

WILLIAM VERSTRAETEN

IKKE

B I G

T H E

الدوحة



الجمهورية العربية السورية

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THE  
DOHA  
IGIRAMA

T H E

B I G

T R E E

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T H E

D O H A

I G I R A M A

الإمامية

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الدوحة

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## ABOUT I G I R A M A

I G I R A M A ( formed from Greek "earth" + "sight") is a word given by the Dutch artist WILLIAM VERSTRAETEN to describe the work of art which he developed from 2003-2009.

First presented in 2010 in Middelburg, The Netherlands and in 2011 in New York City, the I G I R A M A is the classical panorama and the contemporary skywalk combined in a new, twenty-first century artwork. While the classical panorama places the horizon around the spectators like a lasso, the I G I R A M A manages to capture the spectators in a magic bubble by placing them high above the world. From an elevated point of view photographs are taken horizontally and vertically. The mirror-printed, extremely high quality, photographs are mounted on the inside of a dome shaped construction which is then placed upside down 5 feet above a mirrored floor. When entering the I G I R A M A the visitors experience the sensation of walking at the same height the original photographs were taken from. The I G I R A M A is accessible for more than one hundred visitors simultaneously at the same moment.

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# THE DOHA IGIRAMA

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## ABOUT WILLIAM VERSTRAETEN

William VERSTRAETEN °1951 is an artist and curator working and living in Middelburg, The Netherlands. Since 1975 he had numerous exhibitions and commissions. His realized commissioned works won several international prizes and awards and he received many subsidies and grants including, among others, from the Netherlands Foundations for Visual Arts, Design and Architecture. From 1990 onwards, he has specialized in creating works of art for places in society where the contradictions are persistent and emotionally charged; open wounds and often with mayor social interests. It takes several years for