



Underwater cities

Work completed
by students
Baranov Maxim
Fedyukov Maxim

Preconditions of creation

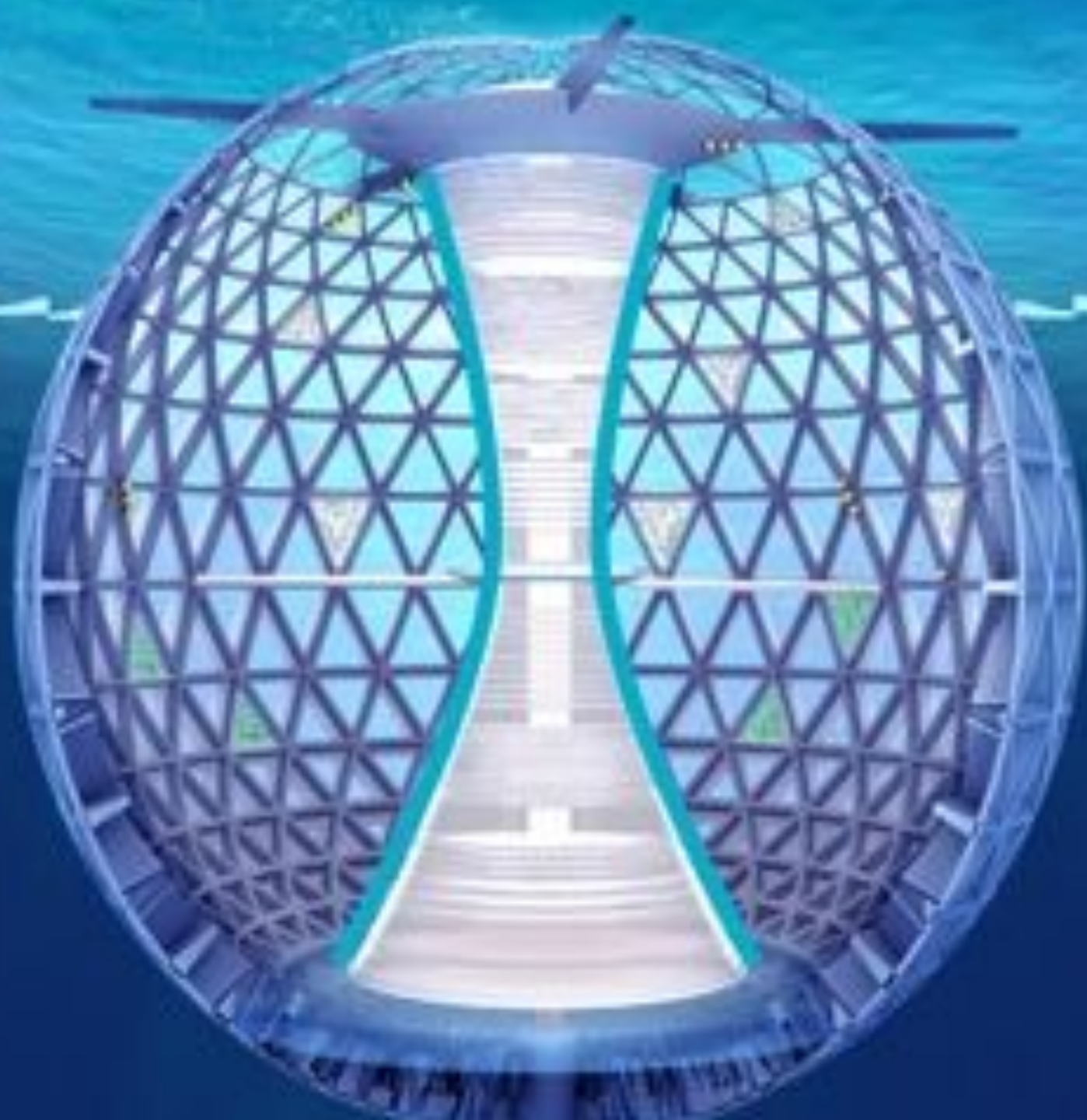
About 70% of the Earth's surface is covered by ocean, and it has **a huge potential for the development of mankind**. Unused depth, you can populated by peoples who will be engaged in business and research, to develop the technology. Underwater cities to help cope with the **problem of the growth of the sea level and the lack of territories**.

Appearance

Underwater city will be of a **sphere with a central core**, which will house residential, research and tourist complex. Also, the city is located the hospital, several dining rooms and restaurants. The main occupation of the inhabitants of the city will study in various branches of science.

How will build the scope?

