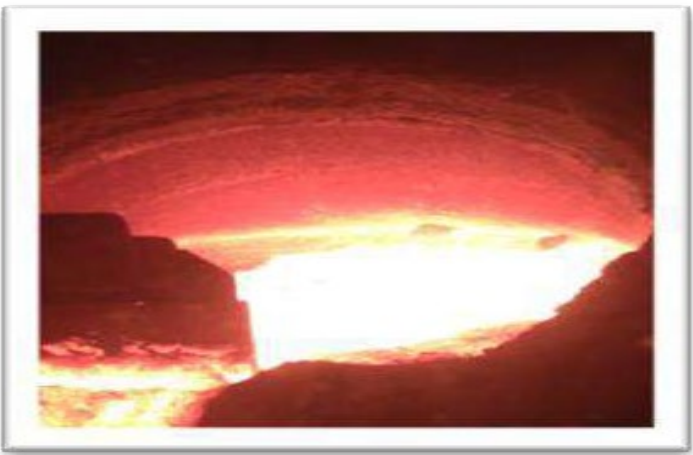
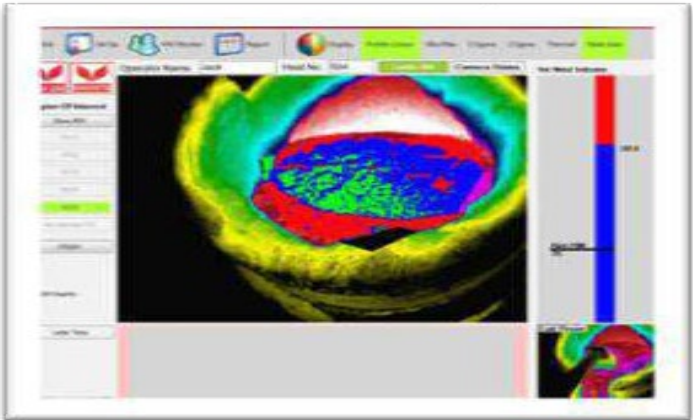
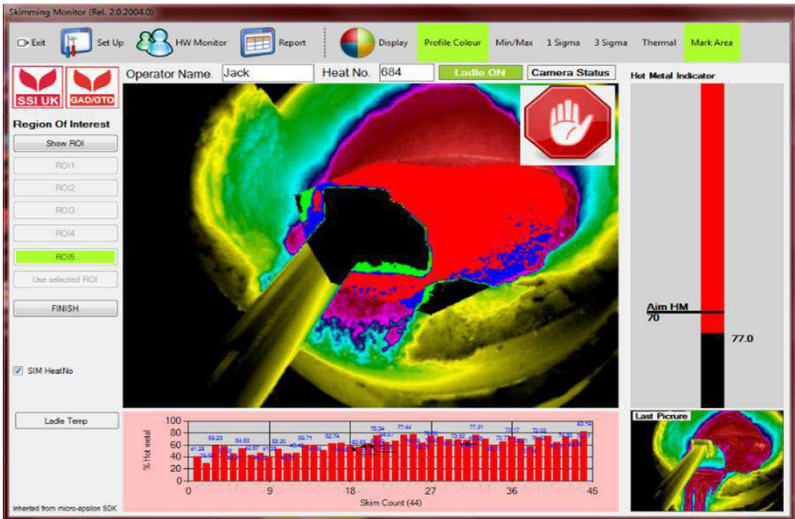
**ROBOTICS & AUTOMATION
TECHNOLOGY AND ENGINEERING
BUSINESS UNIT (RAT)**



Project: Skimming Vision System of Desulphur. Station

Customer: SSI-UK, United Kingdom
Location: : Teesside, United Kingdom
Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

**ROBOTICS & AUTOMATION
TECHNOLOGY AND ENGINEERING
BUSINESS UNIT (RAT)**



Functional Description:

One of the most challenge in Basic Oxygen furnace steel making process is Sulfur removal from Hot metal and subsequent skim to remove Sulfur slag from the Hot metal ladle. To optimize between steel quality, yield and cost, WCE develop Skimming Vision System base on Vision Technology.

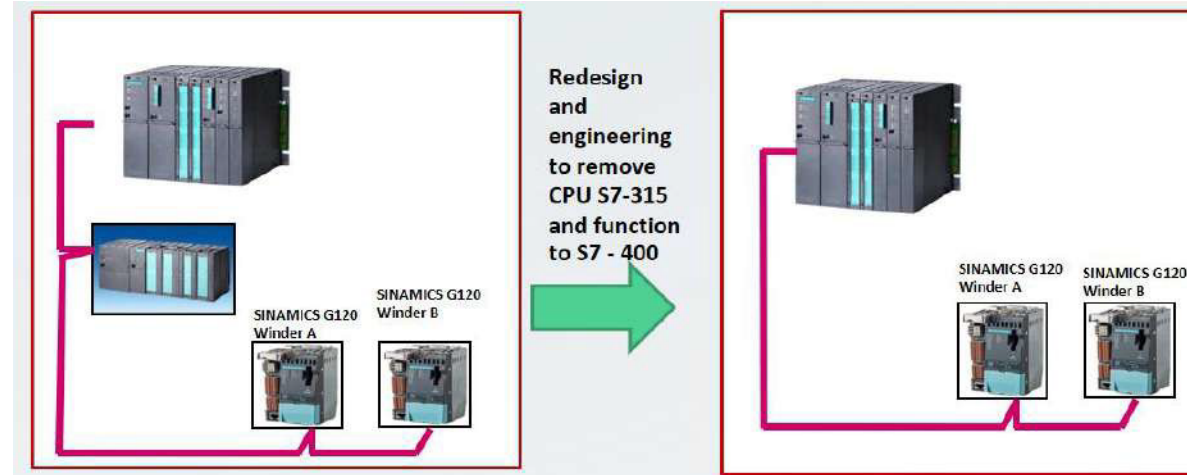
Project: Upgrade Automation Control System of Single Un – winder Slitting