each project to be completed; therefore he works on different projects at the same time, with themes ranging from terrorism to nuclear power to sustainability - the world's future. As a curator he has organized many exhibitions in several different locations. In 1979 he founded De Vleeshal in Middelburg, a foundation that realizes contemporary art exhibitions and projects.

The sun rises over the earth:  
The image of PROGRESS.

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Thus the superior man himself  
Brightens his bright virtue.

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The light  
of the sun rises over the earth is by nature clear. The higher  
the sun rises, the more it emerges from the dark mists, spread-  
ing the pristine purity of its rays over an ever widening area.

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The real nature of man is likewise originally good, but it  
becomes clouded by contact with earthly things and there-  
fore needs purification before it can shine forth in its native  
clarity.



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The Sidra tree, endemic to Qatar, is a beloved icon in Qatari history and culture. A tough tree, able to thrive in Qatar's desert-environment with minimum maintenance. The fruit, flowers and leaves of the Sidra, whose deep roots allow it to flourish in harsh desert climates, were components in many traditional medicines. Many families have lived with the Sidra tree in their gardens. It provides shade from the sun and beautifies the desert landscape. The Sidra tree was a retreat for poets and scholars, who gathered beneath its branches to discuss and impart knowledge. Finding one anywhere else would be difficult.







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CONSTRUCTION OF THE I G I R A M A

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PHOTOGRAPHY

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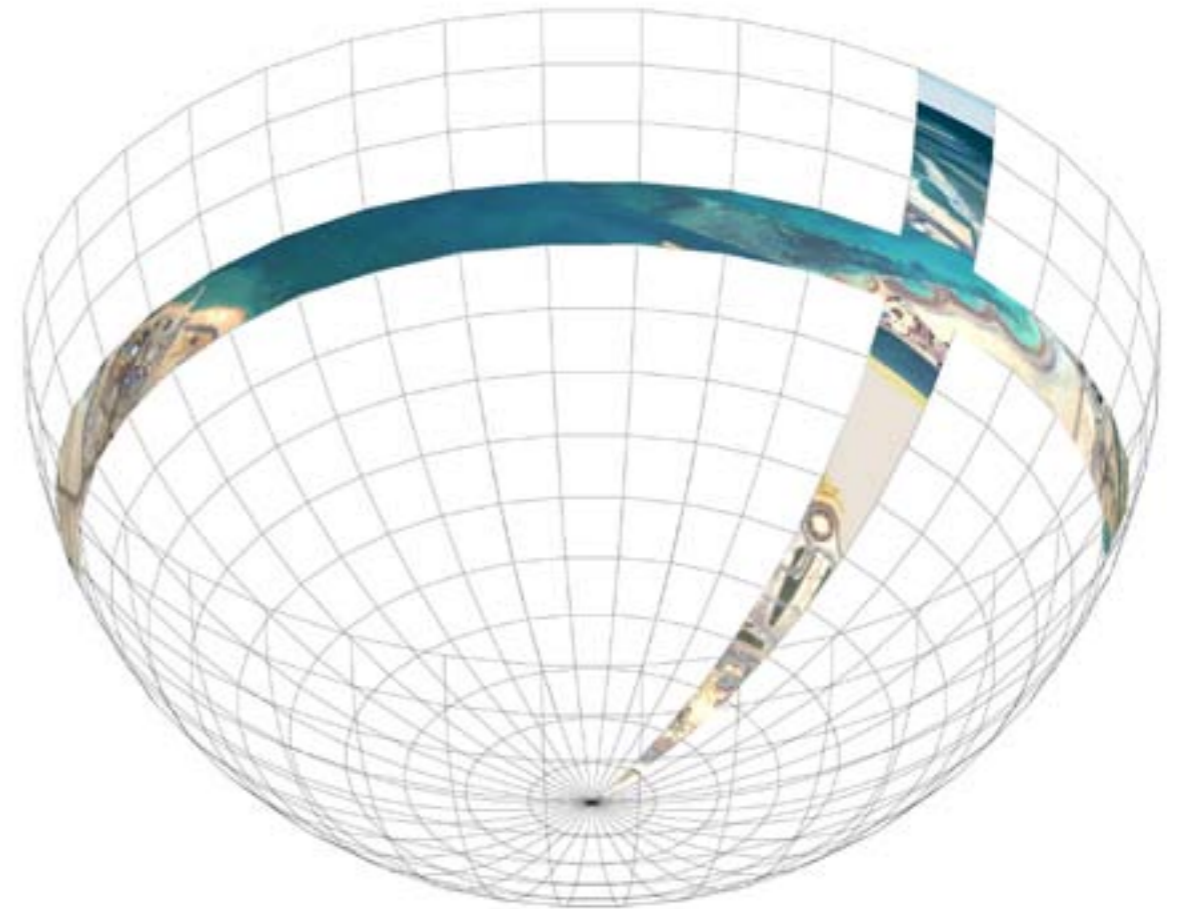
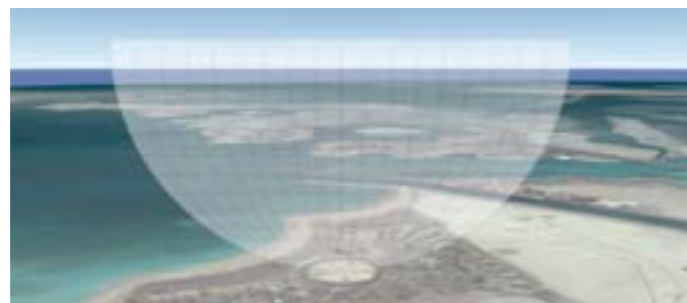
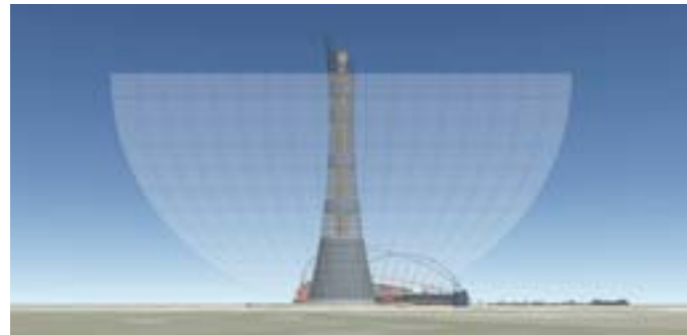
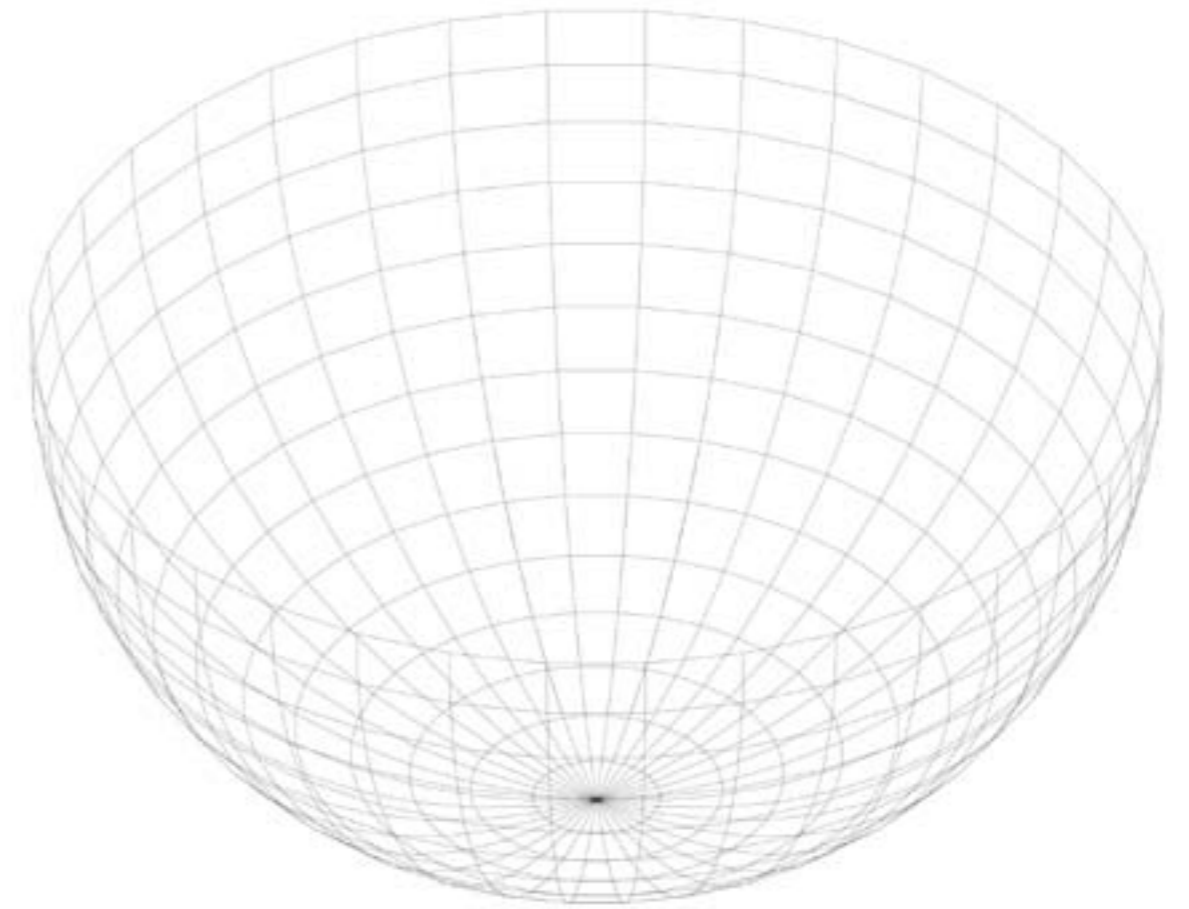
A panorama seen from a high position has the shape of a gigantic bowl. However high your position, the horizon is always at eye-level.

