

CLAIMS

1. A floating data centre park comprising:
a modular data centre pier having a plurality of berths along two sides of the
5 modular data centre pier;
a modular power supply pier connectable with the modular data centre pier to
form a modular floating data centre, the modular power supply pier having at least two
berths;
a plurality of floating data centre modules, each berthing at one of the plurality of
10 berths of the modular data centre pier; and
a plurality of power supply modules, each berthing at one of the at least two
berths of the modular power supply pier, wherein the modular floating data centre is
formed by connecting one end of the modular data centre pier to a connection point
along a length of the modular power supply pier.
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2. The floating data centre park according to claim 1 wherein the modular power
supply pier is connectable with the modular data centre pier to form a T-shape modular
floating data centre.
- 20 3. The floating data centre park according to claim 1 or 2 further comprising:
a plurality of the modular floating data centres connectable together such that the
modular power supply piers are along a perimeter line of the modular floating data centre
park and the modular data centre piers are within the perimeter line of the modular
floating data centre park.
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4. The floating data centre park according to claim 3 further comprising a plurality of
extension piers for connecting the modular data centre piers.
5. The floating data centre park according to claim 4 wherein one end of the
30 extension pier is anchored to a shore.
6. The floating data centre park according to any one of claims 1-5 wherein the
modular floating data centre anchored to the seabed with pile support.
- 35 7. The floating data centre park according to any one of claims 1-6 wherein the
modular floating data centre comprises:
a power line for receiving power supply from the power supply modules and
supplying the received power supply to the floating data centre modules;
a supply fluid line for receiving chilled fluid from the power supply modules and
40 supplying the chilled fluid to the floating data centre modules; and
a return fluid line for receiving less chilled fluid from the floating data centre
modules and returning the less chilled fluid to the power supply modules.

8. The floating data centre park according to any one of claims 1-7 wherein each of the floating data centre modules comprises:

5 a floating barge having a double hull structure wherein a data centre is located within the double hull structure.

9. The floating data centre park according to any one of claims 1-7 wherein each of the floating data centre modules is a catamaran having a platform to house the data centre.

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10. The floating data centre park according to any one of claims 1-7 wherein each of the floating data centre modules is a semi-submersible having a platform to house the data centre.

15 11. The floating data centre park according to any one of claims 1-7 wherein each of the floating data centre modules is a jackup rig having a platform to house the data centre.

20 12. The floating data centre park according to any one of claims 1-7 wherein each of the power supply modules comprises:

a power plant; and
a sea water chiller plant.

25 13. The floating data centre park according claim 12 wherein the power plant is a dual-fuel engine comprising gas engine generating heat to spin a gas turbine and a steam engine generating steam to spin a steam turbine, the spinning of the steam turbine and gas turbine is translated to power supply.

30 14. The floating data centre park according claim 13 wherein the sea water chiller plant is a heat absorption chiller.

15. The floating data centre park according claim 14 wherein the heat absorption chiller produces a chilled water to be supplied to the data centre.

35 16. The floating data centre park according claim 15 wherein the heat absorption chiller utilises a hot water or steam from a steam generator of the steam engine.

40 17. The floating data centre park according to any one of claims 13-16 wherein the power line for receiving power supply comprises a first power line, a second power line and a switch between the first and second power lines, the first and second power lines are connected to the data centre in the floating data centre modules in parallel, and the switch is operatively close when both gas engine and steam engine are supplying power

and operatively open when either one of gas engine and steam engine is not supplying power.

- 5 18. The floating data centre park according to claim 17 wherein the dual-fuel engine is configured to supply at least 2 times of the power required to operate the data centre and can be expressed in the following expression,

$$2 \times P = X + Y1 \text{ and } Z$$

- 10 where, P refers to power supply from each of the dual-fuel engine, X refers to power drawn by the data centre, $Y1$ refers to power drawn by a power and cooling unit for cooling the data centre and Z refers to remaining power that can be exported to a national grid.

- 15 19. The floating data centre park according to any one of claims 1-18 further comprising solar panel mounted on a top deck of the FDC modules, and roof of the modular data centre pier and modular power supply pier, generating additional power supply.

- 20 20. The floating data centre park according to any one of claims 1-19 further comprising tidal turbine installed under the modular data centre pier and modular power supply pier to capture under current, generating additional power supply.