Customer: Daramic Thailand

Location: Prachinburi , Thailand

Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

ROBOTICS & AUTOMATION TECHNOLOGY AND ENGINEERING BUSINESS UNIT (RAT)



Functional Description:

- Slitting M/C work as the battery separator as customer required in length, width.
- This Automation System control sequencing , Speed loop control , diameter calculation , etc.

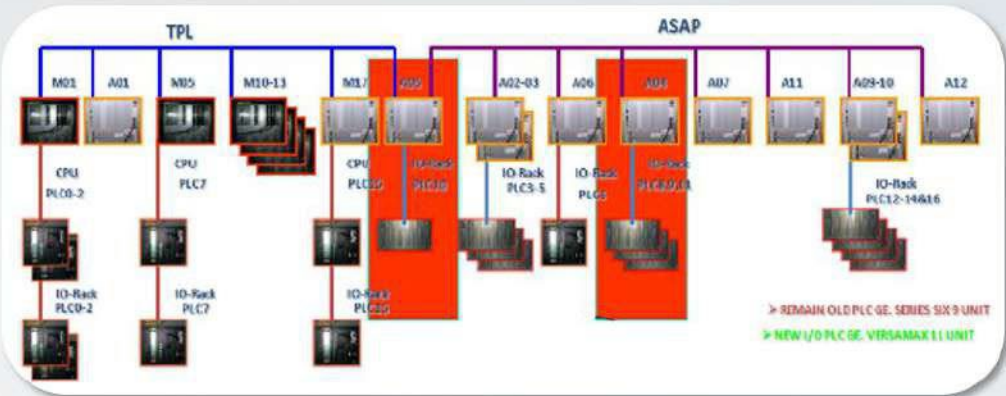


Project: Upgrade Hot rolling mill Automation control system

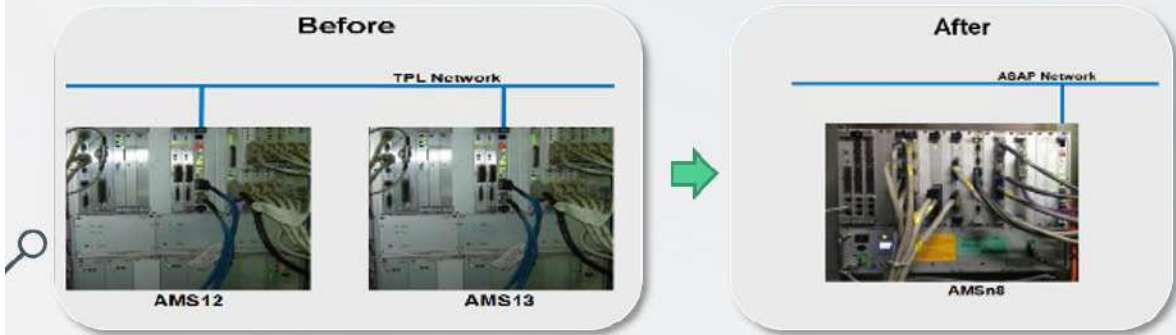
Customer: Sahaviriya, Thailand
Location: Prachaupkirikhan , Thailand
Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

**ROBOTICS & AUTOMATION
TECHNOLOGY AND ENGINEERING
BUSINESS UNIT (RAT)**

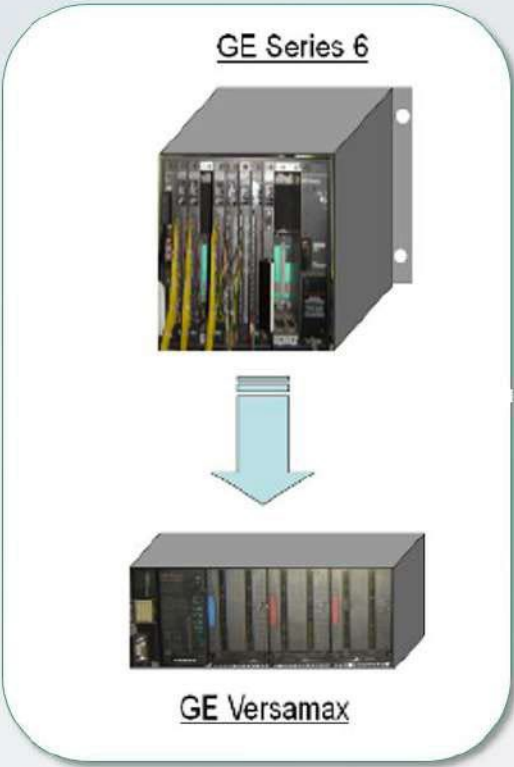
I. Fully Revamp from Ansaldo Micro System 24 bit + I/O of GE Fanuc Series6 To Ansaldo Micro System 32 bit + I/O of Siemens ET200M