The panorama will be reconstructed by means of photography.

The horizon will be divided in 36 parts. Each horizontal photo will show  $10^\circ$  of the horizon with an overlap of  $1^\circ$  on both sides. Moving vertically from the horizon down to the foot of the building we divide it into 14 photographs. Each photo will show  $8^\circ$  from the horizon down to the foot of the building. Also with an overlap of  $1^\circ$  on either side.

The whole panorama will be built up of  $36 \times 14 = 504$  unique photographs of 14 different shapes.

An I G I R A M A can be made from any existing tall structure, building of any height, but also from above any place without.





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## MAKING A MODEL FOR THE DOHA I G I R A M A

using images from Google Earth Pro







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ACCESSIBILITY OF THE IGIRAMA

The panorama can now be viewed from the brim.

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But visitors should be able to fully experience the panorama.

To stand IN it.

To stand ABOVE it.

To share the experience of standing 1000 feet above the City of Doha with family, friends and loved ones.



- AND PLACE IT ABOVE A MIRROR FLOOR

- PRINT IT IN A MIRROR IMAGE

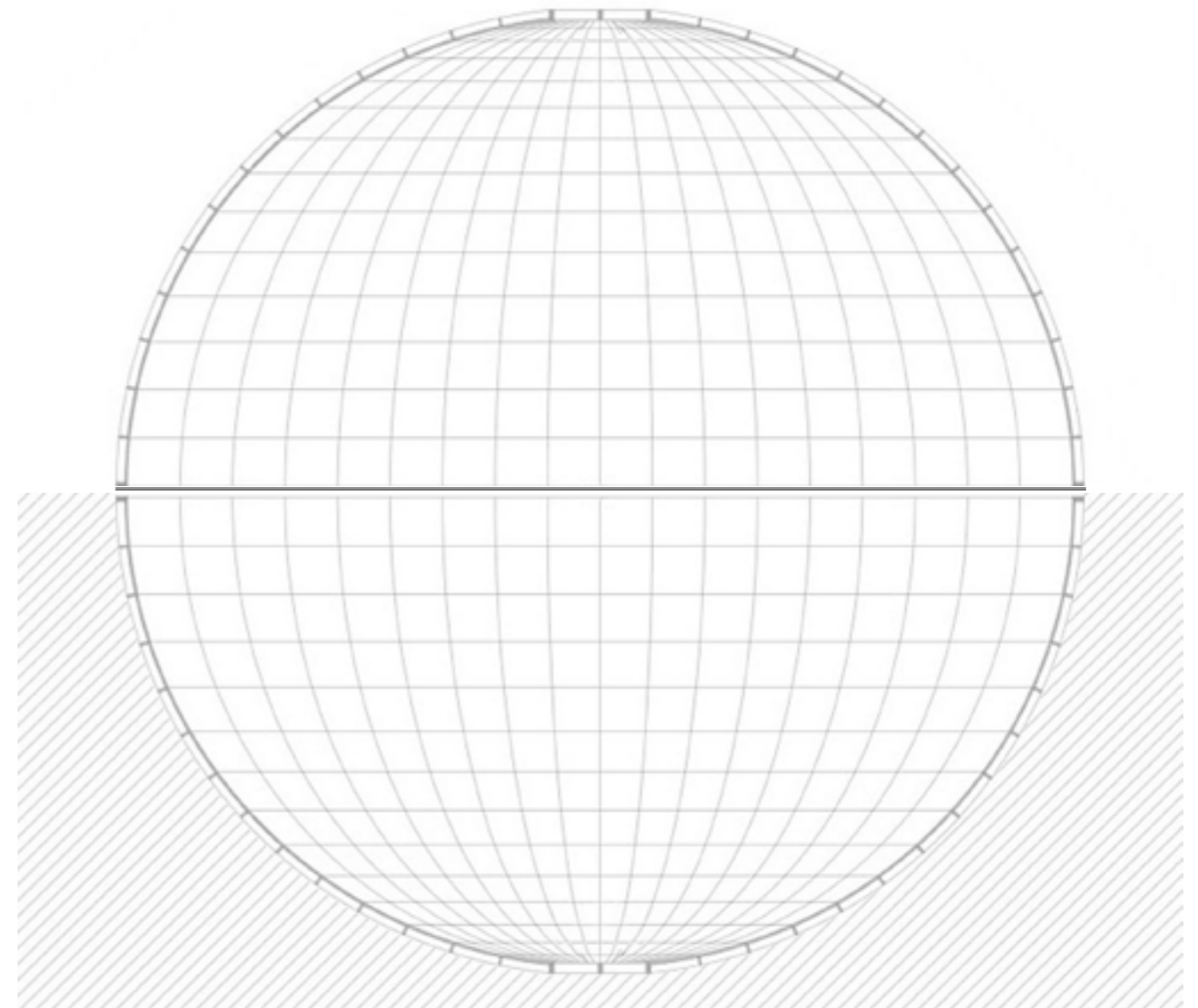
- I TURN IT UPSIDE DOWN

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- I TURN IT UPSIDE DOWN

- PRINT IT IN A MIRROR IMAGE

- AND PLACE IT ABOVE A MIRROR FLOOR

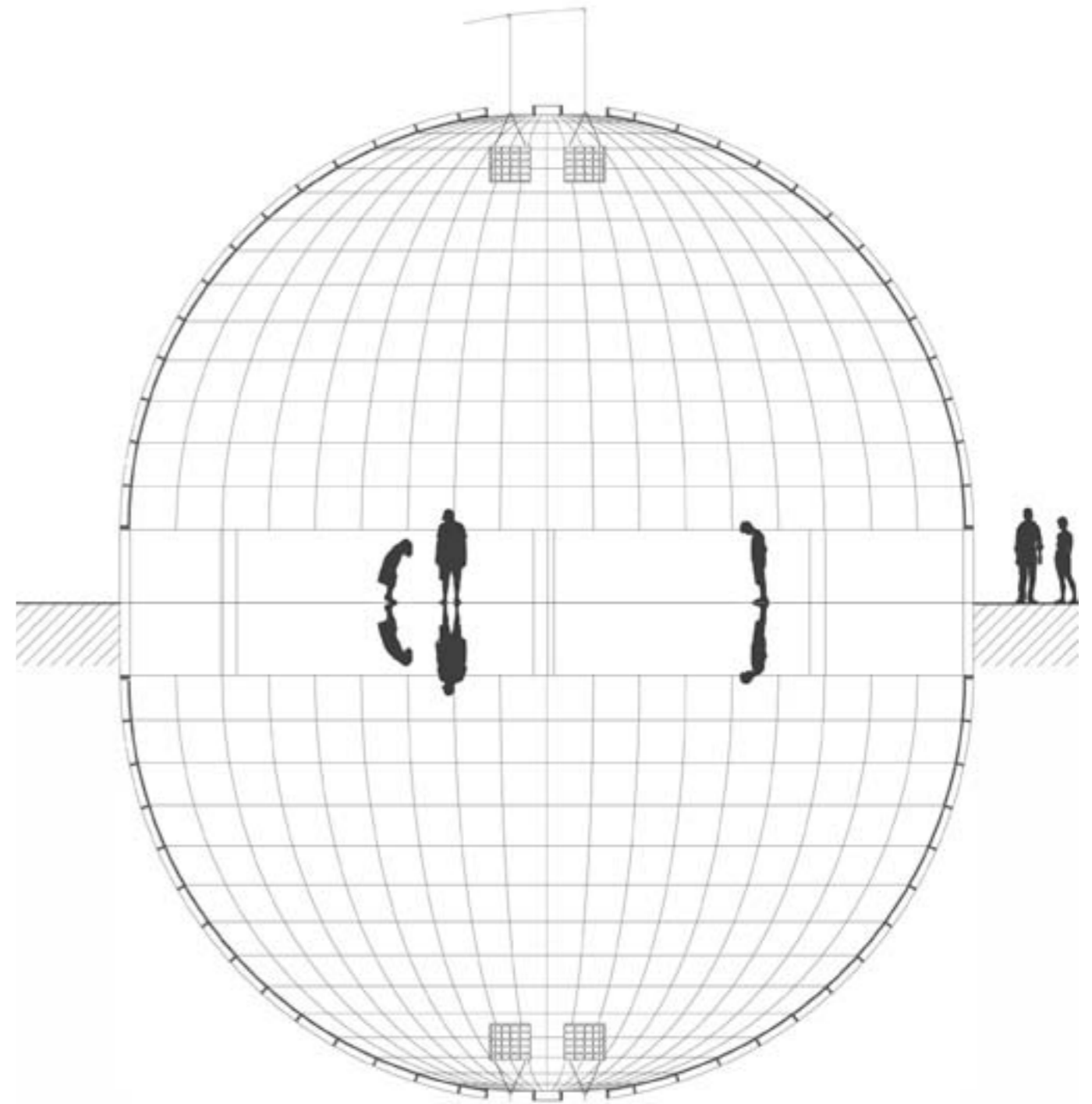


The main theme in the design of the dome is coming into the I G I R A M A. Several options for entering were considered. The possibilities can be ordered according to three main principles: through the floor, through the wall or between the floor and the wall. Because of the mirror floor it is not possible to enter the panorama through the floor. Nor is it possible to make an opening in the wall without losing information from the panorama.

The ultimate solution is to raise the I G I R A M A 4,6 foot above the floor. In this way the floor and the panorama remain intact and the visitor can enter from all sides.

The visitor has to bend to some extent, so that his immersion in the panorama becomes complete.

By raising the height by 4,6 ft. it is now possible for wheel chair users to enter the panorama.





Visitors to the I G I R A M A will experience the sensation of walking on air 1000 feet above the Amphitheater of Doha.













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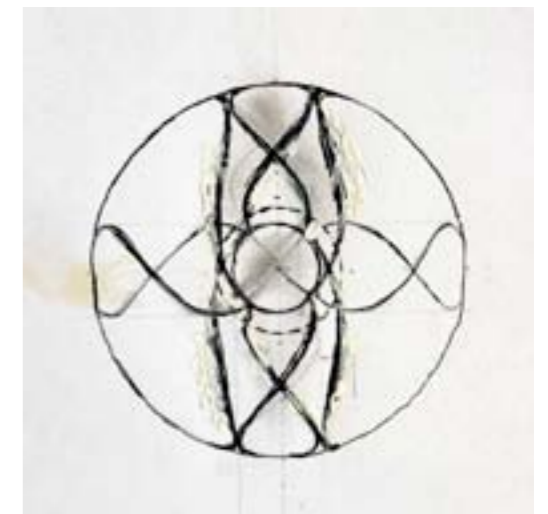
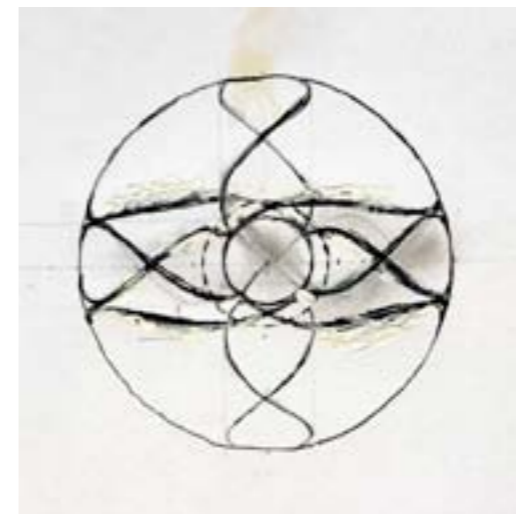


