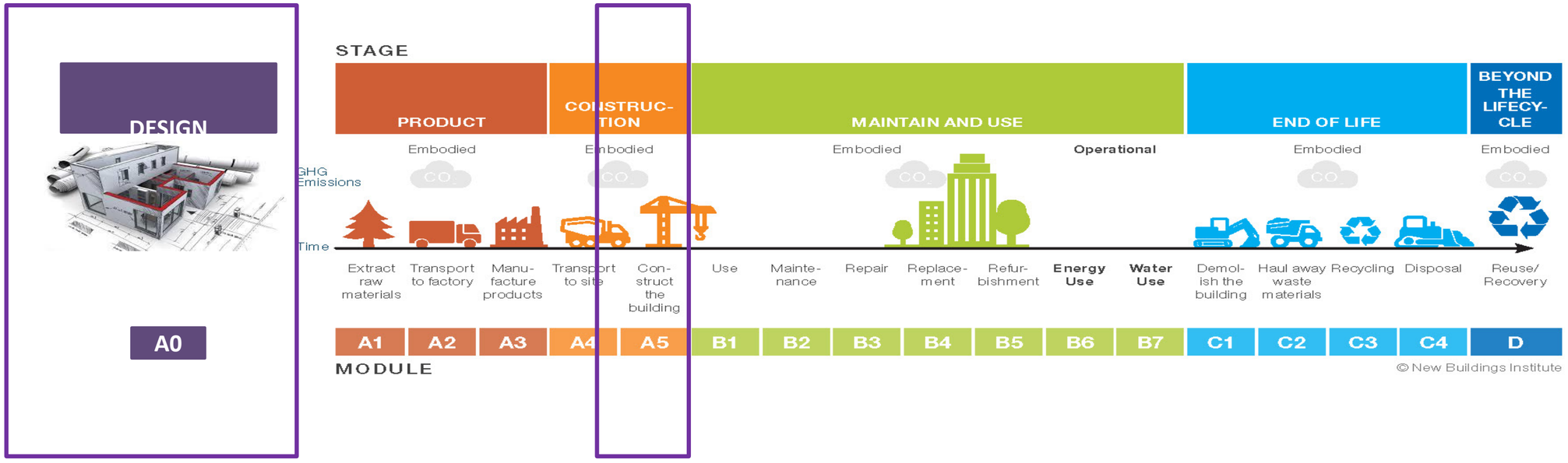
Thai Obayashi Sustainable Construction Transformation

THAI OBAYASHI CORPORATION LTD.

Sustainable Construction Transformation

DESIGN PROCESS ACTIVITIES (A0 & A5)

- Carbon Emission Calculation during Design Phase (A0)
- Prefabrication by utilizing BIM (A5)

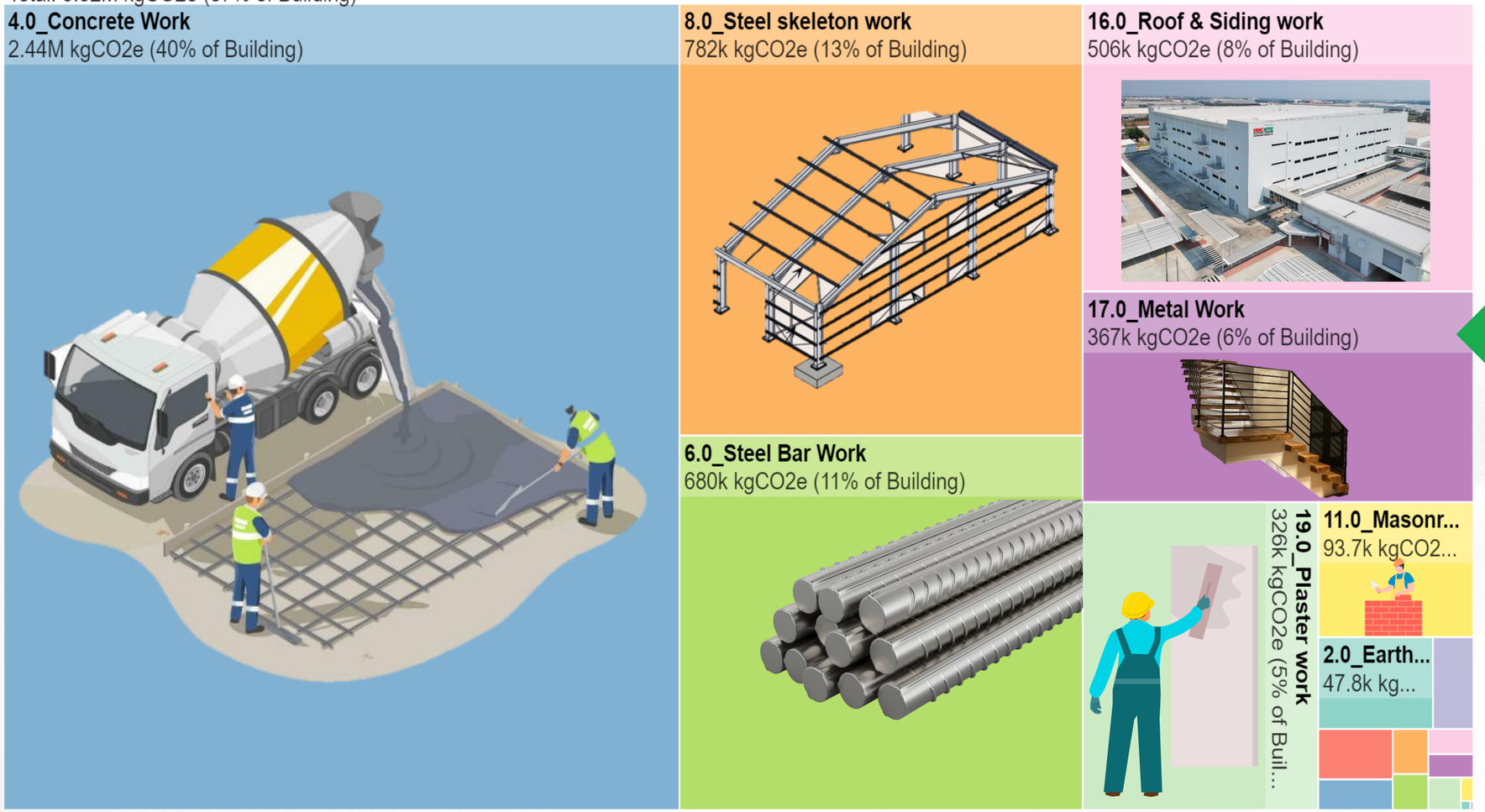


Carbon Emission Calculation

During Design Phase (A0)+

BOQ_TOC_ARC_OTEC_WGN_FACTORY
BOQ_FACTORY_ARC&STR
Total: 5.32M kgCO2e (87% of Building)

