

# ADAPTIVE RE-USE OF BUILDINGS

## (Tropical Island)

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## ATY2



What once was an airship hangar for the German company, CargoLifter AG, is now a transformed gigantic tropical island, located in the former Brand-Briesen Airfield in Krausnick, in the district of Dahme-Spreewal in Brandenburg, Germany. The Tropical Islands Dome is the largest free-standing hall in the world: it is 360 metres long, 210 metres wide and 107 metres high.

The structure is constructed of steel that supports an arched membrane roof.

The structure has two giant doors, each weighing 600 tons, which consist of six moveable segments. They were designed to allow the airship to come in and out of the hangar. The doors are no longer in use, with the recent transformation.

When the air hangar was adapted for reuse as 'Tropical Island', a section of the steel construction was replaced with a foil roof. This allowed ultraviolet light through to the interior.

The steel barrel-bowl construction was made to measure for the production and operation of heavy lift airship, and was constructed using approximately 14,000 tons of steel.

The roof's surface measures 70,000 m<sup>2</sup>. It is able to hold a large amount of rain and snow that falls on it.

The heating system allows the structure to keep constant temperatures in the air. There is over 5 million m<sup>3</sup> of air to keep constant heat.



In the tropical island resort, the constant temperature of the air is 25 degrees Celsius and the humidity is 40-60%. These temperatures allow the perfect condition for various plants from over the world to live and grow. To maintain the various temperatures, a complex climate control and irrigation system is installed. There is also under-floor heating in the Lagoon and the Tropical Sea area.

An indirect lighting system has been installed in the dome, which provides enough light into it, even throughout dull winter months.

There are 7,000m<sup>3</sup> of water in the tropical sea (28 degrees Celsius). The lagoon is 32 degrees Celsius. The pools are actually constructed of stainless steel, because it provides optimum hygiene. The vast amount of water has a quality equivalent to that of drinking water, due to the water being cleaned by the latest ozone filter technology.



## HISTORY

I thought it would be a good idea to include a little bit of history about the area that the air craft hanger was built. I found it interesting because it shows it still has its place in history, even after it was adapted into the Tropical Island Resort.

### 1938 -1945

The site is built as a military airfield for the Luftwaffe's Brand-GubenPilot Training School. Towards the end of the Second World War, the airfield is used by the transport air force in preparation for air-land operations. After 1943/44 it also serves as an alternative airfield for the fighter arm of the Luftwaffe. In Spring 1945, it is involved in operations by the front air units of the Wehrmacht.



### 1945

The Soviet Army occupies the airfield and one of the first and largest

military airports in the German Democratic Republic is created. In addition to its function as a military airport, the site also serves as an airport for state visits from the former USSR. On October 17, 1963, a Russian Tupolev airliner lands carrying the cosmonauts Valentina Tereshkova and Yuri Gagarin.

### 1992

The site is managed by the Federal State of Brandenburg. Waste, such as kerosene tanks and abandoned ammunition,



### 1998

The site is purchased from the Federal State of Brandenburg and various former owners by the company CargoLifter AG. The company's plan is to turn the former military airfield into a modern, peaceful location for lighter-than-air technology.

### 2002

CargoLifter AG announces insolvency.

### 2003

The Malaysian consortium PLC/Colin Au buys the site and creates theTropical Islands resort in the former airship hang-

## References:

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