Role of Private Sector in Promoting Greener Buildings
Self-Introduction

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Renewable Energy Sources
Business Introduction

"Greener Buildings"

BROAD Group

Steel Structure Building
9 degree earthquake resistance, 5 times energy saving, less than 1% construction waste

Material Revolution
extend rate≥40%, corrosion rate is 0.005, weight of steel is 1.25 times of the honeycomb panel

5D Building
steel consumption 100kg/m² restackable, flexible in construction

Mungyeong Project in South Korea

2009 2018 2020.04~
Latest Case

Mungyeong NPI Room Project in South Korea

Project Background

- NPI room was urgently required due to the breakout of COVID-19 in South Korea in Feb, 2020.
- Contract signed on Mar 8th, 2020
- Acceptance and operation on Apr 2nd, 2020

Postscript

Requirement Change: the NPI room will be relocated to Seoul in the future.

Continuous Cooperation

Other project
- NPI Room
- Apartment
- Residential housing

MOU
- Further cooperation
- Exploring the global market

Joint cooperation in factory
- Material factory
- 5D Building factory

One project usher in friendly and deeper cooperation.
### Existing Building

#### Lifetime
- **Short**
  1. Short life and hardly maintenance of the Reinforced Concrete building
  2. Difficult to recycle of the abandoned steel material

#### Movement
- **Fixed**
  1. Reconstruction is the only solution for client’s change in demand.
  2. Resources waste caused by the low resources utilization rate.

#### Safety & Efficiency
- **Slow**
  1. Wet processing, low speed.
  2. Steel structure building, component prefabricated.

- **Large deviation, precision control**
  1. Reinforced concrete makes lower building quality.
  2. Steel structure building can give rise to water leakage and cracking issues.

### BROAD 5D Building

#### BCore Slab
- Extending life of the building to 1000 years, low steel consumption
- Recoverable and cycling utilization

#### Flexibility in Construction
- Completely dismantable
- Relocated and reconstructed

#### 100% Factory Prefabrication
- 3 stories/day (MEP + factory-fabricated interior decoration, 1 worker/module for installation)
- 3 workers/module for dismantlement and reconstruct

#### Reliable Quality
- Factory-made, small deviation, safe and reliable
- Completely factory prefabricated to solved the water leakage and cracking issues.
5D Building Test

Structure

- Under more than 500 times large destructive test
- 500-ton pressure in maximum
- 280 times in average intensity weight ratio

Durability

- Neutral salt spray test
- Refer to the "GB/T 10125-2012 Corrosion Tests in Artificial Atmospheres - Salt Spray Tests", to evaluate the corrosion resistance of BCore Slab.

Trial building

- 4 hours to complete installation of the trial building on Sep 9th, 2020

Other

- Preparation of fire-fighting, sound and thermal insulation, etc.

Salt Spray Test Result - BCore slab 240h (240 years) VS Carbon Steel (2h)
Laws to elevate compliance standards regarding energy efficiency, carbon emissions, and state invested projects, such as state owned companies' facilities, public infrastructure should take leadership in renewables and climate compliances.
Thanks!

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