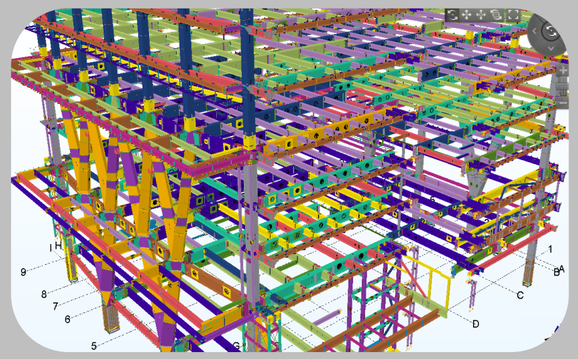
PILOT PROJECT : OTEC FACTORY



EC3 PROGRAM

Keep improving Prefabrication work by using BIM 3D program for both TOC and sub-contractor (A5)

Combine drawing (BIM 3D)



Fabrication & Inspection

(At Workshop & Factory)

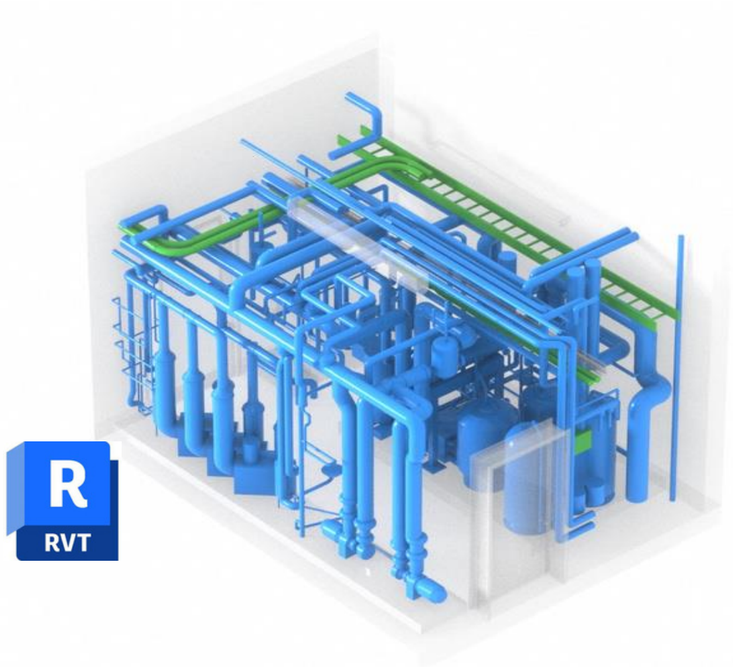
Installation (At site)

Finish toilet

Modular Toilet

BIM INTEGRATE WITH

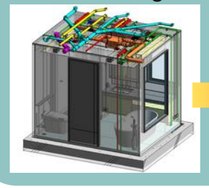
MEP PREFABRICATION (A5)