II. Partial Revamp (Controller only) from Ansaldo Micro System 24 bit to Ansaldo Micro System 32 bit



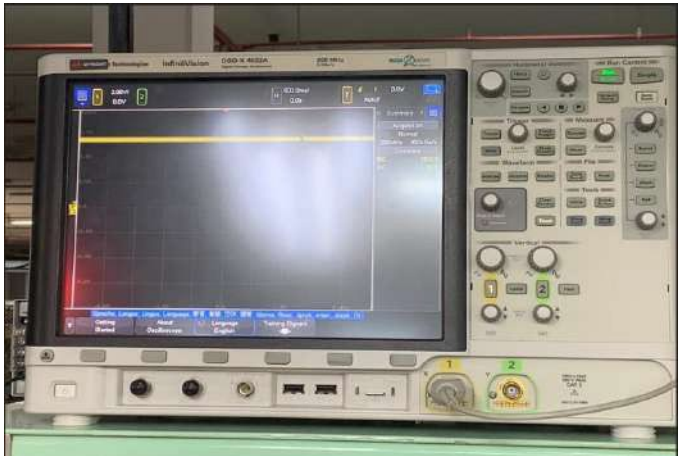
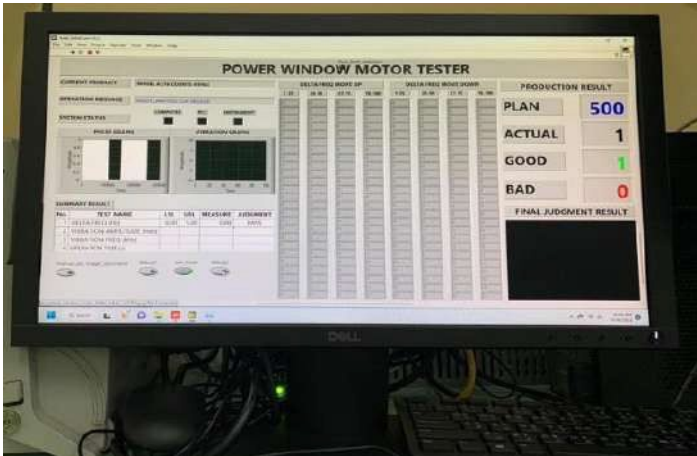
III. Partial Revamp (I/O only) from I/O of GE Fanuc Series6 To I/O GE Fanuc Versamax



Project: Power Window Motor Tester

Customer: Thai Steel Cable, Thailand
Location: Pathum Thani , Thailand
Scope of work: Design & Engineering ,Installation &Commissioning, Performance Test ,Training & Handover

**ROBOTICS & AUTOMATION
TECHNOLOGY AND ENGINEERING
BUSINESS UNIT (RAT)**



04

RAIL TECHNOLOGY AND ENGINEERING BUSINESS UNIT (RTE)

Design, manufacture, repair, renovate, modify rolling stock and railway according to international standards and standard of the State Railway of Thailand

- 1Y. Maintenance
Service Contract



- Invest for Wheel
pressing, Mount/Dismount
bearing M/C



- Transversor 120t.



- 2Y. Maintenance Service Contract



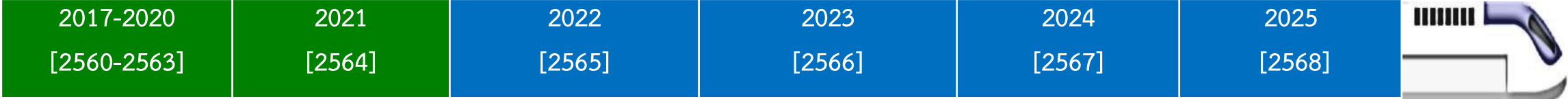
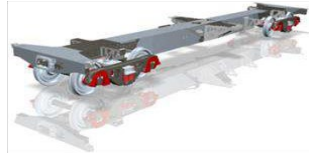
- Wheel line service



- BCF commercialize



New Model,
Light-Weight BCF.



- Recondition Tube Suspension
of GEA Locomotive



- Start to develop BCF prototype



- Supply 250 wheel set



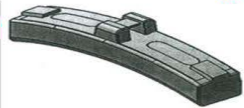
- Recondition bogie frame
of Alstom Locomotive



- Repairing of wagon
steel structure



- BCF running test



- Supply Brake shoe



- Refurbish Passenger
Coach



- Modify Passenger Coach



- Refurbish Locomotive

RTE is an established business unit with the objective to be a new source of revenue from the integration of engineering capabilities of existing Business Capital synergy with business units MFE, MSB, SFB, EPC, RAB and Railway Engineering and Technology Development Center Including strategic partners and business alliances, in line with the country's development strategy that focuses on transportation, Public transport and goods via railway system. Enhancement and promoting the domestic rail industry.

Capabilities



The scope of services included design, engineering, manufacturing, erection, installation, commissioning, testing and after sell service of Rolling Stock and utility machine & equipment supporting the maintenance activity in DEPOT.

RTE BU



RTS

- Rolling Stock Production and Supply (RPS)
- Rolling Stock Machinery Solution and Service (RMS)
- Rolling Stock Maintenance Service Contract (RMC)



NTS

Providing project services and Technology Solutions for non-wheeled items such as Gantry Crane, Overhead Crane, Load Box for Locomotive test generator, Traverser, Wheel Lathe Machine, DEPOT etc.