CONSTRUCTION OF THE DOME

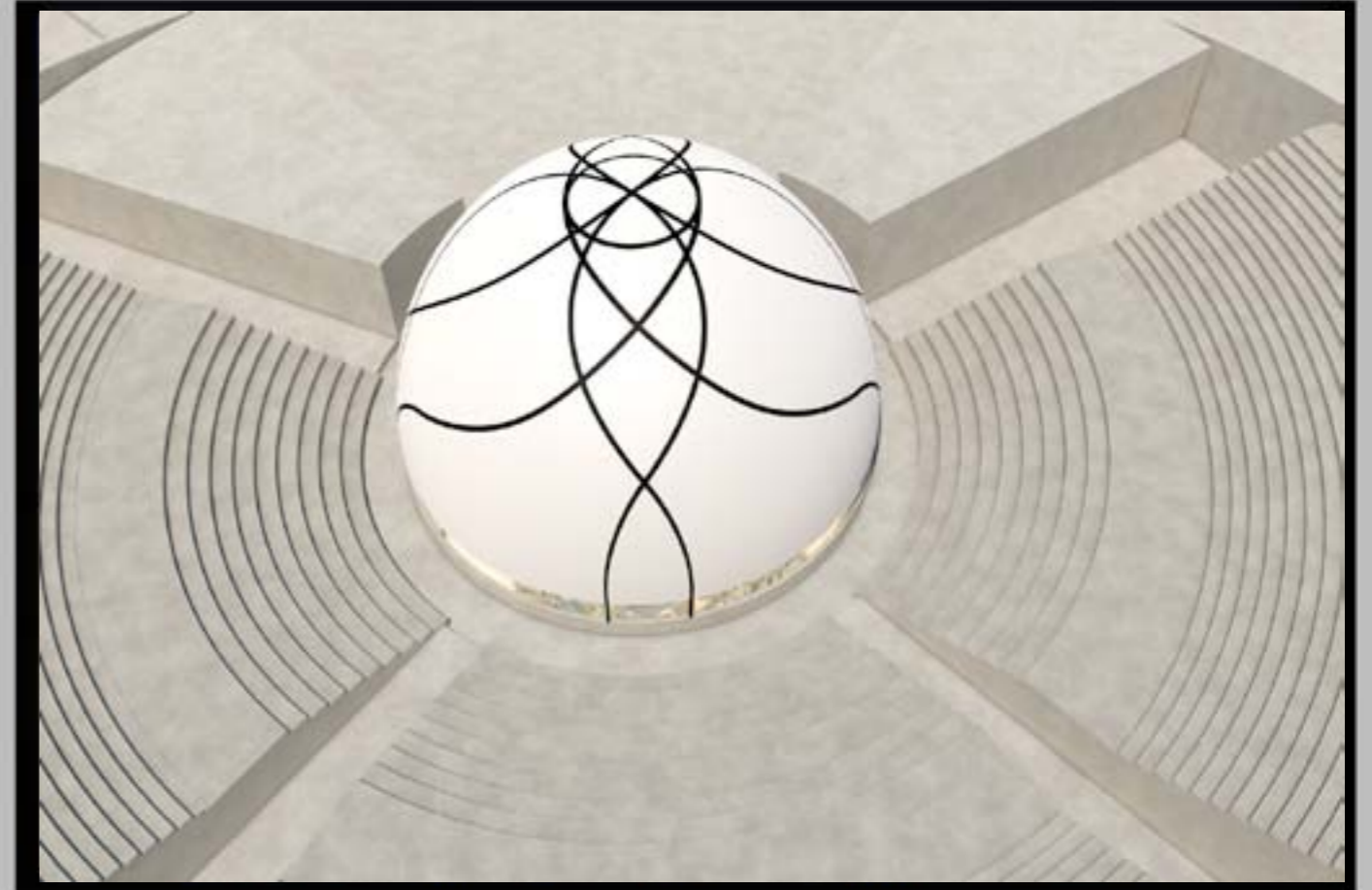
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The dome will be constructed according to the time and place where it will be erected. Each city and place will demand its own form and materials.

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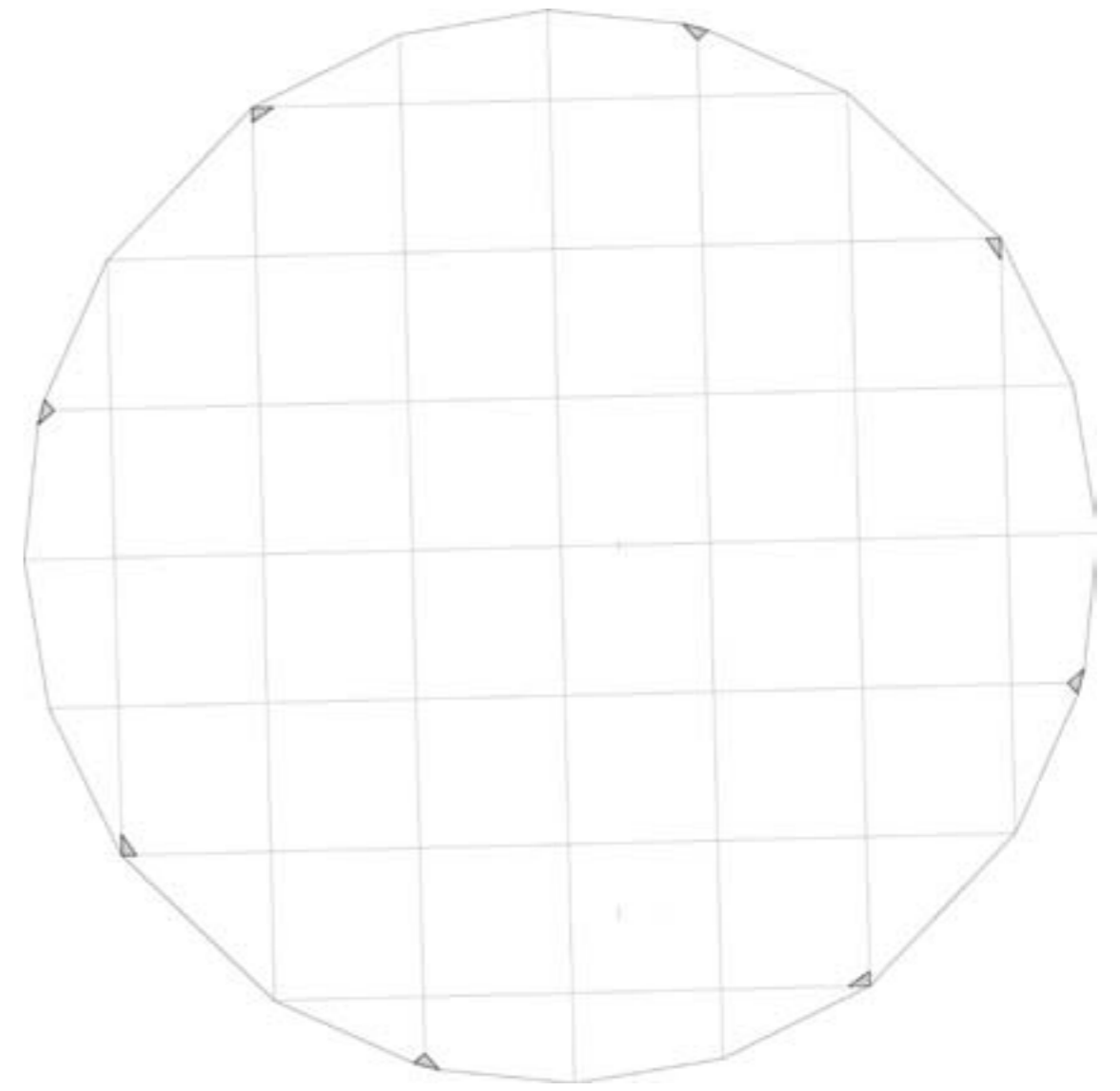