STUDY → SHOP DWG APPROVED → METHOD STATEMENT → FABRICATION AND TRANSPORTATION → INSTALLATION

Prefabrication Bathroom

BIM Design



Actually Installed

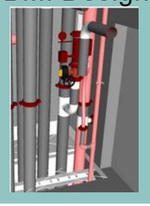
Modular Restroom

BIM Design

Actually Installed

Floor Control Valve

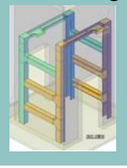
BIM Design



Actually Installed

Prefabrication Branch Wireway

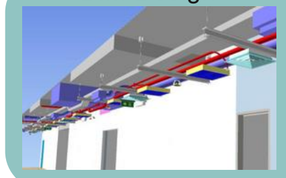
BIM Design



Actually Installed

Universal Support of MEP

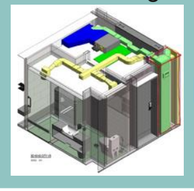
BIM Design



Actually Installed

Prefabrication Ducting

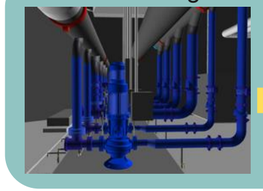
BIM Design



Actually Installed

Chilled & Condensor Water Pump Set

BIM Design



Actually Installed

Unit Chilled Pipe Riser

BIM Design

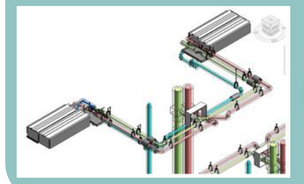
Actually Installed

Ex. Integrating BIM in Prefabrication

High-Rise Project

FCU Inlet and Outlet Valve Set

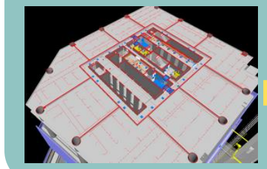
BIM Design



Actually Installed