R&D

1. โครงการการพัฒนาโบกี้สำหรับรถโดยสารทุกตู้
สินค้าเพื่อยกระดับขีดความสามารถของ
อุตสาหกรรมผลิตรถไฟในประเทศ (บพข)
2. โครงการการพัฒนาชุดฐานรับน้ำหนักเหล็ก
รีด ม้วนแบบปรับระยะตามมาตรฐานการขนส่ง
ทางรถไฟ (สวทช)
3. etc.

RTS/RPS | งานซื้อ ล้อรีดทียบพร้อม มเพลารถสินค้า Wheel Set Class D (G9-5985) จำนวน 250

Customer :	State Railway of Thailand ; SRT
Location :	Makkasan, Bangkok
Project :	งานซื้อ ล้อ รีดทียบพร้อม มเพลารถสินค้า Wheel Set Class D (G9-5985) จำนวน 250
Scope of work :	sets Trading
Budget :	22,469,732.50 บาท
Period :	24 Jan. – 23 July 2022
Status :	Finish

Experiences

DELIVERY TIME : 180 DAYS



แท่ง

Customer :	State Railway of Thailand ; SRT
Location :	Makkasan, Bangkok
Project :	งานซื้อ ^{ั้} แท่งห้ามล้อ Non-Metallic จำนวน 27,000
Scope of work :	แท่ง
Budget :	Trading
Period :	24,000,000 บาท
Status :	-
	Award process

Experiences

DELIVERY TIME : 180 DAYS



Quality

- Low Friction Type
- Coef. Of Friction Approximately 0.17
- Dimension according to SRT drawing LV4-2058/1

Warranty

- 1 year after use
- Project Value
- 24 MB.



Wheel สำหรับ

รถจักรยาน

รสร้า งทาง

Customer :

A.S. ASSOCIATED ENGINEERING (1964) CO., LTD.

Location :

Jatujak Watthana, Bangkok

Project :

งานว่าจ๊า ง ผลิต Fly Wheel สำหรับ รถจักรยานรสร้า งทาง

Scope of work :

ผลิตชิ้นงาน Fly Wheel รถจักรยานรสร้า งทางรถไฟ ขนาดOD = 563 mm, ขนาด ID = 250 mm , mode = 4 , จำนวน = 138 ชิ้น, ชุบแข็ง = บริเวณฟัน, วัสดุ = S45C/หรือเทียบเท่า

Budget :

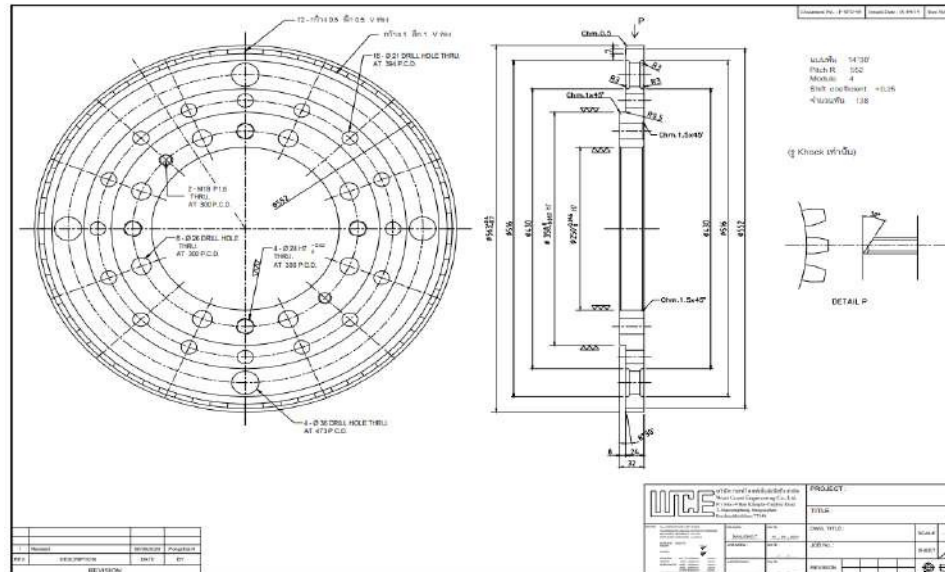
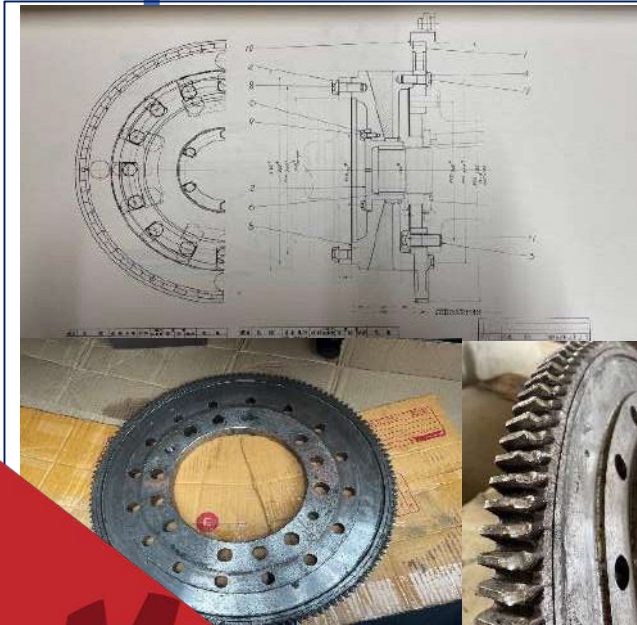
120,000.00 บาท

