PTC

Rapid Green Revolution: Delivering Sustainable Data Centers at Lightning Speed

BRIGHTRAY Full Prefab Modular Building Datacenter Solution

13:30-13:40, Jan 19th

BRIGHTRAY
Chris CHENG

HONOLULU, HI

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MARKET INISIGHT

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Pain Points of Current Mainstream Construction Methods

Long Construction Cycle

- 18-25 months construction cycle
- Longer payback period
- Uncertainties increased

Low Standardization Level

- Increasingly customized demands
- Growing demands for hyperscale data center

Higher Construction Cost

- Complex precise management
- Rising cost of human resource cost

Heavy Construction Pollution

- Huge waste of building materials, water and electricity caused by wet method
- Produce a lot of dust, exhaust gas etc. during the construction

Market Trend

- Faster Delivery and Scalability
- Modular and Engineered
- Standardization and Prefabrication
- Innovation and Sustainability

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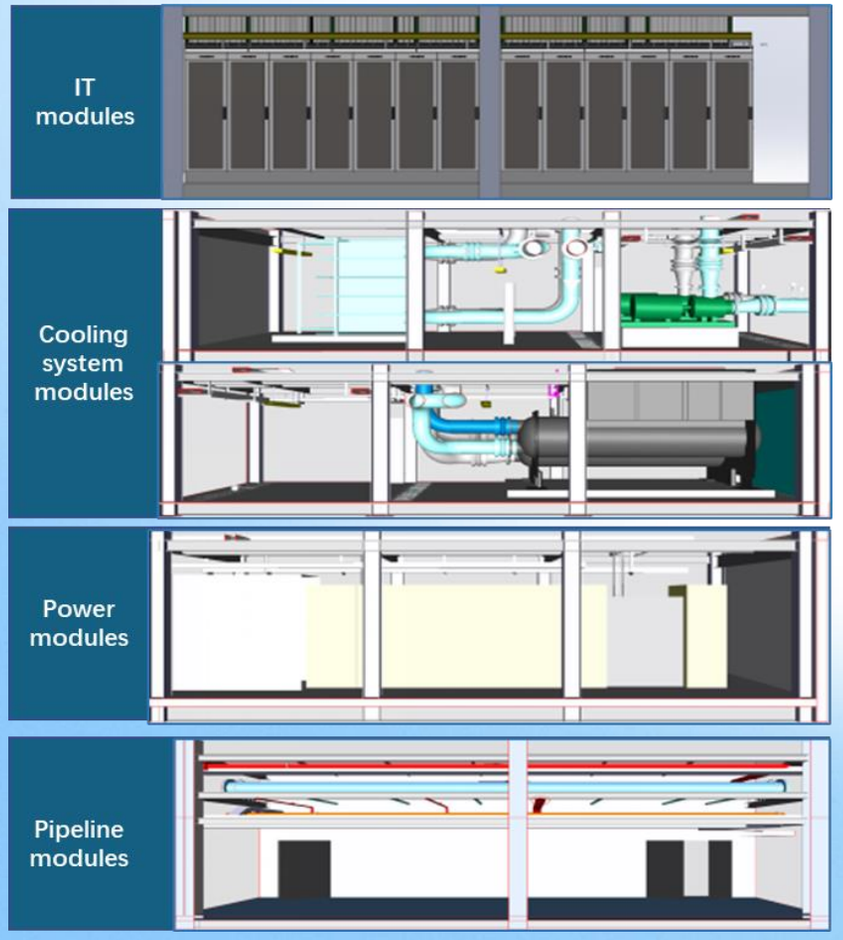
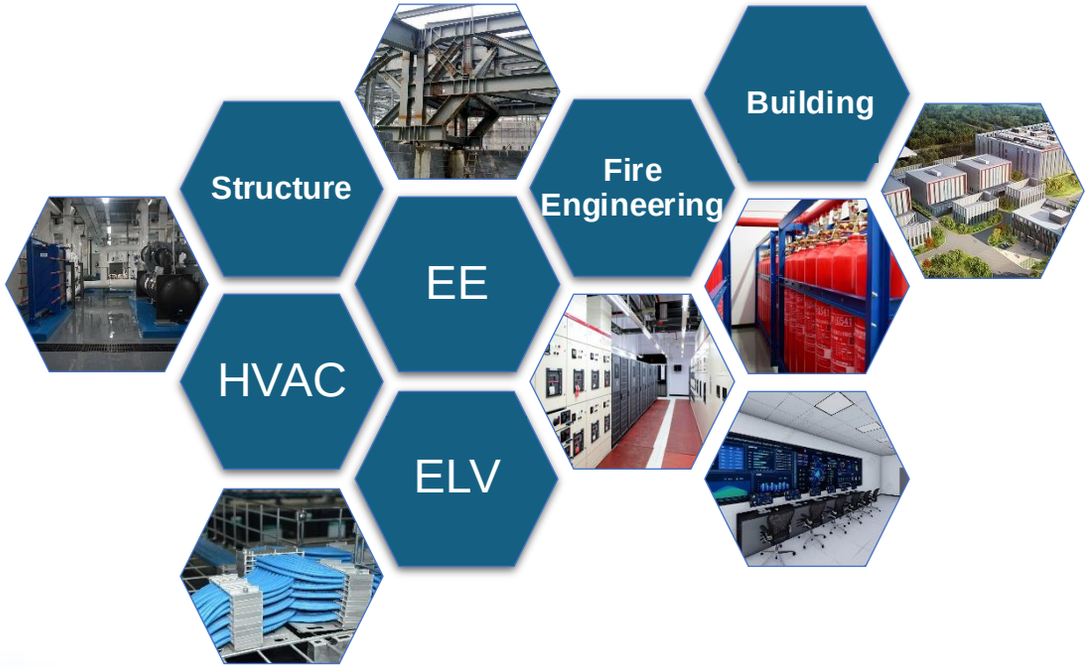
IN-FACTORY FULL PREFAB