Prefabrication Sprinkler Pipe

BIM Design



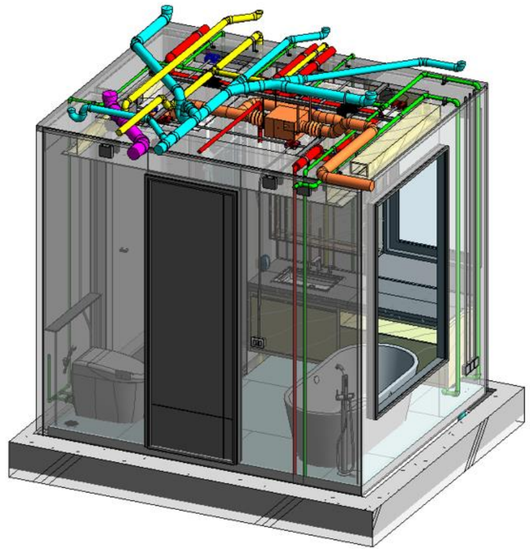
Actually Installed

Modular Restroom

BIM Design

Actually Installed

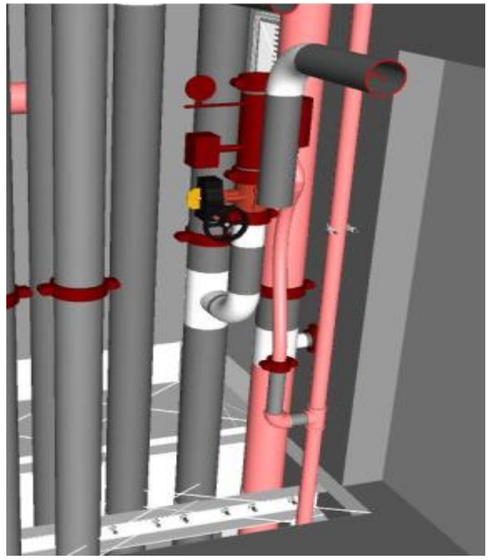
Pre-Fabrication Bathroom



BIM Design

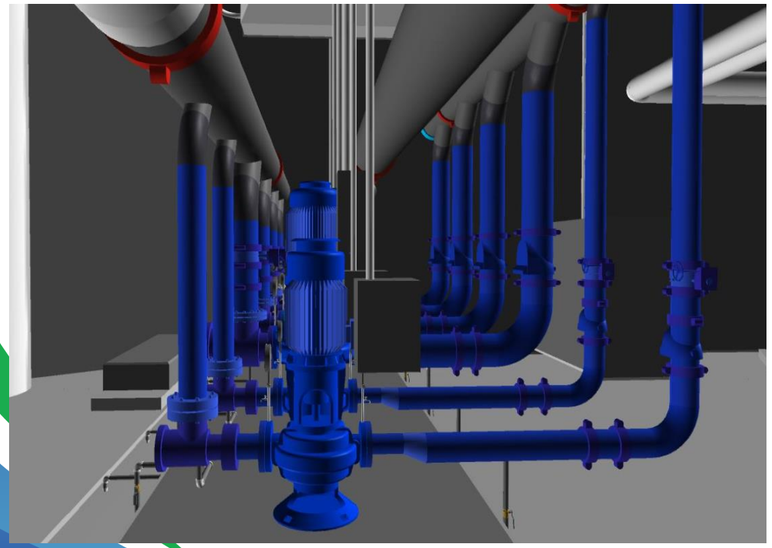
Actually Installed

Floor Control Valve & Chilled Condenser Pump Set

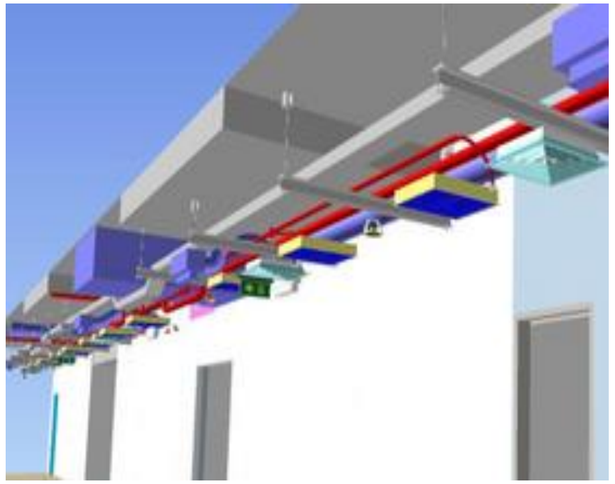


BIM Design

Actually Installed

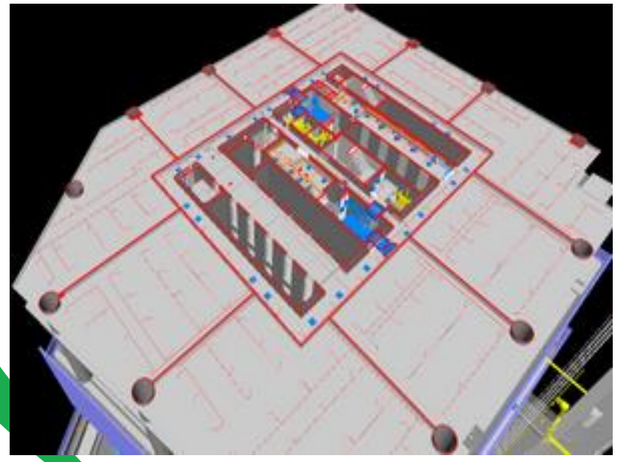


Pre-Fabrication Support for MEP & Sprinkler Pipe

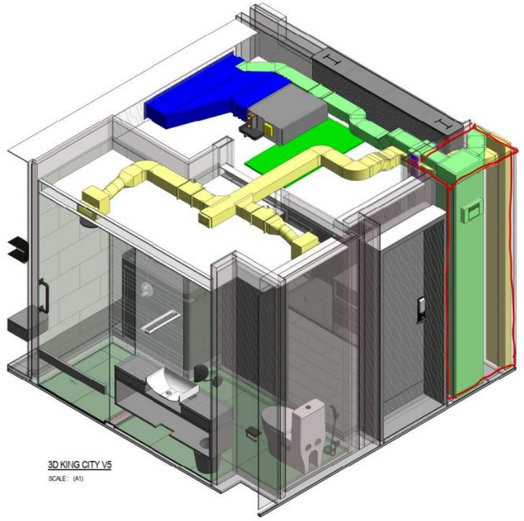


BIM Design

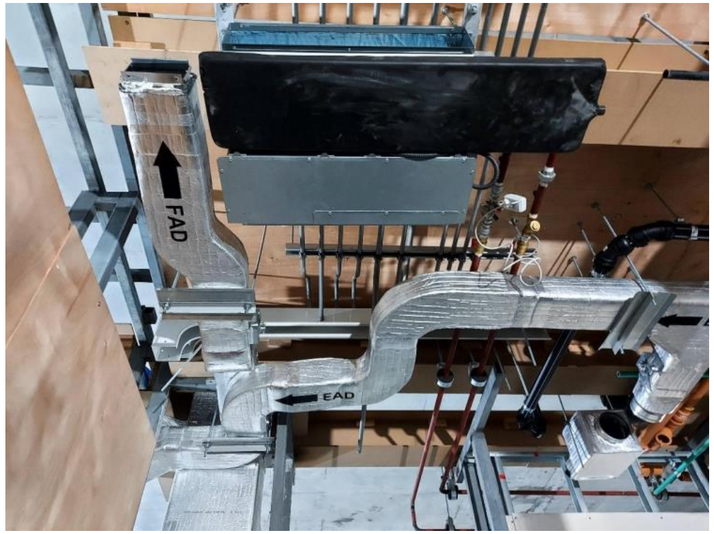
Actually Installed



Pre-Fabrication Ducting & Chilled Pipe Riser



BIM Design



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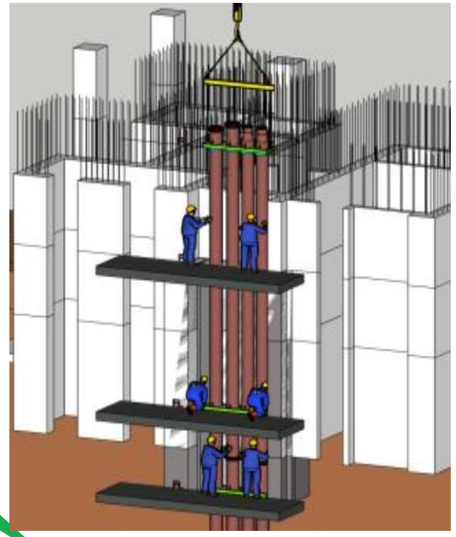
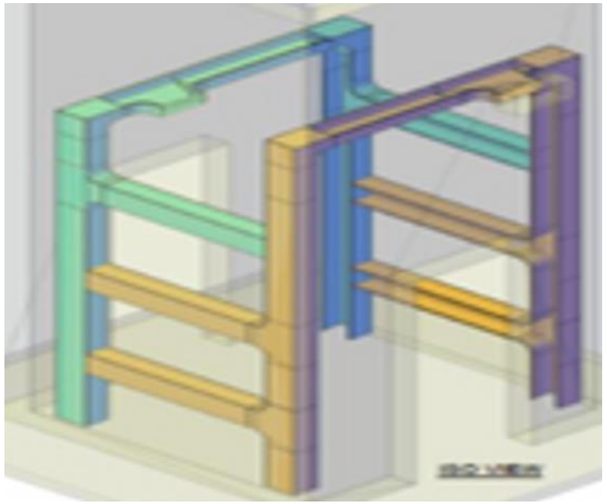
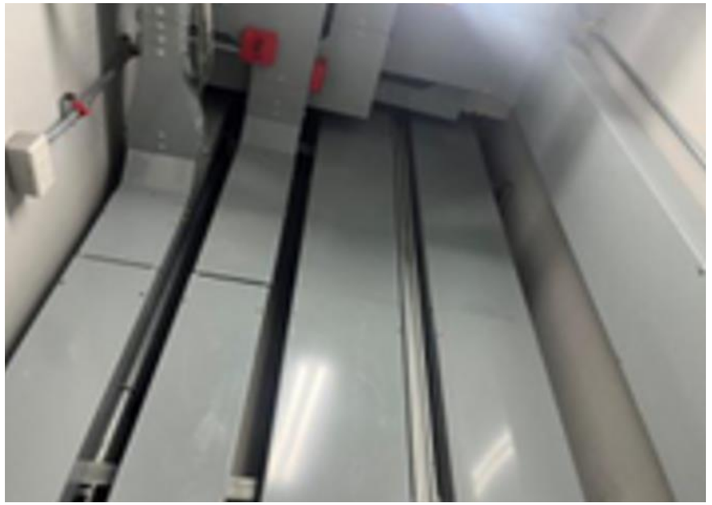


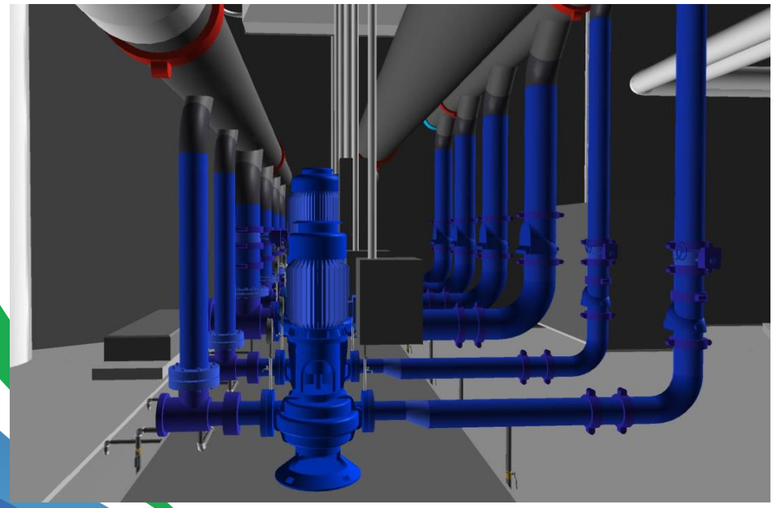
Ducting & Chilled Condenser Water Pump Set