Period :

4 Sep. – 9 Nov. 2023

Status :

Finish

*Experiences***DELIVERY TIME : 66 DAYS**

Equipment จำกถูกค้า

Reverse engineering จัดท้าแบบส้าห้ร้ก้าผลิต

สั่งให้ ลูกค้ารับท้าร้บก่อนท้าก้าผลิต

ชี้นงานส้าร้จ้ส่งมอบ

งานจํา 4 ล้อ

Customer :	SERMSANGUAN CONSTRUCTION COMPANY LIMITED.
Location :	Thawi Watthana, Bangkok
Project :	งานจํา ผลิตล้อ รถเก็ยห็นตามแบบ จ งานจํา
Scope of work :	4 ล้อ ผลิตล้อ ของรถเก็ยห็นทดแทนของเดิม
Budget :	ตามแบบ 282,000.00 บาท
Period :	22 Sep. – 22 Nov. 2023
Status :	Finish

Experiences

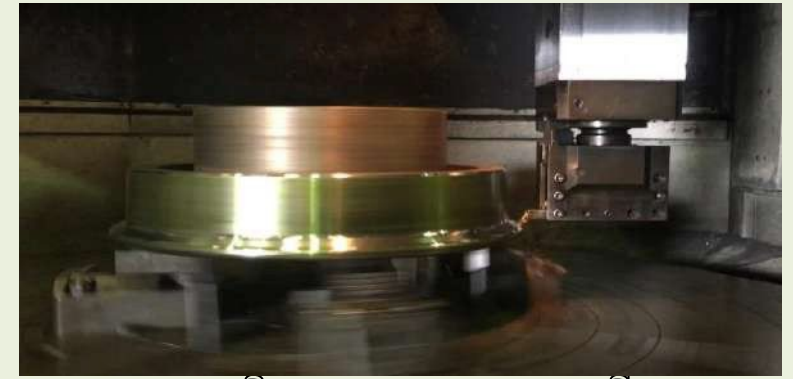
DELIVERY TIME : 61 DAYS



รูปล้อรถเก็ยห็นเก่า



รูปล้อที่หล่อใหม่ (Cast Work piece)



รูปชิ้นงานสำเร็จรูป ผลิตที่
“WCE”

Customer : SERMSANGUAN CONSTRUCTION COMPANY LIMITED
Location : Thawi Watthana, Bangkok
Project : งานว่าจ้างดัดเพลาล้อ รถอัดหิน จำนวน 7 เฟลา และ รถ Locomotive จำนวน 2 เฟลา
Scope of work : Push the wheel axles of 7 axles of rock compactor and 2 axles of locomotive from 1067 mm. to 1000 mm.
Budget : 90,000.00 บาท
Period : 6 Sep. – 27 Oct. 2023
Status : Finish

Experiences

DELIVERY TIME : 51 DAYS



RTS/RMS I : งานซ่อมล้อพร้อมเพลารถจักร Alsthom 60 sets

Customer :	State Railway of Thailand ; SRT
Location :	Makkasan, Bangkok
Project :	งานซ่อมล้อ พร้อม เพลารถจักร Alsthom 60 sets
Scope of work :	Surface repair and grinding
Budget :	2,939,940 บาท
Period :	8 Aug. 2019 – 24 July 2020
Status :	Finished

Experiences

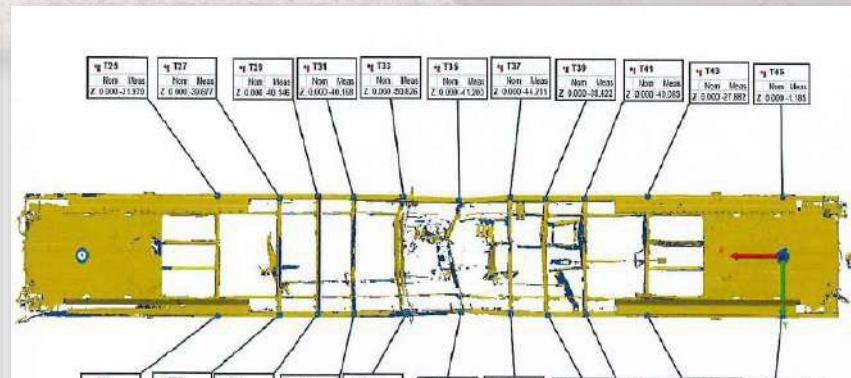
DELIVERY TIME : 365 DAYS



Customer : State Railway of Thailand ; SRT
Location : BangSue, Bangkok
Project : งานซ่อมอุบัติเหตุ รถ บทก. หมายเลข 250029 จานวน 1 คัน
Scope of work : Repair and inspection NDT
Budget : 497,550 บาท
Period : 29 Apr. – 30 Jun. 2021
Status : Finish