- **Full stack standard modules design and production**
- **BIM management through whole process**
- **3D simulation and verification**

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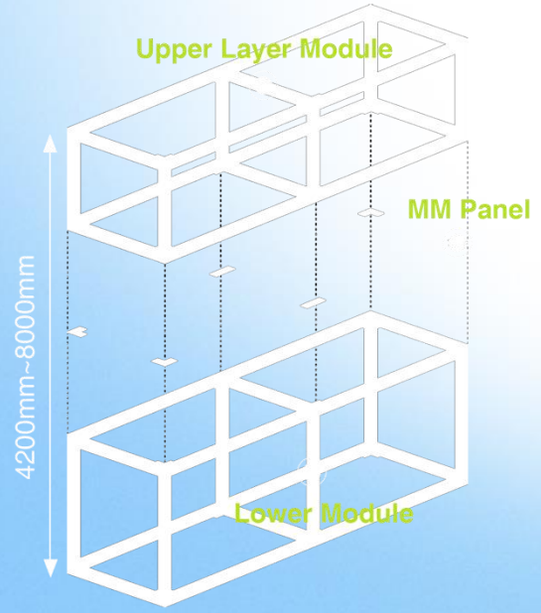
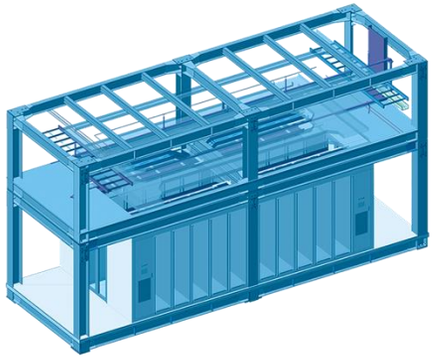
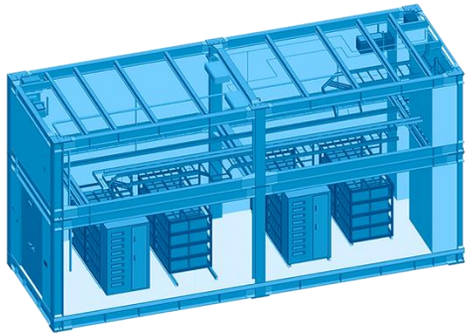
FULL PREFASB STEEL STRUCTURE