BIM Design



Actually Installed

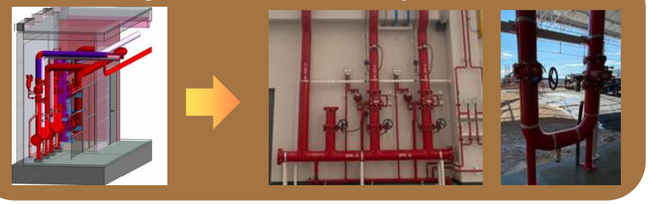


Embed Conduit & Outlet in Column

BIM Design | Actually Installed

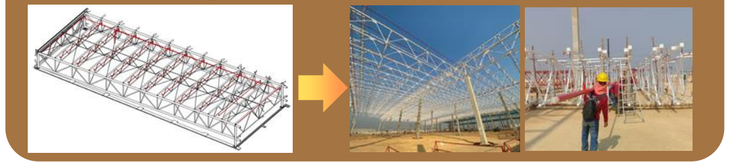
Prefabrication Header Sprinkler

BIM Design | Actually Installed



Prefabrication Sprinkler with Truss

BIM Design | Actually Installed

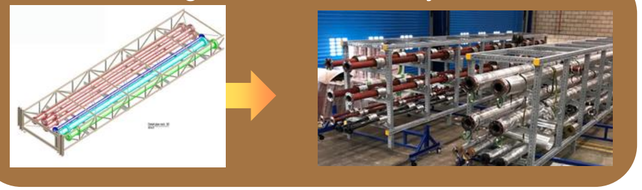


Prefabrication Ducting Work

BIM Design | Actually Installed

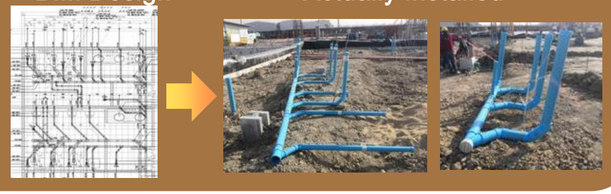
Chilled Water Pipe with Pipe Rack

BIM Design | Actually Installed



Prefabrication Sewage Drain Pipe

BIM Design | Actually Installed



Compressed Air Pipe are assembled

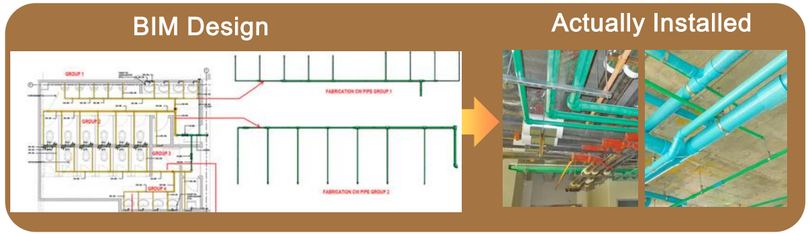
BIM Design | Actually Installed

Ex. Integrating BIM In Prefabrication

Factory Project

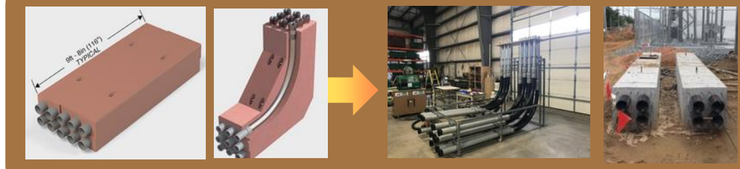
Prefabrication PPR Water Supply

BIM Design | Actually Installed

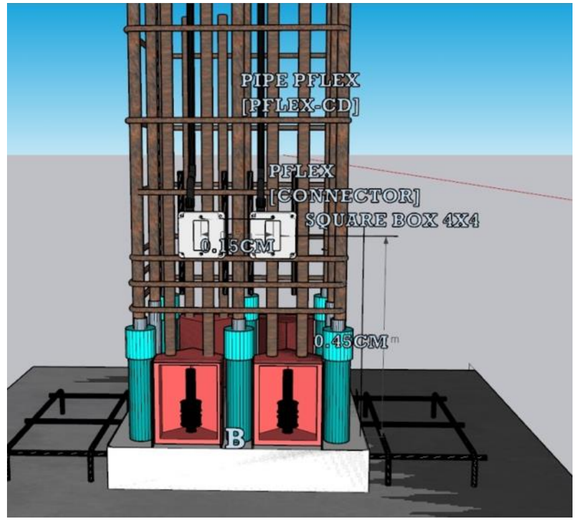


Prefabrication MEP Ductbank

BIM Design | Actually Installed



Embed Conduit and Outlet in Column & Water Pipe



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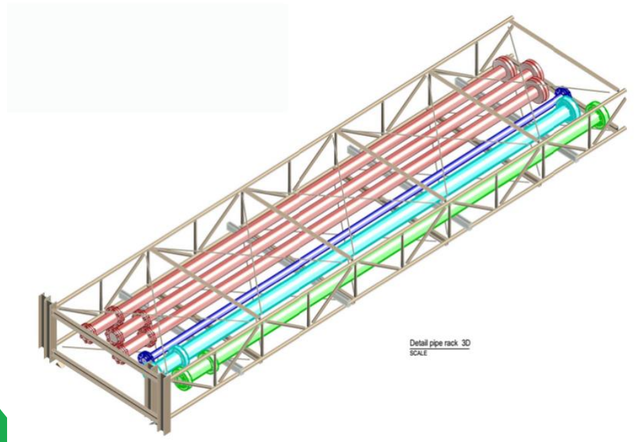
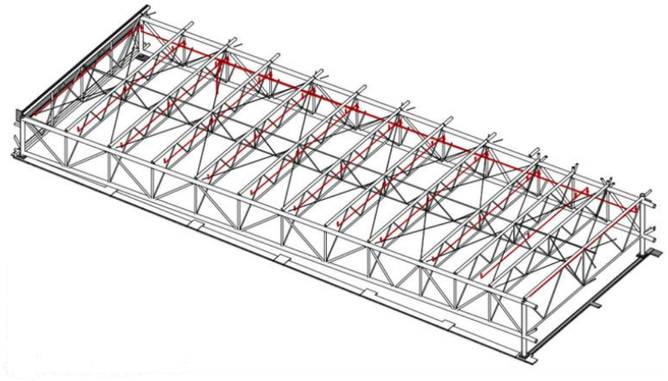