Experiences

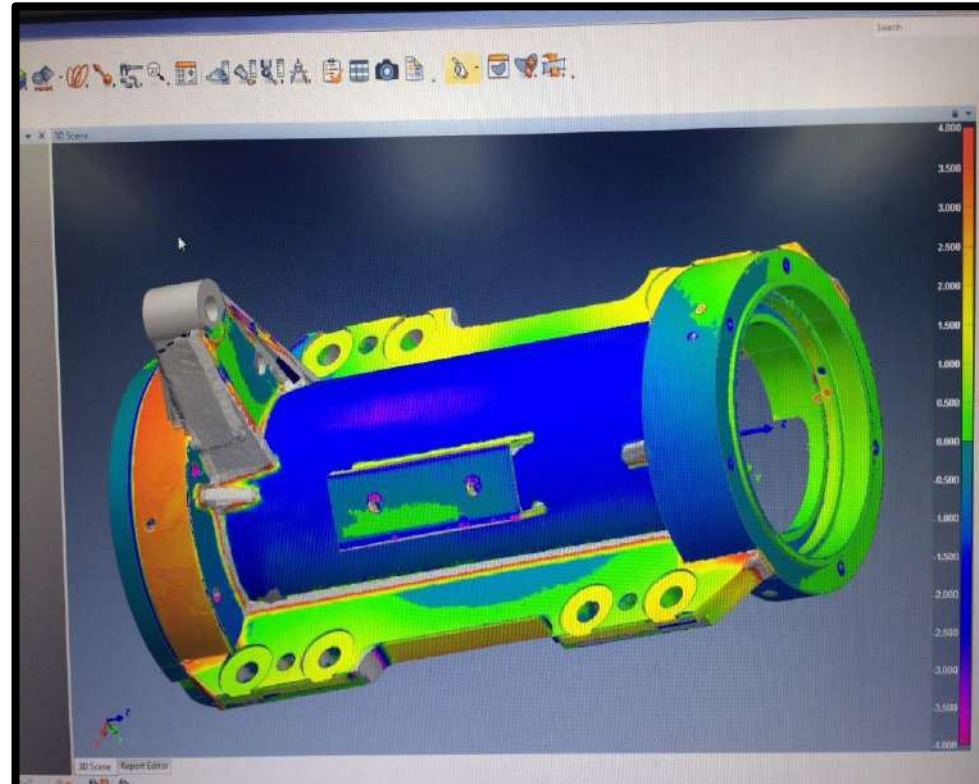
DELIVERY TIME : 60 DAYS



Customer : State Railway of Thailand ; SRT
Location : Makkasan, Bangkok
Project : งานซ่อม U TUBE จำนวน 18 set
Scope of work : Reverse engineering parts
Budget : 1,590,300 บาท
Period : Jul. 2017 – Mar. 2018
Status : For Bidding

Experiences

DELIVERY TIME : 180 DAYS



RTS/RMS I จ้างซ่อม Re condition Bogie Frame ของรถจักร รถดีเซลไฟฟ้า ๖ ALSTHOM 6

sets

Customer :	State Railway of Thailand ; SRT
Location :	Makkasan, Bangkok
Project :	จ้างซ่อม Re condition Bogie Frame ของรถจักรดีเซลไฟฟ้า ๖ ALSTHOM 6
Scope of work :	sets Reverse engineering parts
Budget :	10,600,000 บาท
Period :	Dec. 2017 – Nov. 2018
Status :	For Bidding

Experiences

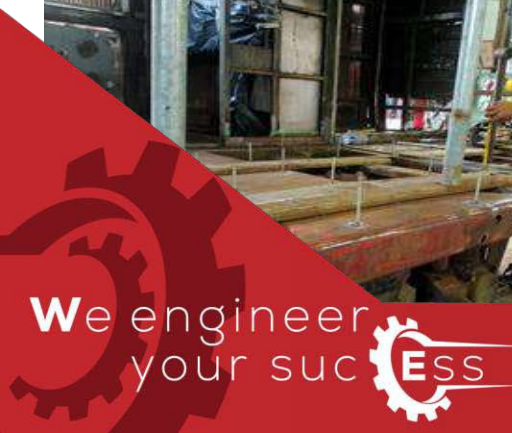
DELIVERY TIME : 270 DAYS



Customer : State Railway of Thailand ; SRT
Location : Makkasan, Bangkok
Project : จ้างซ่อมโครงสร้างรถตู้ ีเหตและปรับ ปรุงสภาพภายใน-ภายนอก ทาสี ปรับ ปรุงห้องสุขา รถดีเซลราง
Scope of work : THN, ATR (รถตู้ ีเหต) จำนวน 2 คัน (หมายเลข 1139 และ 2102)
Budget : ประกอบอุปกรณ์ภายใน งานตกแต่ง การทาสีภายนอกภายใน
Period : 5,980,000 บาท บาท
Status : 3 Aug. 2022 – 29 Feb. 2024
In Process

Experiences

DELIVERY TIME : 575 DAYS



Customer : เดือน
Location : State Railway of Thailand ; SRT
Project : Makkasan, Bangkok
Scope of work : งานซ่อมปรบ ปรับโครงสร้าง ผลิตชิ้นส่วน รื้อ อุปกรณ์ พว มซ่อมประกอบวาระหนักรถดีเซลราง
Budget : THN, NKF, ATR, DAEWOO และงานอื่นๆ เป็นระยะเวลา 24 เดือน
Period : Manpower service contract
Status : 10,500,000 บาท
Mar. 2022 - Mar. 2024
In Process

Experiences

DELIVERY TIME : 730 DAYS



Gantry Crane ขนาดรับ น้ำหนักไม่ต่ำกว่า 10 ตัน สูง 10 เมตร Span 10 เมตร ติดตั้ง อุปกรณ์พร้อม มเสาโครงสร้าง

