be evenly spaced which allows flexibility in the spatial planning of the basement levels and topside levels.

The honeycomb double wall 7602~~0~~ comprises ballast tanks 3 for controlling the buoyancy of the modular structure 200. An active compensating ballast system 780 may be installed to constantly monitor draft and tilt of the modular structure 200 and perform adequate ballasting to keep the modular structure 200 to the specified draft and upright. In some embodiment, an active ballast system might not be required if the live loads (moving loads from humans, vehicles, etc) is considerably small compared to the overall module as the movements will not cause much changes to the draft/tilt of the modular structure 200. In this embodiment, the ballast system 780 would be provided to allow the transportation of the modular structure 200 as well as future relocation possibilities. The size of the bottom hull is dependent on the amount of ballast tanks required to control the buoyancy of the modular structure 200 and in order to carry the load of the top hull and structures above the top hull and this is left as a design choice to those skilled in the art.

As shown in figure 6, the modular structure 200 is hexagonal in shape. Each modular structure 200 can be adjacently coupled together by flexible coupling arms to form a cluster. As illustrated in figures 1 and 2, three modular structures 200 are coupled together to form a cluster. The modular structures 200 may be connected together via rigid or flexible connectors. The rigid connectors will basically link 2 modular structures 200 together to form a cluster. Flexible connectors allow the modular structures 200 to retain some individuality and variations in draft without impeding each other. A flexible coupling arm is an example of a flexible connector. The flexible coupling arm that can be easily installed and disengaged, keeps the modular structures secured at a safe distance from one another and also couples the motions of the each floating platform in the cluster. As more modular structures 200 are coupled together to form a big cluster of floating infrastructure, the overall mass of the floating infrastructure would increase, inevitably increasing the stability of the floating infrastructure making the floating infrastructure less susceptible to wave and tidal changes.

To reduced greenhouse gas emission, the modular structures 200 are manufactured using advanced concrete technology that either takes in carbon dioxide for curing or replaces cement with alternative materials such as metal slags, silica binders and concrete which utilizes recycled concrete aggregates (RCA).

Each modular structure 200 is hexagonal in shape with an area approximately 5,000 square meter (sqm) which can be joined and connected together to form clusters of 3, 6, and 9 or more to form the floating cities. The joining of modular structures can be done at ease with hexagon shape. Shorter lead time is required for the modular units and this allows demand for the floating cities to be fulfilled more efficiently Individual platform has an area of 5,000sqm, which is able to accommodate approximately 2000 occupants and 3 modular structure 200 when connected together can accommodate up to 6000 occupants. The figures may vary depending on how the topside structures are designed, whether they are used more for apartments, offices or other recreational purposes.

The modular floating infrastructure can be scaled and redeployed to locations with different environmental conditions around the world to tackle the issues of climate change. The design of the modular structure hexagon in shaped. Hexagon shaped modular structures are symmetrical from all sides and will result in providing optimum stability and

CLAIMS

1. A modular structure for a floating infrastructure comprising:

a base slab;

a basement slab;

a base cell form between the base slab and the basement slab;

a platform deck;

an external waterproof wall extending from a perimeter of the base slab to a perimeter of the platform deck;

a honeycomb double wall provided along an internal surface of the external waterproof wall;

a bottom hull defined between the base slab and basement slab, wherein the base cell form is between the base slab and the basement slab; ~~and~~

a top hull defined between the basement slab and platform deck; and

a plurality of columns between the base slab and the platform deck wherein the plurality of columns in the bottom hull are evenly distributed within the honeycomb double wall and the plurality of columns in the top hull are not evenly distributed.

2. The modular structure according to claim 1, wherein the base cell form is configured to have bee-hive like configuration.

~~3. The modular structure according to claim 1 further comprising:~~

~~a plurality of columns between the base slab and the platform deck.~~

~~4. The modular structure according to claim 3 wherein the plurality of columns extend from the base slab to the platform deck and are evenly distributed within the honeycomb double wall.~~

~~5. The modular structure according to claim 3 wherein the plurality of columns in the bottom hull are evenly distributed within the honeycomb double wall and the plurality of columns in the top hull are not evenly distributed.~~

3~~6~~. The modular structure according to claim 1 further comprising multiple levels in the top hull.

4~~7~~. The modular structure according to claim 1 wherein the bottom hull and top hull are hexagonal in shape.

5~~8~~. The modular structure according to any one of claims 1-4~~7~~ further comprising:

a ballast system adapted to monitor draft and tilt of the modular structure and perform adequate ballasting to keep the modular structure to a specific draft and upright.

6~~9~~. The modular structure according to claim 5~~8~~ wherein the ballast system comprises a ballast water pump control system, ballast tanks housed in the honeycomb double wall and ballast water pipes for conveying water to the ballast tanks.