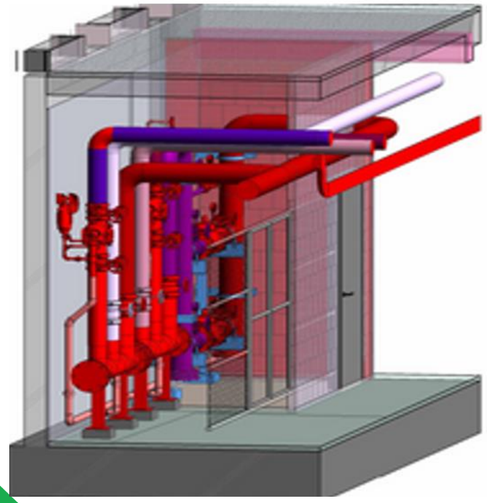
Actually Installed

Prefab Sprinkler with Truss & Header Sprinkler

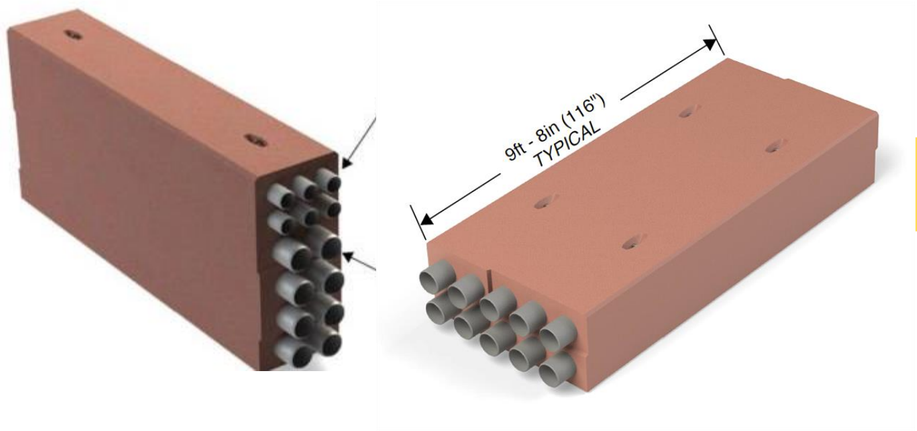


BIM Design

Actually Installed



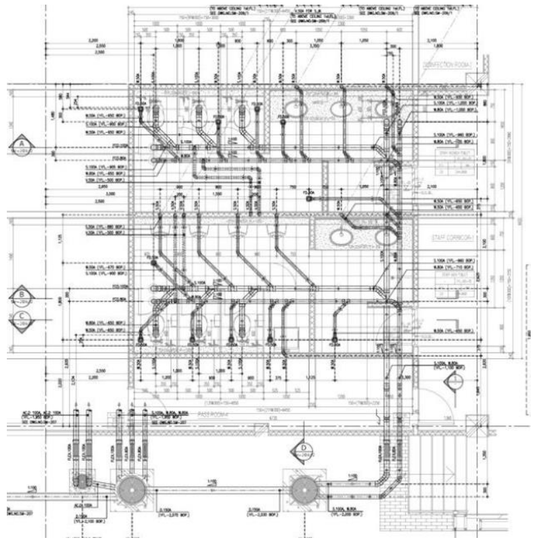
MEP Ductbank & Ducting Work



BIM Design

Actually Installed

Sewage Drain Pipe & Compressed Air Pipe



BIM Design

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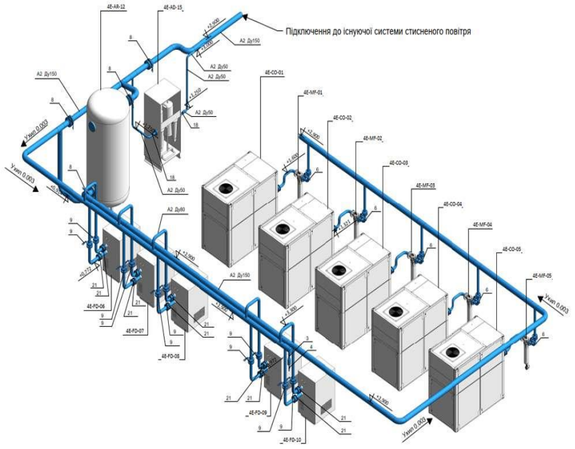