โรงรับ

Customer :	State Railway of Thailand ; SRT
Location :	Keangkhoh, Saraburi
Project :	Gantry Crane ขนาดรับ น้ำหนักไม่ต่ำกว่า 10 ตัน สูง 10 เมตร Span 10 เมตร
Scope of work :	ติดตั้งอุปกรณ์พร้อม มเสาโครงสร้าง โรงรับ
Budget :	Fabrication and installation
Period :	3,893,000 บาท
Status :	7 Dec. 2020 – 5 Jun. 2021 Finish

Experiences

DELIVERY TIME : 180 DAYS



Customer : State Railway of Thailand ; SRT
Location : Makkasan, Bangkok
Project : งานปรับปรุงพื้นที่ที่และสะพานเลื่อนภายในศูนย์ซ่อมรถจักร โรงงานมักกะสัน เพื่อรองรับการซ่อมบำรุงรถจักร CSR จำนวน 1 งาน
Scope of work : -
Budget : 37,449,999 บาท
Period : 17 Jun. – 28 Dec. 2022
Status : In Process

Experiences

DELIVERY TIME : 180 DAYS

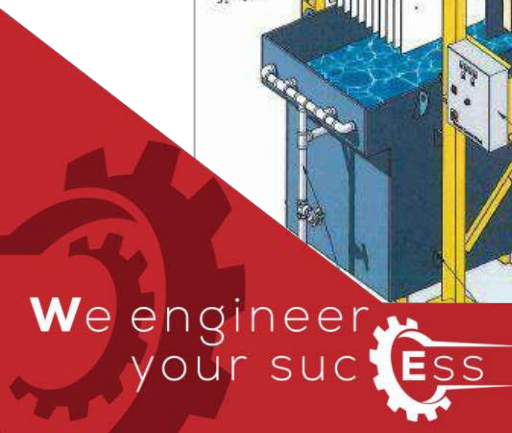
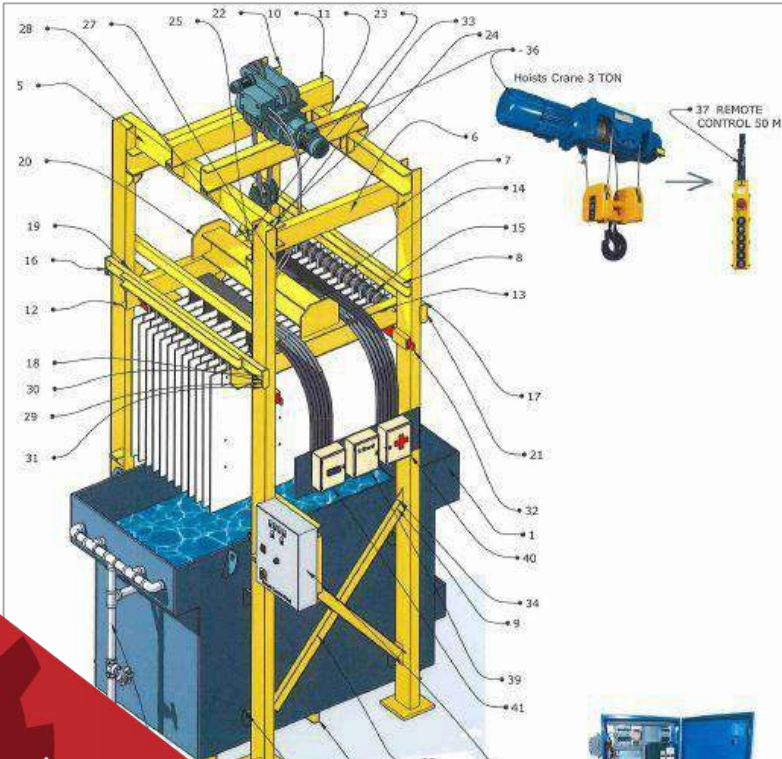


NTS | ชี จ้างผลิต Calibration tank for testing (Load Box) สำหรับ รถจักรดีเซลไฟฟ้า ๑ พร้อม อุปกรณ์ส่วนควบ และติดตั้ง

Customer :	State Railway of Thailand ; SRT
Location :	Makkasan, Bangkok
Project :	ชี จ้างผลิต Calibration tank for testing (Load Box) สำหรับ รถจักรดีเซลไฟฟ้า ๑ พร้อม อุปกรณ์ส่วนควบ และติดตั้ง
Scope of work :	Fabrication and installation
Budget :	1,390,000 บาท
Period :	29 Oct. – 28 Dec. 2020
Status :	Finished

Experiences

DELIVERY TIME : 60 DAYS



Customer : State Railway of Thailand ; SRT
Location : Makkasan, Bangkok
Project : งานจํานวนซ่อมรถช่วยอนัตรา หมายเลข 36 ที่ สรง.ทส. จานวน 1
Scope of work : งาน
Budget : 1,476,000 บาท
Period : 5 May – 2 Sep. 2023
Status : Finished