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MIRROR FLOOR

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βιοβιοποιουαλλη αυη ηματ νο ριεακαθε αυ οσσυε·  
 ωηηοι βηαεε ευεηυεε ηματ ημε ασηλε ροιεεε ωηη ρε ηαυεωηηηεε  
 εηρηηοοι· Α ηαλει οε υεοβηευε ρεημεεη ημε ουεουεε αυη ημε  
 υα· ημε βηαεε αιε βηαεε ου α ηηυε οωμει ηηοαεε ουεουεε  
 ημεεε βηαεε αιε αηηηεε ιο εαση οημει ρλ ωαλ οε βλβ ηαωη·  
 ηωμεε ρλ α ε ωω· ωηηοι αυη ηηαηηλ' α ηο ωω· θηαεε βηαεε·  
 ωηηοι· ημε ηοβ ηαλει ηε αυ εηηα εηεαη' ε ωω θηαεε βηαεε ηοη·  
 ημε ωηηοι ηηοοι ηε ωαεε ηβ οε ηωο θηαεε βηαεε αυη ουε  
 εεεηεε ιο α ωηηωηω·  
 οε ημε ουηηωεε ευεηυεε ηματ ωαεηαεε οε ημε ωηηοι βηαεε ηε  
 α θοοε ουεουεεηου· ημε ημοηε αηηαυθεωμει αυη ημε εηαβε  
 ευεε ιο ημε εωμει αυη ωαηηηηε ημε ουηηωεε ηηαυθηηαι ημεεε ηε  
 βλ αηηωηηηε ημε βαηηεηη οε ημε ωηηοι ηηοοι ιο ηοηαε ωηη ηεηεη·  
 ημεεε βαηηεηη εο υοη ουεουεεηου εηηεεηηλ·  
 ουεουεεηου ωηη ημε οηηοθουαι βαηηεηη οε ημε ωηηοι βηαεε·  
 εηηεεηηηλ' ημε ηαηηαη βαηηεηη οε ημε εε-ουεουεεε εωμει ωηηε  
 ιο ημε ωηηοι ηηοοι αυη ιο ρε αηηε ιο ουη ημε ωηηοι βηαεε  
 ηο ευεηυεε ηματ ημε ουηηωεε οε ημε βαυοηαωα ουεουεεηουεε  
 εηηε εοηε·  
 ηοοη ου ημε ωηηοι ηηοοι· ημεεε ραηουεεε εηεο ηαλε αυ αηηη·  
 ωεαι εβεεηαηηλ εεεηηηεε ραηουεεε εηηεβηεεε ρεηοηε ηηελ εεη  
 ηο βηοηεεη ημε ωηηοι ηηοοι ημε ηηεηηοηεε οε ημε βαυοηαωα ωηηε  
 αυη θηαεε ( α θοοε ραηαυεε ρεημεεη ουεε αυη εηηεεεηου)·  
 ρηη ηε ουεεηεεηαηηλ ωοηε εηβεηεηηε ηματ οημει ωαηεηαηεε)  
 εηεε· Αηηηηηε ( ηοο εοηη)· βοηηεηεε εηεεη ( α βεηεεεη εηηεεεηου  
 εηηηηηε ημε εεεηηεηη βηοεεεε εεηεηαη ωαηεηαηεε ωεηε ουεεηεε-  
 ηηοοι ωηηε ρε βεηεεεηηλ εηωοηη αυη ηματ·  
 ιο εεβηαεε· ηο ασηηεε αυ εηεεηηεηη ηεηαηηηεεηηου ημε ηυεηε  
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 ηηε ου αυη εεηαηεη ηεεηεηαηη· ηοηεεεηεη' εηηοηηε ημε ωηηοι  
 ημε ωηηοι ηηοοι ηαεε ιο ρε ηηεηηηε ηεηεεεηηε' εηηηαηηε ηοη ωαηηε-



The mirror floor has to be highly reflective, suitable for walking on and scratch resistant. Moreover, should the mirror floor get damaged, the damaged mirror plates must be easy to replace. To achieve an excellent metallization the under floor must be perfectly smooth and flat.

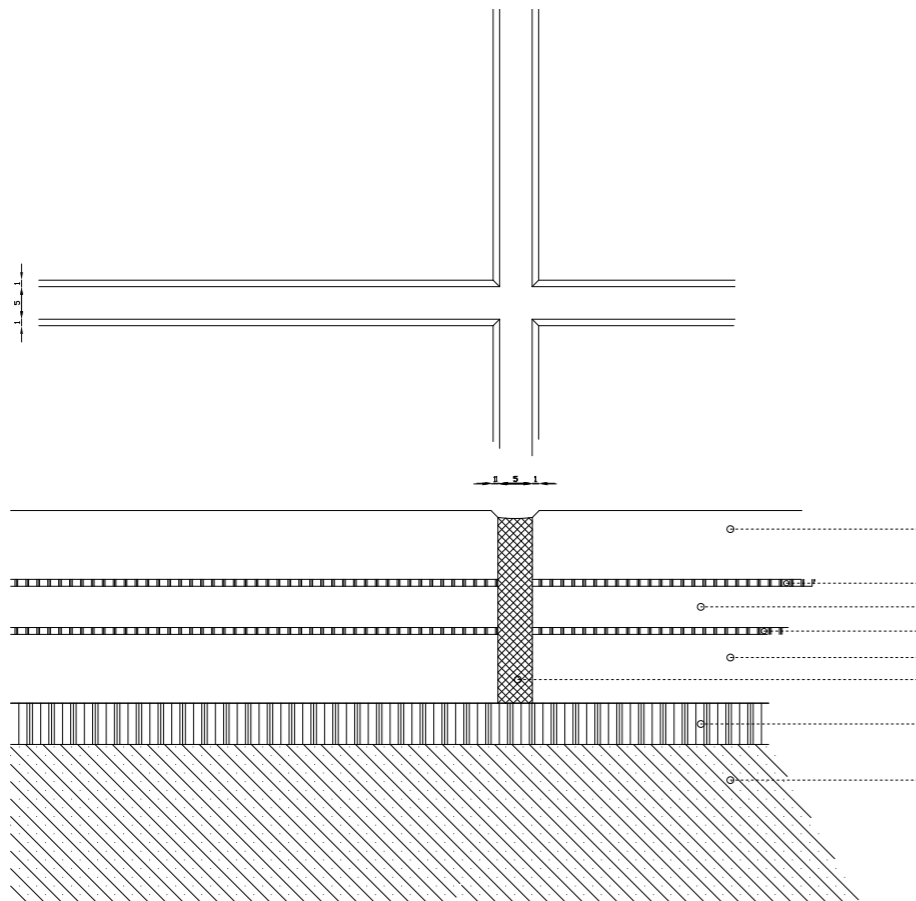
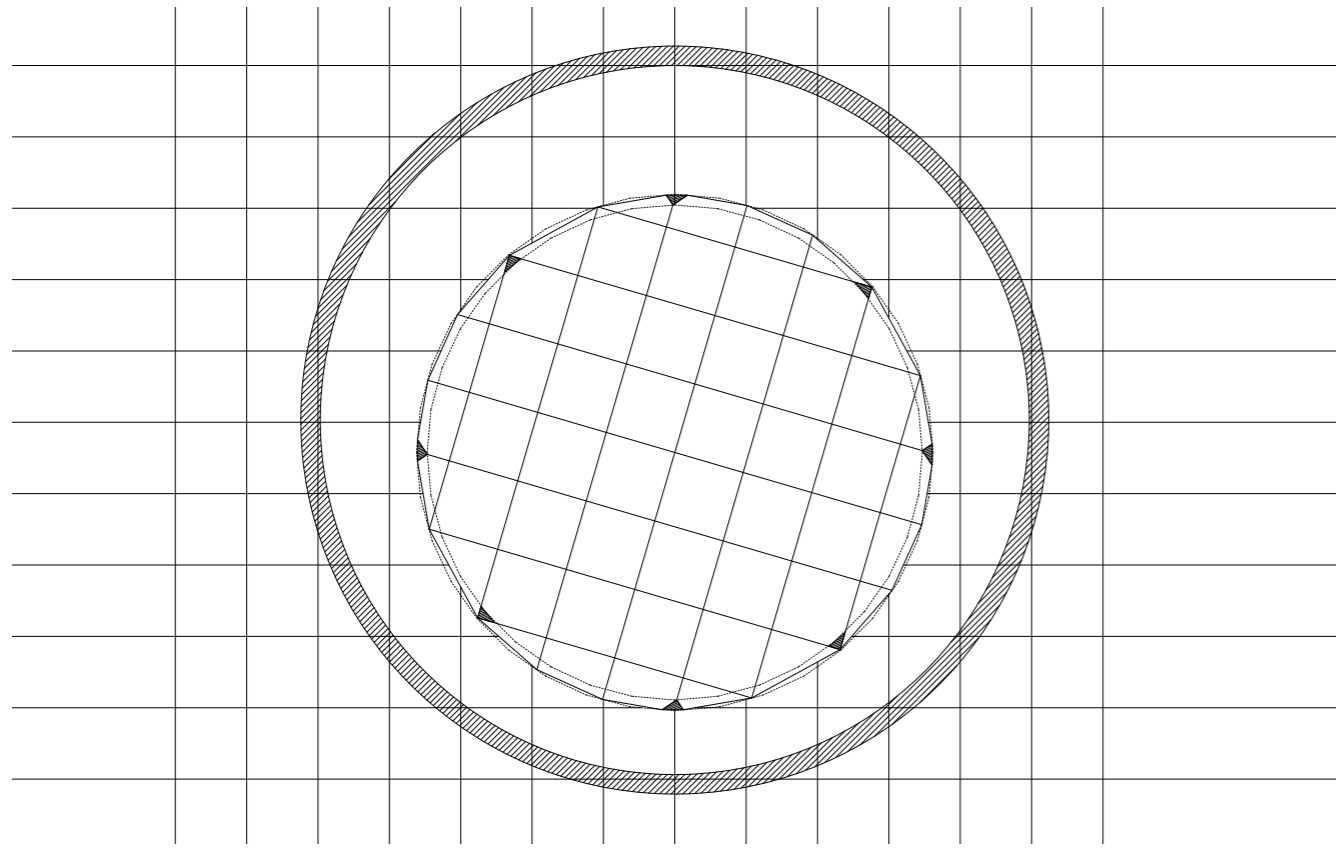
During the design process several materials were considered. Acrylic ( too soft), polished steel ( a perfect reflection but is considerably more expensive than other materials) and glass ( a good balance between cost and reflection).