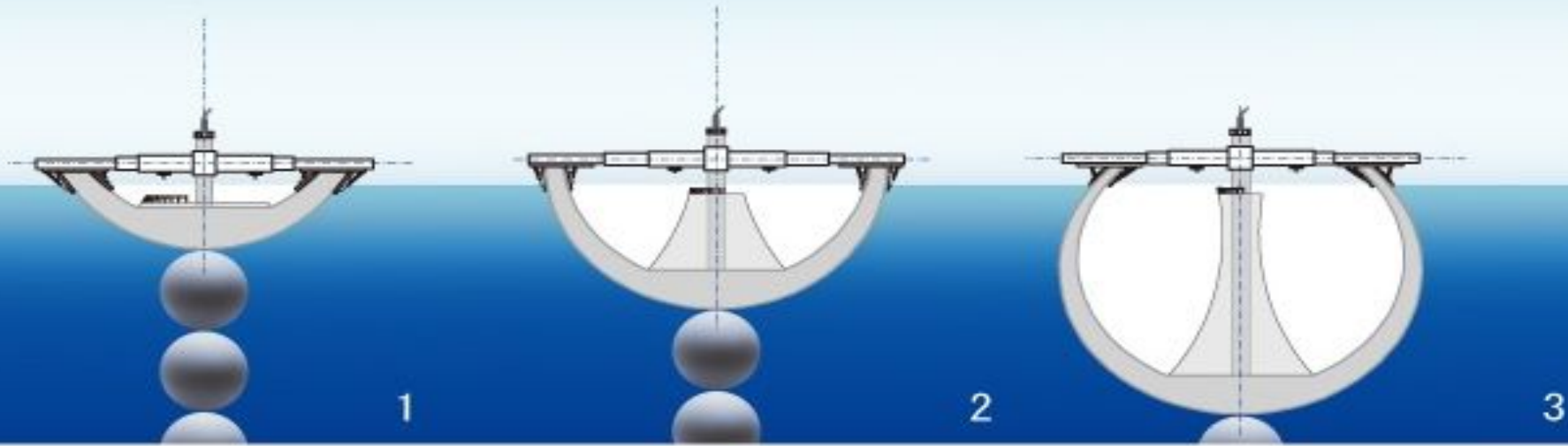
The diameter of the spheres - 500 meters. It is necessary to take into account the water pressure and choose the most suitable materials. As long as you **plan to use concrete**, reinforced with a special material from exhaust their plastic bottles. Triangles with 50 meters edge will be glazed acrylic.





Constructing

The scope will be built in part on the surface of the water. Will adjust the depth by means of three smaller spheres filled with ballast. When the sphere is lowered to the desired depth, it secure with piles coming from a few supports.



日常時

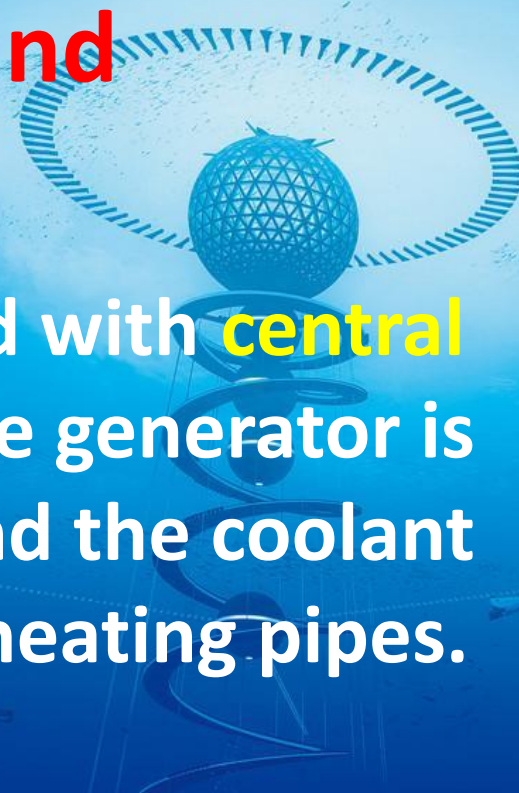
台風時

メンテナンス時



スーパーバラストボール
砂と空気により
球体上下動を制御

Life support systems and heating systems



All rooms in the city will be equipped with **central water heating systems**, in which the generator is located above the water surface and the coolant will be transported by the central heating pipes.

From the heating duct will go along the pipe inner diameter sphere and increase the temperature in the city in the daytime. At night, to conserve power, it will turn on only the internal heating.

Energy

The main source of energy is solar and wind power, located at the top end of the city, above the water surface.

Also on the water surface will be located all the other life-support systems of the city for easy access staff in case of an accident and to avoid possible flooding of the city.

Hot and cold water supply systems

Water for water supply systems will be taken from the surrounding ocean and pass through desalination plants. Then, as in the case of central heating water supply system to be used.

Sewerage

The background of the slide is a deep blue underwater scene. In the upper right, there is a glowing, spherical object with a grid-like pattern, possibly a bio-inspired structure or a futuristic device. Below it, a spiral structure descends towards the bottom. The overall aesthetic is high-tech and futuristic.

Sewerage system will be complicated: all internal drains will be collected in one main.

This drain will go to one main treatment plant, located near the base of the sphere. Then, after prolonged treatment, **wastewater will be disposed of in the ocean.**

Electric power supply

The background of the slide is a deep blue, textured underwater scene. In the upper right quadrant, there is a glowing blue sphere with a complex, geometric, crystalline structure. Below the sphere, a dark, spiral-shaped structure descends into the water. The overall aesthetic is futuristic and high-tech.

Electricity in the underwater city will be supplied by the central power cable from the surface, and then through the station in the city distributed to consumers. Artificial lighting sphere day will be subject to availability of solar weather and the ability of light to pass through the water column and the transparent gaps sphere shell. The night will include only the exterior side lights to save energy sphere.

Ventilation and Air conditioning



Fresh air for underwater city will be downloaded by fans over the surface of the water, **then pass through the central ventilation duct pass under the scope of the dome.** Incoming air from the channel will circulate on a circular path and go through the hood, which will also be located under the dome sphere. **Then, the exhaust air is discharged through the second ventilation duct to the outside** through the second blowing fan.

Waste disposal system

All household waste produced as a result of vital activity of the inhabitants of the sphere **will be retrieved to the surface by means of a lift truck garbage schedule.** Then it will be shipped to the garbage barge and taken to the mainland for processing.



Supply consumer goods

All the people of consumption goods will be transported by sea to the port of the sphere of the city. Then they will be down by the freight elevator and distribute consumers.