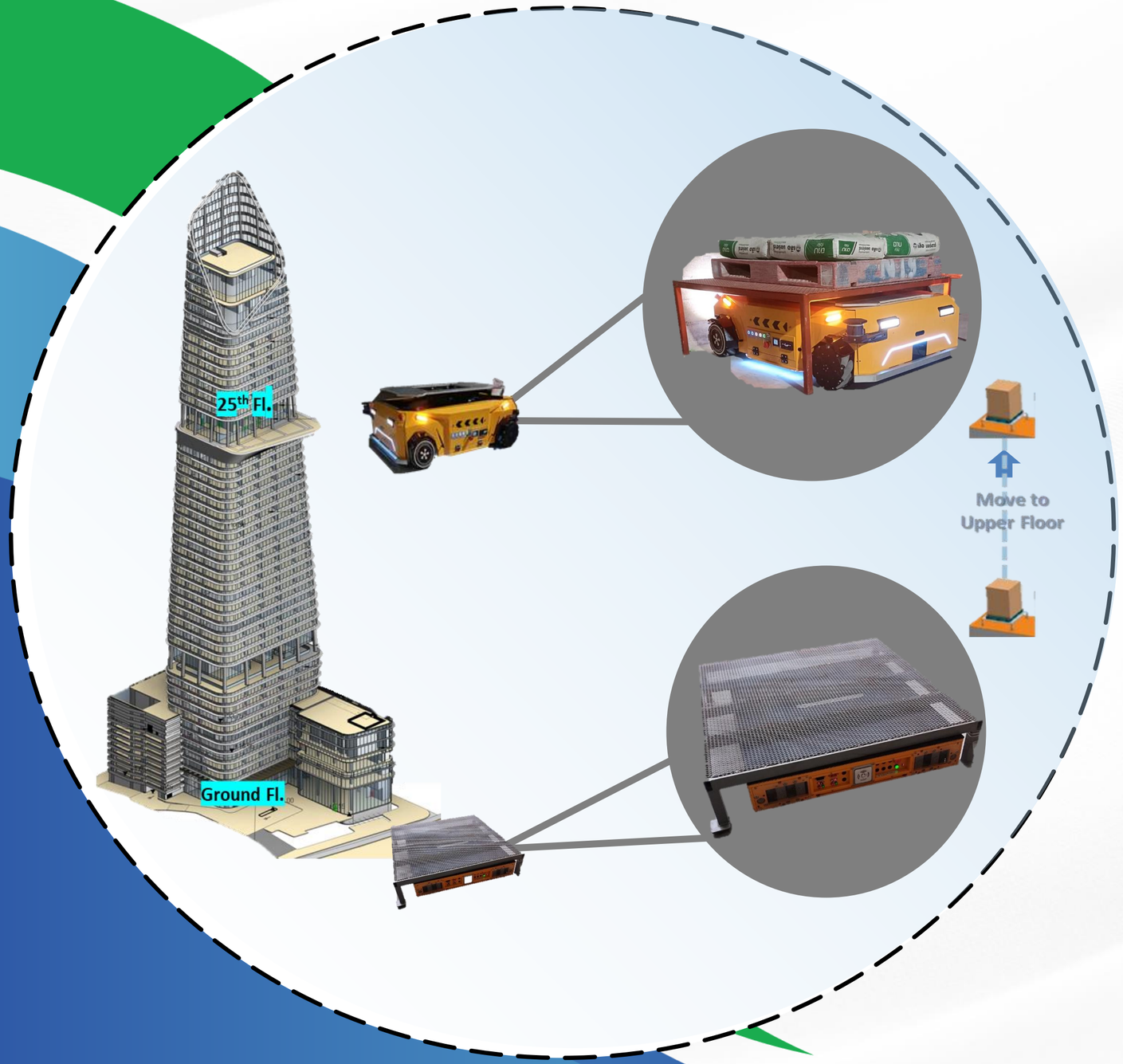
Sustainable Construction Processes

CONSTRUCTION PROCESS ACTIVITIES (A5)

- AGV Robotics
- Clean Energy
- EV BUS
- Waste Management
- Waste to Value

Improve logistic (AGV Robotics)

Autonomous System For standby and operating in the nighttime shift for transfer pallet of material to any destination floor.



- TO SERVE PALLET INTO LIFT CORE OR BUFFER NEARBY MATERIAL LIFT.
- HELP REDUCING MANPOWER USAGE
- REDUCE SITE EXPENSE
- INCREASE EFFICIENCY
- REDUCE ENERGY CONSUMPTION

WORK PERFORMANCE

PILOT PROJECT : KINGBRIDGE TOWER

CONVENTIONAL METHOD

4 TONS	CARRY LOAD
5 PRS.	OPERATOR/WORKER FOR CARRY LOAD
3.45 Hrs.	WORKING TIME CONSUMPTION (NIGHT SHIFT)PER DAY
3,000 Baht	COST PER DAY (OT.) OPERATOR/WORKER

VS

AGV ROBOTICS

4 TONS	CARRY LOAD
1 PRS.	OPERATOR/WORKER FOR CARRY LOAD
3 Hrs.	WORKING TIME CONSUMPTION (NIGHT SHIFT)PER DAY
2,050 Bath	COST PER DAY (OT.) OPERATOR/WORKER & Rental AGV