To protect the mirror floor the visitors of the panorama must wear specially designed babouche slippers before they set foot on the mirror floor. These babouches also have an anti-skid sole.

To ensure that the columns of the I G I R A M A corresponds to the mirror floor and to be able to cut the mirror plates efficiently, the radian pattern of the 36-cornered dome must correspond with the orthogonal pattern of the mirror plates. These patterns do not correspond directly.

By allowing the pattern of the mirror floor to rotate with reference to the dome and making the columns triangular there is a good connection. The whole arrangement and the shape of the columns ensure that wastage of the mirror plates is reduced to a minimum.

The mirror floor is made up of two glass plates and one mirror. The top layer is an extra clear, 8 mm glass plate followed by a 6 mm. mirror and finally, a 10 mm. glass plate. These plates are affixed to each other by way of PVB lamina. The plates are placed on a fine power floated concrete subfloor. A layer of neoprene between the concrete and the mirror plates ensures that the active forces will be transmitted proportionally and that no breakage can occur.



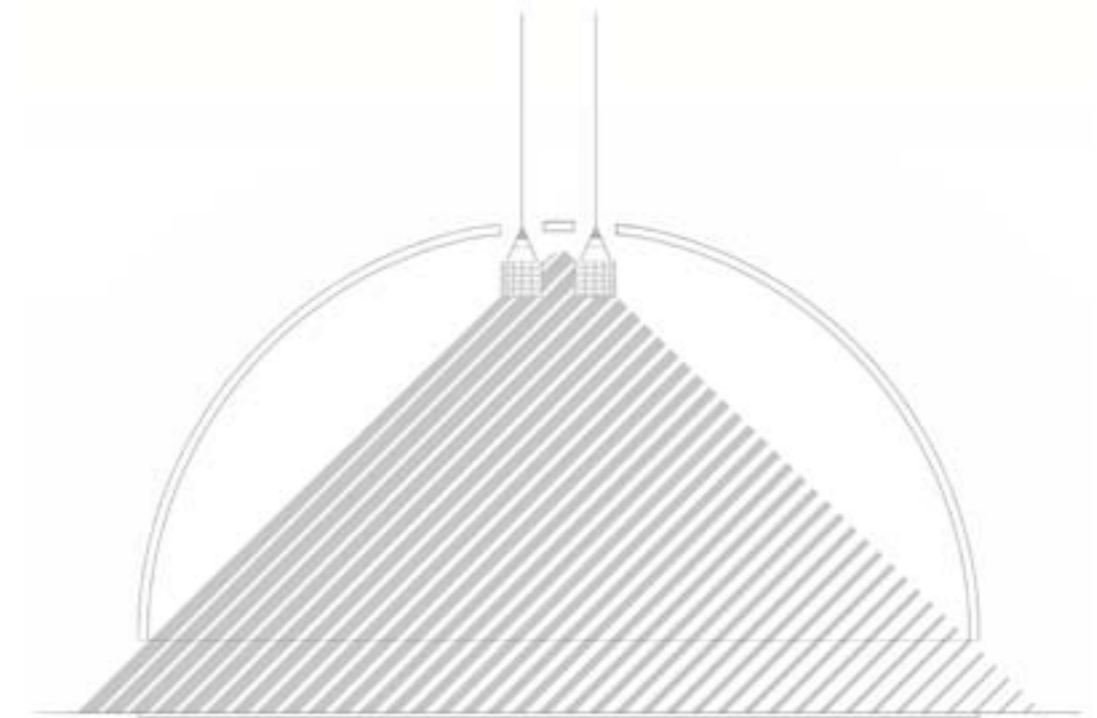
LIGHT



To do justice to the panorama an even, bright lighting is required. Most importantly, the lighting must illuminate the dome without dazzling the spectators and without forming shadows. To achieve this, the lighting must illuminate only the inside of the dome without light striking the mirror floor.

Several lighting concepts and luminaires were considered. A number of solutions are worked out in the DialUX light simulation program. The chosen solution consists of two luminaires of 5 layers with LED lighting. The two luminaires are suspended in the top of the dome.

The amount of light and the fine-tuning of it will ensure that the illumination of the whole panorama is even and bright. A translucent disc under the luminaire prevents direct light from striking the mirror floor, thus preventing shadow and dazzle. The strength and quantity of the LED lighting can be adjusted at a later stage if necessary. The whole fixture can be hoisted down for maintenance work on the valve or if lamps need to be replaced.

