modular dome buildings
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The globular system

The globular system was designed to enable modern, dome-shaped buildings that are efficient in terms of their construction and energy consumption, as well as being earthquake and storm proof, to be built all over the world within a short period of time.

The domed construction is based on standardised formwork elements that are attached on site to a stanchion on top of a base. After that, window openings are positioned at optional points around the perimeter. Reinforcement bar, sprayed concrete, PU insulation and UV protection are added to the formwork in turn. After the spray concrete has dried out, the formwork elements are removed from inside. The outer shell of the building is now complete.

The required building materials, such as concrete, reinforcement bar, etc., are sourced locally. No expensive construction machinery, cranes, scaffolding or heavy haulage is necessary. Four people can construct the shell of the building within two working weeks.

The room layout is created using optional building materials.

All the material required for the construction is shipped in two 40-foot containers:

- Base formwork (20 segments)
- Tripod stanchion
- Cover formwork (20 segments)
- Reveal formwork (10 openings)
- Auxiliary tools and small components

Simplified illustration of the construction phases (1–5)
The different modules

Thanks to the sophisticated modular technology, the round globular building with a floor area of 108 m² can be extended using straight inserts.
Because of its shape, it also offers an ideal range of combination options: the buildings can be interlinked or merged with each other.
The key benefits

Stability
The spherical globular structure can withstand earthquakes and hurricanes and therefore provides maximum safety for the residents.

Individuality
By not having weight-bearing walls, the floor plan design can be free and flexible. Built-in cupboards, room doors, partition walls, light switches, sockets – everything can be positioned individually and can be rearranged easily and cheaply if requirements change.

Time savings
Construction of the entire outer shell (starting from the base plate) will only take four people two weeks.

Material savings
All the construction materials needed for the globular building, such as concrete, reinforcement bar, etc., can be purchased locally – expensive imports are eliminated. Thanks to the dome-shaped construction, up to 30% or more can also be saved in building materials in comparison to cornered buildings!

Energy savings
The sustainable materials are thermally effective and the favourable domed shape encourages natural circulation of the air, which then improves the climate within the rooms. This has a positive impact in winter by lowering heating costs and in summer by creating a pleasant climate!

Construction
The formwork is easy to handle and the shell of the building can be built by four people within two weeks, without heavy construction machinery, cranes or scaffolding. In addition to the structural benefits, the rounded shape prevents accumulations of water, meaning that, in general, no water damage occurs or damage from freezing in cold weather. The concrete facade and the high-density roof as well as the range of different materials used, such as the mechanical protective layer/PU and plastering, provide optimal acoustic soundproofing.

Transport
The entire equipment needed for the construction of a globular building fits in two 40-foot containers.

Perfect integration
The globular building can be covered with earth, to be planted over with vegetation, for example. It is suitable for sloping locations and can be embedded perfectly into the landscape.

The team
From left to right: Jan Peterhans, René Trottmann (creator), Nils Planzer, Christian Scheibel
globular buildings are suitable for all economic regions

Location South America
globular buildings are suitable for all economic regions.

Location Europe
Possible uses

Living 01

Rooms: 3.5 rooms
Internal diameter: 11.5 m
Internal room height: 4.1 m
Area: 108 m²
Living 02
- Rooms: 3.5 rooms
- Internal diameter: 11.5 m
- Internal room height: 4.1 m
- Area: 108 m²

Double garage
- Internal diameter: 11.5 m
- Internal room height: 4.1 m
- Area: 108 m²
Hall
- Internal diameter: 11.5 m
- Internal room height: 4.1 m
- Area: 108 m²

Wellness pavilion
- Internal diameter: 11.5 m
- Internal room height: 4.1 m
- Area: 108 m²
Internal diameter 11.5 m
Internal room height 4.1 m
Area 108 m²

Office

Children’s nursery

Internal diameter 11.5 m
Internal room height 4.1 m
Area 108 m²