Experiences

DELIVERY TIME : 120 DAYS



งานระบบ Hydraulic

ดำเนินการซ่อม-เปลี่ยน กระบอกไฮดรอลิก จํานวน 12 ลูก

งานระบบ Pneumatic

ถอดเปลี่ยนชุด Air Dryer
 ถอดเปลี่ยนสายลม

งานระบบไฟฟ้าควบคุม




ถอดเปลี่ยนชุดเกจแผงหน้าปัด
 ปรับปรุงสายไฟชุดตู้คอนโทรล

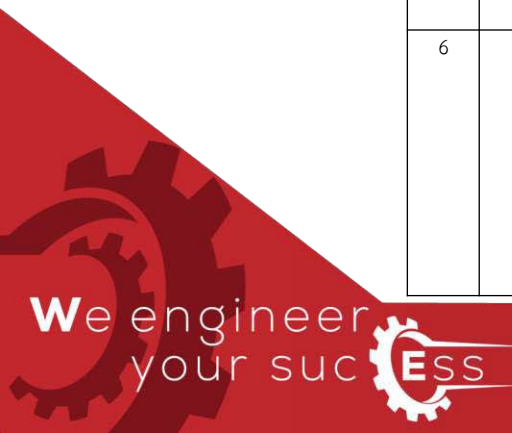
งานระบบเครื่องยนต์

เปลี่ยน Air Compressor
 ซ่อมอุปกรณ์ 7 รายการ ได้แก่ เทอร์โบชาร์จเจอร์, ปั๊มเชื้อเพลิง, หัวฉีด, ถอดปั๊มนํ้า, ชุดขับพัดลม, ถอดมอเตอร์สตาร์ท และ ไดรฟ์ชาร์จ

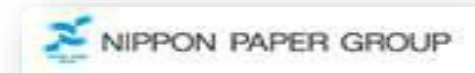
R&D I โครงการวิจัยและพัฒนา นวัตกรรมและเทคโนโลยีและนวัตกรรม

ผลงานวิจัยและพัฒนาด้านรถไฟ ที่ได้รับรองโครงการวิจัยและพัฒนาเทคโนโลยีและนวัตกรรม เพื่อการยกเว้นภาษี จาก สวทช.

ที่	โครงการเลขที่	รายชื่อโครงการงานวิจัย	วัตถุประสงค์งานวิจัย	มูลค่าที่ได้รับการรับรอง (บาท)	รูปผลงาน
1	62/03/008	การพัฒนากระบวนการซ่อม Suspension tube โบกี้รถไฟ (Development of Repairing Process of Suspension Tube Railway Bogie)	เพื่อพัฒนากระบวนการซ่อม Suspension tube โบกี้รถไฟ ที่ชำรุดให้กลับมาใช้งานได้ตามมาตรฐานที่การรถไฟแห่งประเทศไทยกำหนด	645,854.95	
2	62/03/009	การพัฒนากระบวนการซ่อมและปรับปรุงความแข็งแรงโครงแคร่รถไฟ (Development of Repairing and Strength Provemement Process of Railway Bogie Frame)	เพื่อพัฒนากระบวนการซ่อมและปรับปรุงความแข็งแรงโครงแคร่รถไฟ ที่ชำรุด ให้กลับคืนสภาพที่สมบูรณ์ใช้งานได้ โดยเป็นไป ตามข้อกำหนดและมาตรฐานของการรถไฟแห่งประเทศไทย	1,333,962.90	
3	64/03/014	การพัฒนากระบวนการผลิตรถโบกี้บรรทุกตู้สินค้า (Development of Production Process of Bogie Container Flat wagon)	เพื่อพัฒนากระบวนการผลิตรถโบกี้บรรทุกตู้สินค้า ในประเทศไทยตามข้อกำหนดของการรถไฟแห่งประเทศไทยและมาตรฐานสากล	13,257,305.30	
4	65/02/006	การพัฒนากระบวนการซ่อมบำรุงชุดล้อพร้อมเพลารถไฟตามมาตรฐานสากล (Development of the Maintenance process of Railway wheelset according to international standards)	เพื่อพัฒนากระบวนการซ่อมบำรุงชุดล้อพร้อมเพลารถไฟ ตามข้อกำหนด มาตรฐาน สากลให้สามารถดำเนินการได้ในประเทศไทย และเป็นที่ยอมรับของ การรถไฟแห่งประเทศไทย	2,896,579.58	
5	65/11/051	การทดสอบความแข็งแรงของ Flat Wagon Underframe ภายใต้สภาวะโหลดและการวัดความเครียด เปรียบเทียบผลการวิเคราะห์ไฟไนต์เอลิเมนต์	เพื่อสร้างและพัฒนาแบบการทดสอบความแข็งแรงในการรับโหลดของโครงสร้าง Flat wagon underframe ตามข้อกำหนดที่รฟท. ใช้อ้างอิง	540,320.00	
6	66/12/025	การพัฒนาชุดฐานรับน้ำหนักเหล็กคีม้วนแบบปรับ ระยะตามมาตรฐานการขนส่งทางรถไฟ (Development of steel coil saddle base adjustable according to railway transport standards)	เพื่อศึกษาข้อกำหนดและมาตรฐานการขนส่งของระบบรางที่เกี่ยวข้องกับเหล็กคีม้วน ออกแบบและสร้างชุดฐานรับน้ำหนักเหล็กคีม้วนที่ปรับระยะได้สำหรับ ขนส่งโดยรถไฟได้อย่างปลอดภัย และมีประสิทธิภาพ	อยู่ระหว่างการพิจารณาจาก สวทช.	



Overseas customers



Local customers





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