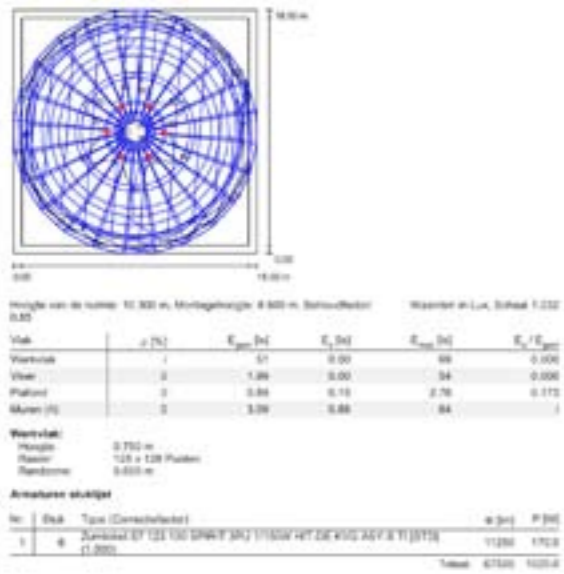


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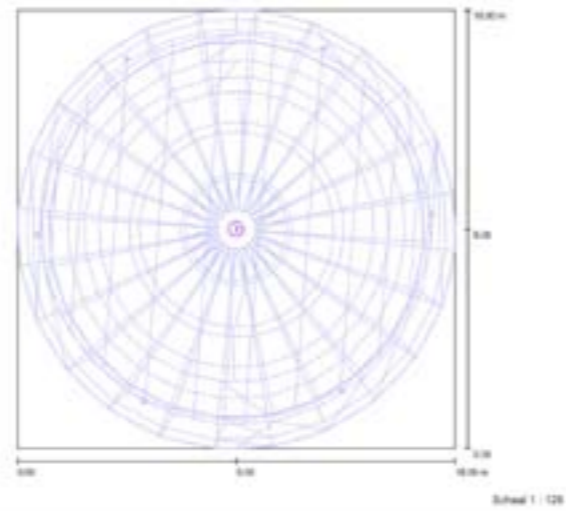
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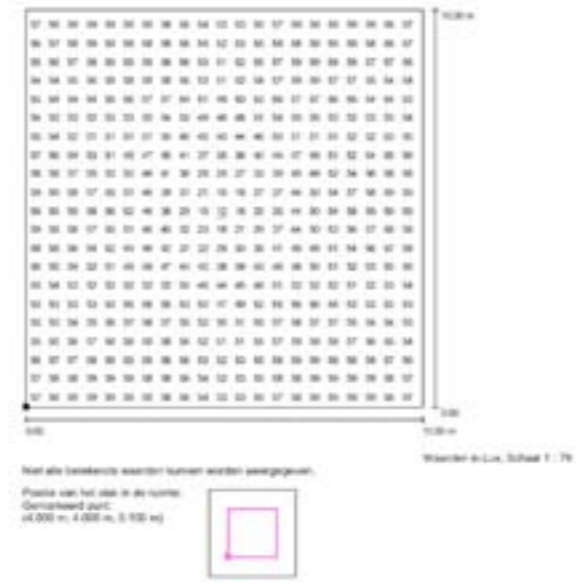
Ruimte 1 / Samenvatting



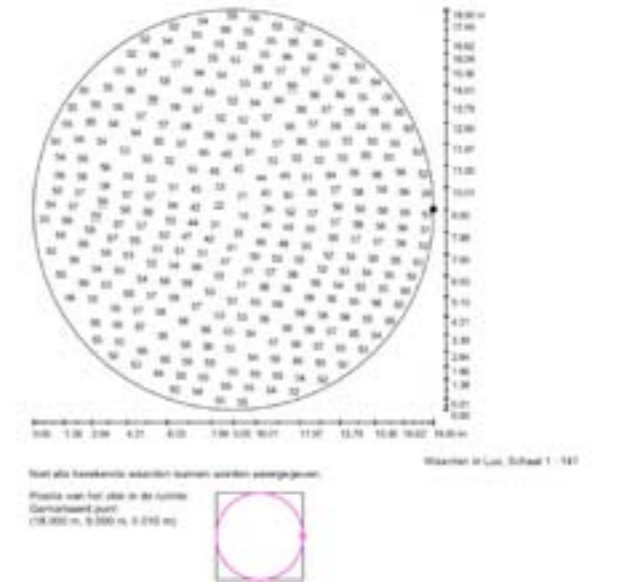
Ruimte 1 / Objecten (positieschema)



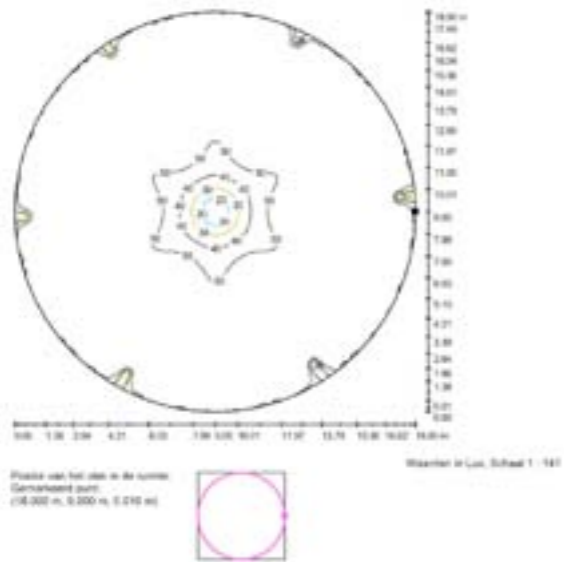
Ruimte 1 / Beekingsvlak 1 / Waardigrafiek (E, perpendicular)



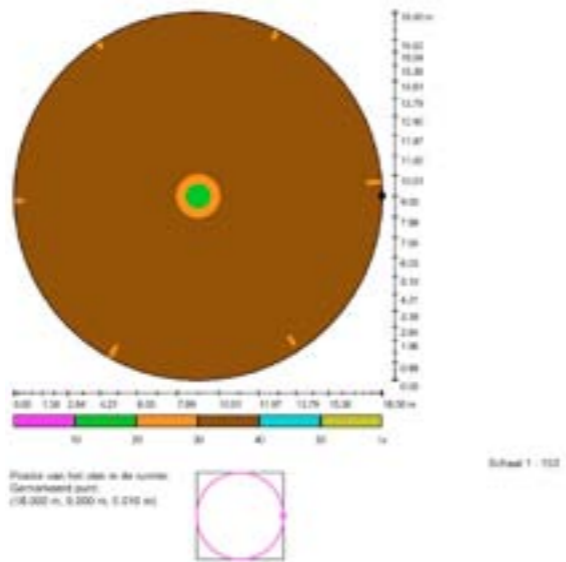
Ruimte 1 / Verticale cilinder / Vloer / Waardigrafiek (E)



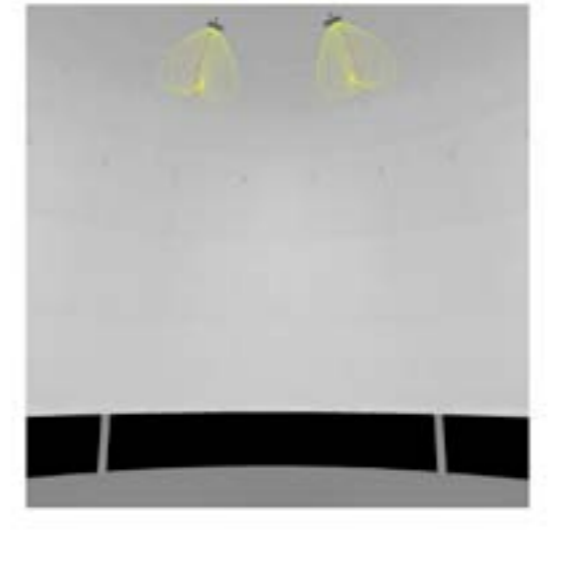
Ruimte 1 / Verticale cilinder / Vloer / Isolijnen (E)