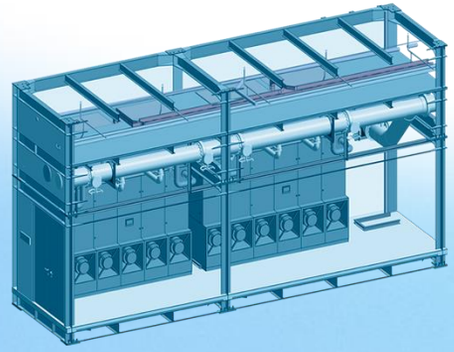
IT Module



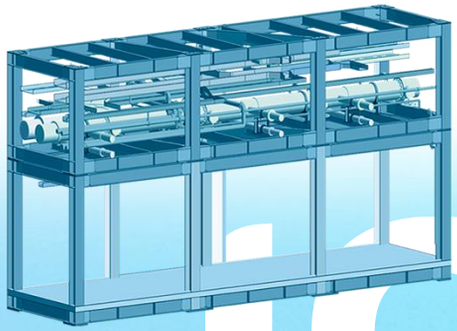
Electric Power Module



Cooling System Module



Passageway Module



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DELIVER A DATACENTER IN 5 STEPS

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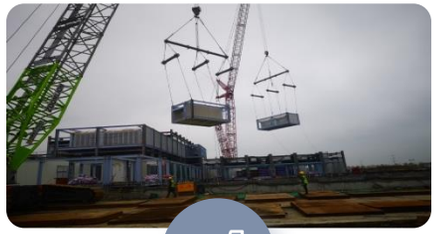
FAST DELIVERY IN 6 - 9 MONTHS

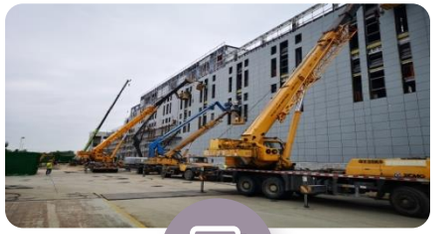
Prefab modules in factory

Transport modules to site

Concrete construction of foundation



Hoist the modules on site



Install exterior walls

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MULTI SOLUTIONS FOR DIVERSE DEMANDS

AIR COOLING

- Number of floors： 1-5 floors
- Total capacity： 15-35MW
- Number of rack： Customized
- Per rack power density： Customized

LIQUIOD COOLING

- Number of floors： 1-5 floors
- Total capacity： 15-40MW
- Number of rack： Customized
- Per rack power density： Customized

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INCREASINGLY POWER DENISTY

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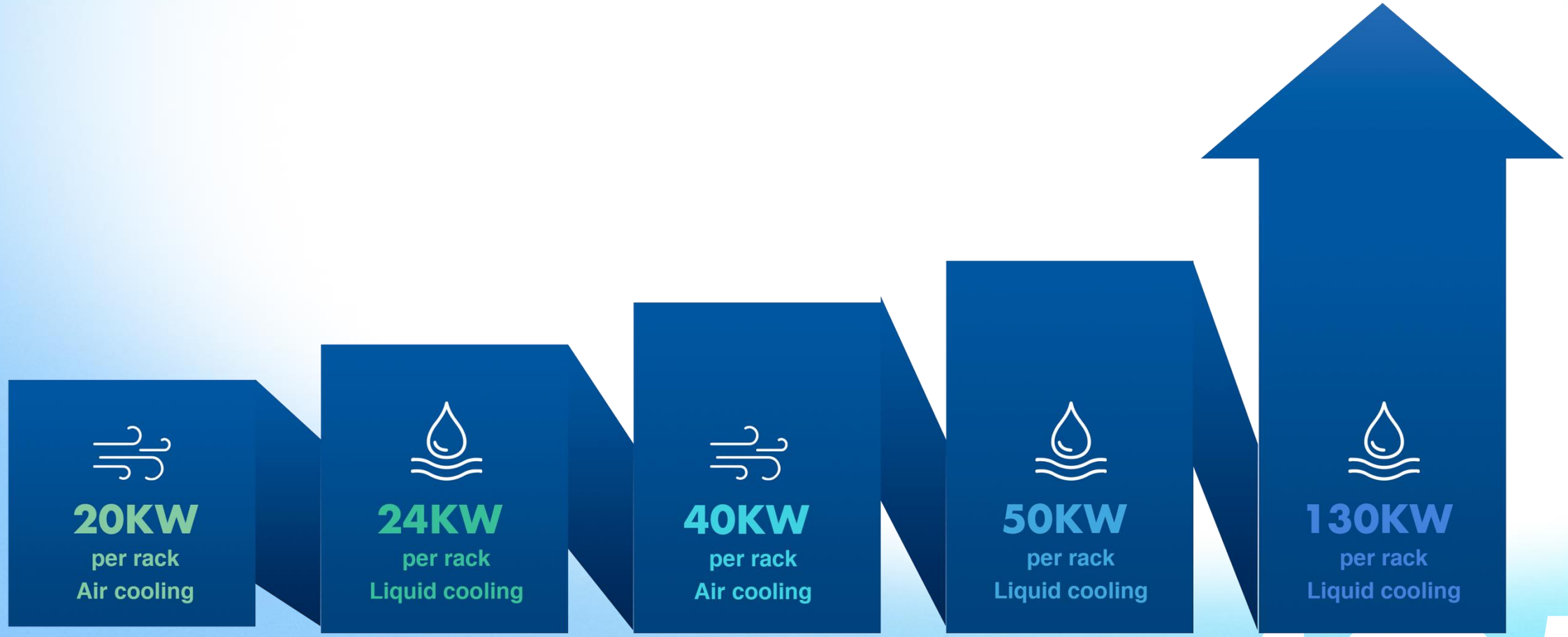