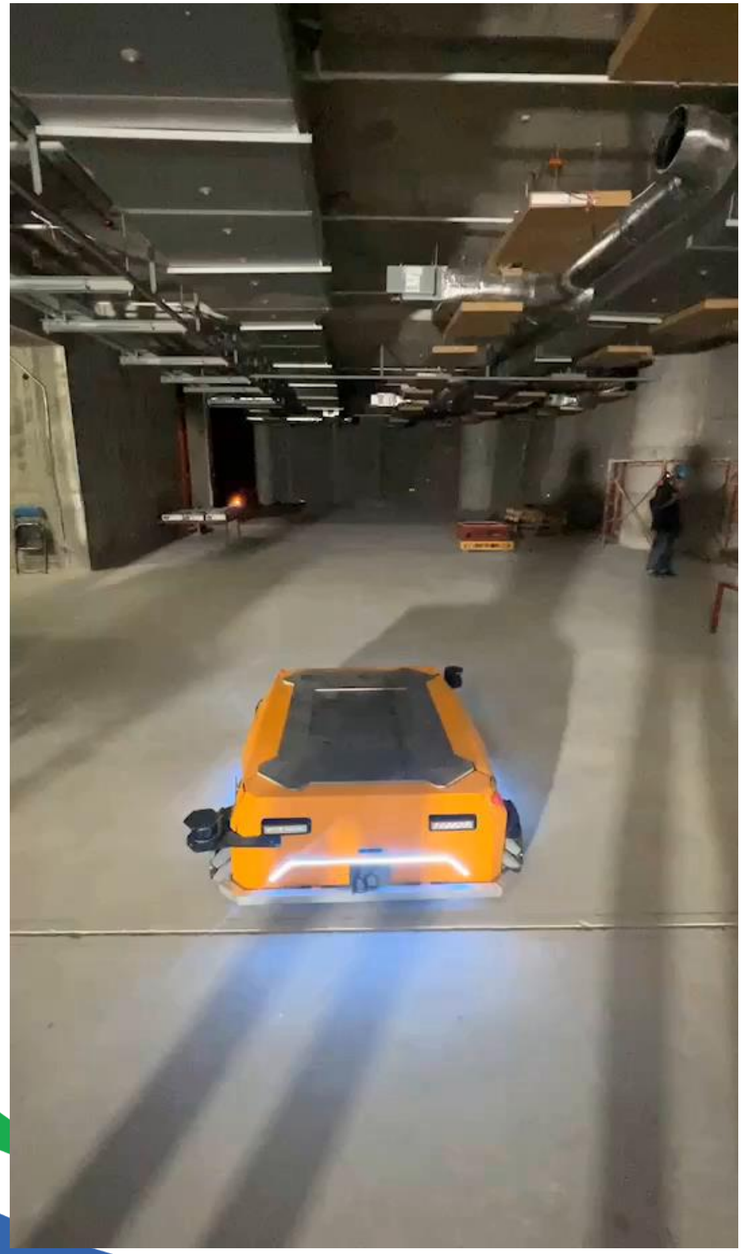
AGV ROBOTICS ON SITE Y2024

AIA CONNECT

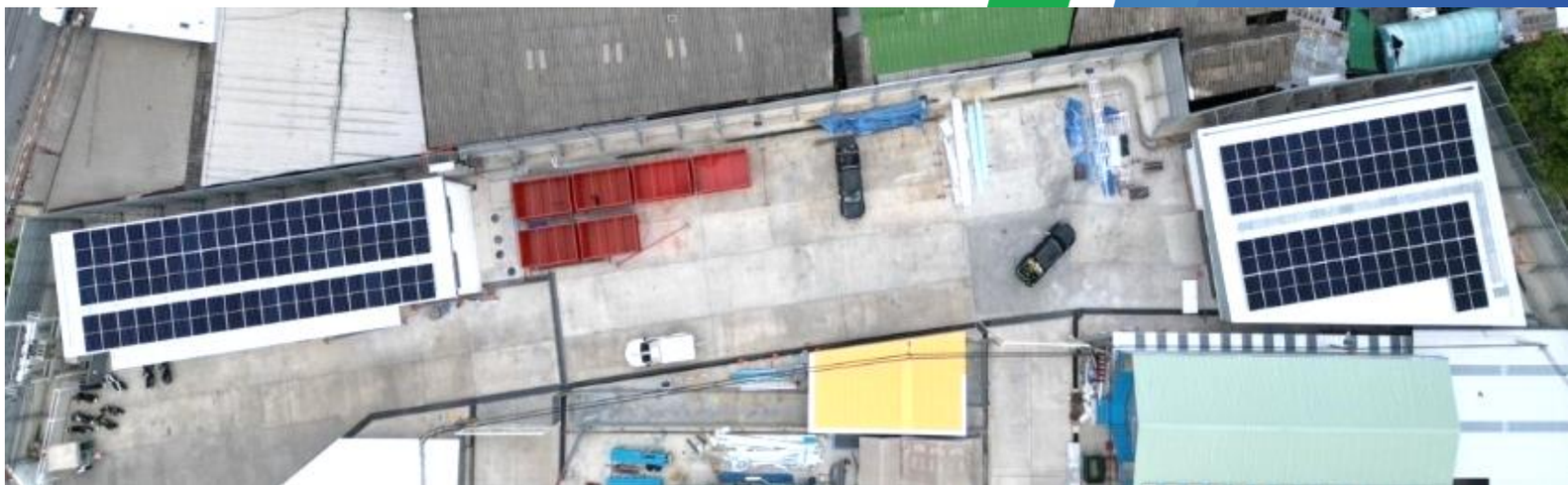
KING SQUARE RESIDENCE

AGV Stloder Working

AGV TrapBot Working



Utilized Clean Energy from Solar Cell



EV BUS

For Transporting Labors

EV Charger

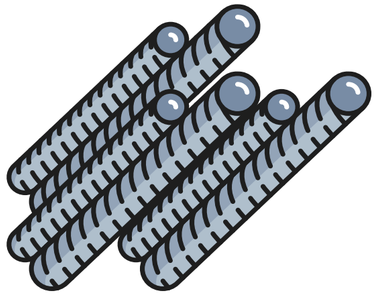
Solar Rooftop

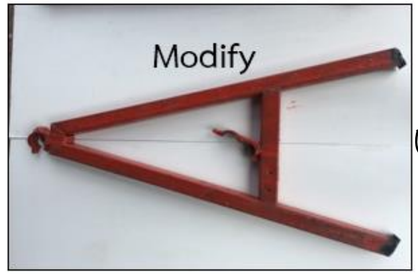
Waste Management

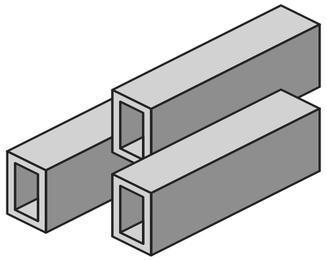
Turn Waste-To-Value Project

Change Waste into useful asset

Modify metal scrap to temporary equipment pieces







holder for a Fire Extinguisher

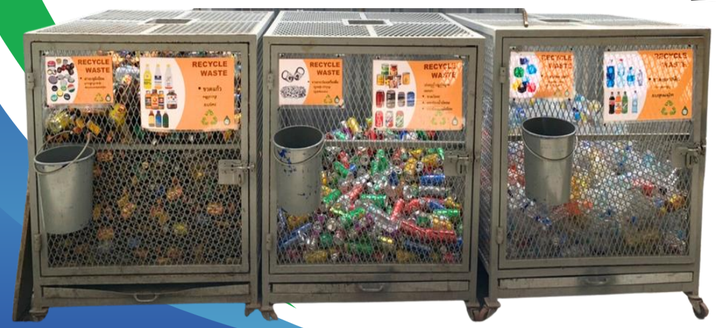
Change Waste into useful asset

Bio compost donation to communities

3R Activities

Provide Lunch box
And Cloth bag
Reducing Foam package

Waste Separations Demonstration



Waste Separations Corner

สิ่งที่อยากจะฝากไว้

- การทำ **Net Zero** จะทำให้ต้นทุนในการทำงานสูงขึ้น แต่ในระยะยาว จะมีผลในการช่วยลดค่าใช้จ่ายลงได้
- **Kaizen** เป็นเครื่องที่มีประโยชน์ในการพัฒนาการทำงานแต่จะสำเร็จได้ต้องได้รับความร่วมมือจากทุกๆฝ่ายและทุกๆคนในบริษัท
- การที่บริษัทจะพัฒนาและเติบโตได้ ฝ่ายบริหารต้องสนับสนุนความคิดไอเดียสร้างสรรค์ของคนรุ่นใหม่ และฝังไว้ให้เป็นวัฒนธรรมขององค์กร

THANK YOU

50th SINCE 1974
THAI OBAYASHI