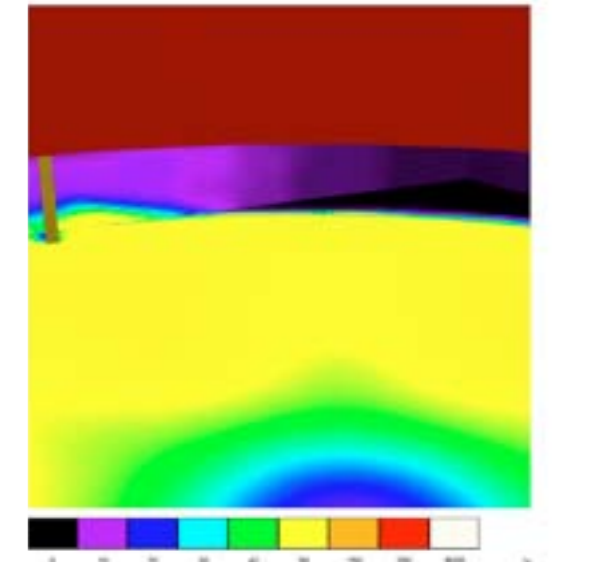
Ruimte 1 / Verticale cilinder / Vloer / Grijsstones (E)



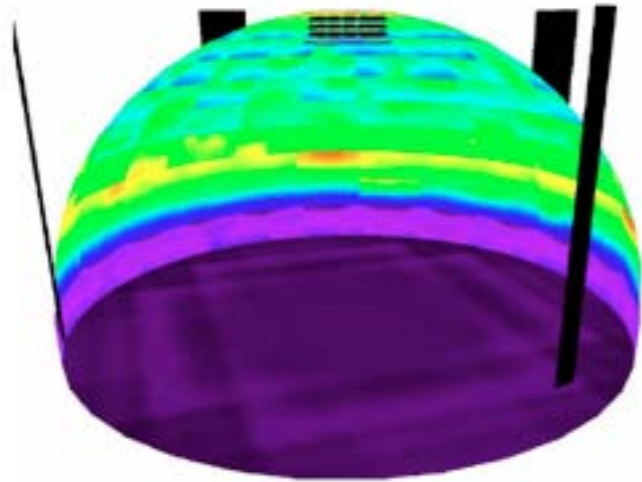
Ruimte 1 / 3D Rendering



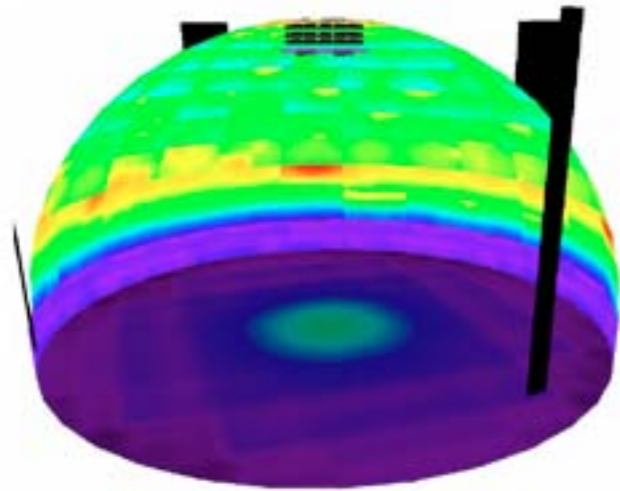
Ruimte 1 / Rendering onjuiste kleuren



a ) without direct light



b ) with direct light



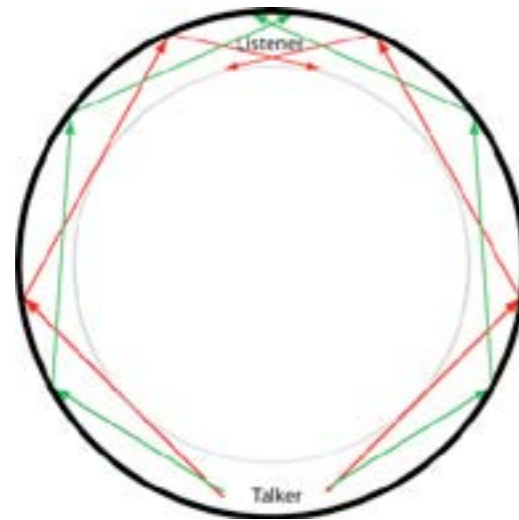
SOUND

The I G I R A M A will be a so called 'whispering gallery'. And also a 'echo chamber'.

A whispering gallery is a gallery beneath a dome, vault, or enclosed in a circular or elliptical area in which whispers can be heard clearly in other parts of the building.

A whispering gallery is usually constructed in the form of an ellipsoid, with an accessible point at each focus.

When a visitor stands at one focus and whispers, the line of sound emanating from this focus reflects directly to the dish/focus at the other end of the room, and to the other person with whom he can hold a whispered conversation. Circular whispering galleries may provide "communication" from any part on the circumference to the diametrically opposite point on the circumference.



Many guide books mention the incredible acoustics in the Gol Gumbaz Mausoleum in Bijapur, India: it is both a whispering gallery and an echo chamber where sounds can be heard repeating 7-10 times.

This vast 17th century mausoleum is certainly visually imposing, after all it includes the second largest dome of its type in the World. However, the acoustics are even more impressive than the structure itself. Getting to the whispering gallery underneath the dome involves climbing a hundred or so steep, crumbly steps. If you go early enough in the day, before the crowds start to arrive, then you can test out the whispering gallery. Sound clings to the inside of the dome so a whisper



can be heard nearly 40m away on the other side of the gallery: it's as though the speaker is talking from just over your shoulder.

However, if you get here after the crowds have arrived then the soundscape isn't so serene. The subtle whispering effect is lost by the sounds of endless whooping and shouting as visitors test out the echo in the gallery. We've all heard echoes, and so this may not immediately strike you as being remarkable in any way. However the repeating nature of the echo in this building is very unusual and serious tourists should do their best to try and experience it. Sound keeps bouncing around the dome, so that the sound whizzes past your ear 3 or 4 times a second. At quiet times this repeating echo can be heard 7-10 times before it becomes inaudible.

St Paul's is a circular whispering gallery. In this case, sound hugs the walls, allowing it to move from one side of the room to another without losing too much volume – the diagram shows some of the paths that the whispers take around the perimeter of the gallery.

St Paul's Cathedral is an iconic building in the centre of London. High up in the central dome is a Whispering Gallery. Climb 259 steps inside the dome, stand on one side of the circular gallery and talk very quietly and your speech can be heard quite clearly on the other side some 30 m away.

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THE BIG TREE / THE DOHA IGIRAMA WILLIAM VERSTRAETEN

IGIRAMA TEAM

William Verstraeten Artist / Director IGIRAMA  
Bas Kennis Advice / Music  
Ivo Wennekes Photography  
Mark van der Graaff Art in Print  
Arjen Weijers Website / Movie  
Derk Thijs Architect  
Magnuss Svensson Architect  
Drazen Krikovic Architect  
Janne Wolterbeek Website / Movie

IGIRAMA Documentary

Margot Schotel Director  
Henri Berlize Artdirector / camera  
Jan van Eerd Sound engineer  
Annemiek van der Hell HELL-O-FILMS / producer  
John Appel Advising

Photographs

William Verstraeten  
Janne Wolterbeek  
Henric Borsten

Design pattern dome

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Book Concept & Design

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William Verstraeten

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التراب الكبير

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T H E

B I G

TREE

WILLIAM VERSTRAETEN