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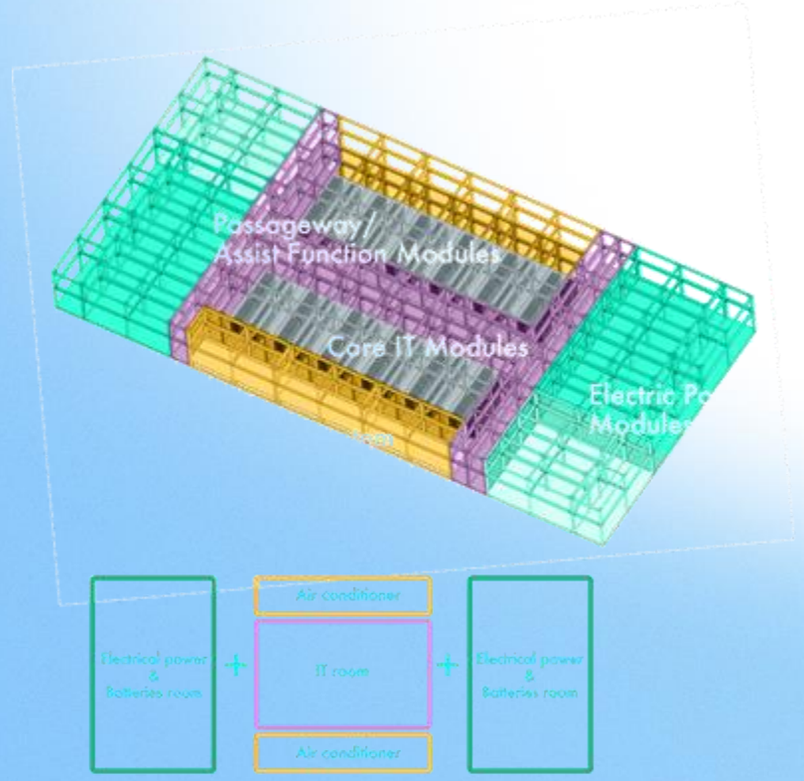
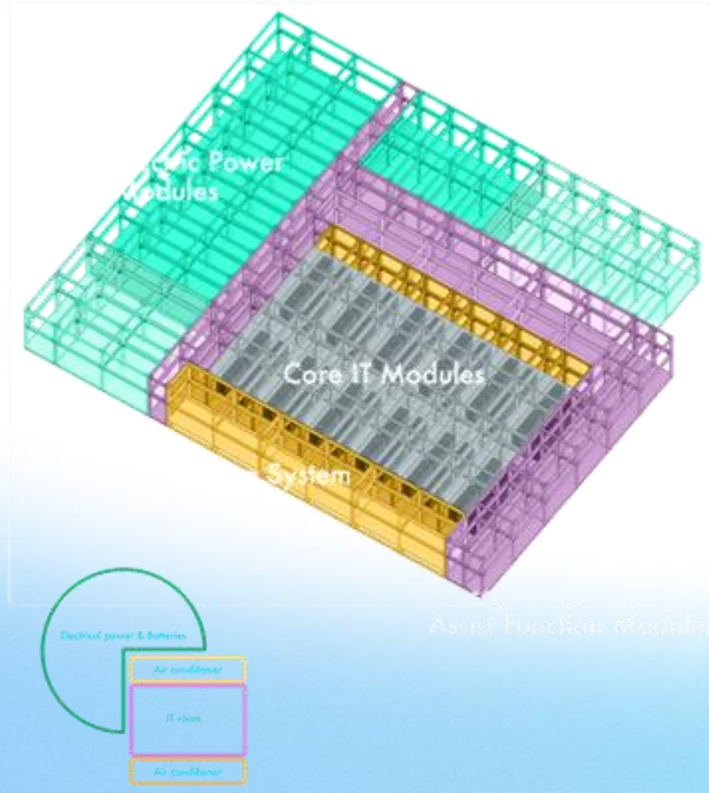
FLEXIBLE LAYOUT FOR VARIOUS PLOTS

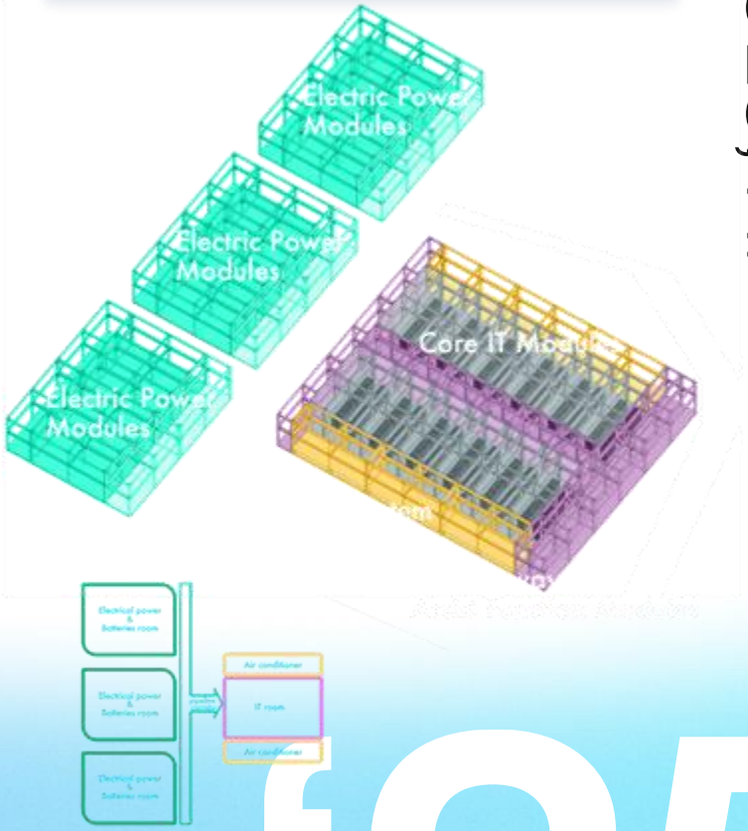
Sandwiched Type



Semi-enclosed Type



Split Building Type



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SUSTAINABLE APPROACH TO DEVELOPMENT

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Reduced Construction Pollution

Minimizing on-site work leads to a reduction in noise, dust, and other pollutants.
Standardized practices in on-site construction ensures materials are used judiciously

Higher Efficiency Energy Solution

Advanced cooling systems design and innovative energy management to significantly reduce
energy consumption and enhance operational efficiency

Circular Structure

The modules can be dismantled, relocated, and fully reassembled elsewhere.
So, these modules can be reused or upgraded or building a new data center, enhancing

Enhanced Work Environment

More conducive and safer work environment
for the labor caused by
the high degree of prefabrication
in the factory

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SHOWCASE

BRIGHTRAY JOHOR DATA CENTER

Location
Johor, Malaysia

Status
Constructing

IT Capacity
90MW

PUE
< 1.4

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