



WORLD WIDE WEAVE

Metamorphosis of a country

Woven transparency as symbol for advancement and openness

As gateway to Africa, Libya has had an eventful history since its formation. Numerous wars and conquests, but also the controversial reforms by head of state Muammar al-Gaddafi, shaped the beautiful country at the Mediterranean, which is five times the size of Germany and has been in a self-inflicted slumber for decades. Since the end of the international isolation in 2004, the desert country has been in a state of advancement. Extensive oil and gas exports are the backbone of its booming economy, which wants to tap additional growth potential by cautiously opening the door to tourism. With over 2,000 kilometres of Mediterranean coastline, magnificent ancient ruins and picturesque dunes in the Sahara desert, Libya can offer a virtually untouched paradise. Numerous building projects transform the capital Tripoli into a modern commercial metropolis, whose architecture bears witness to a new self-image. The Tripoli International Convention Center - finished in February and created by the Istanbul architects Murat and Melkan Tabanlioglu - serves as an example. The reduced use of forms resulted in a prestigious meeting place, whose semi-transparent cladding with multiple slits, made of bronze-coloured metal mesh, bestows a mystical character upon the building. In front, a transparent media facade made of Mediamesh® becomes the striking symbol for a new form of communicative openness.

With numerous large-scale projects, including the Turkish Pavilion at the EXPO 2000 in Hanover and the Dogan Media Centre in Ankara for the



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largest Turkish media group, the architectural office Tabanlioglu made a name for itself at an international level. Murat Tabanlioglu, who manages the office with his wife Melkan since 1994 and who studied at the Technical University in Vienna, relies on the communicative power of architecture, combining the site characteristics and specific object requirements in a globally valid manner. The Tripoli International Convention Center is located in a large park with mature trees. Tabanlioglu designed it as two-storey, sharp-edged building with recessed glass cladding and projecting roof structure, subtly integrating the natural environment.

Inspired by nature

The long-stretched block is enclosed on a large scale by bronze-coloured metal mesh made by the internationally leading technical weaving mill GKD – Gebr. Kufferath AG. Originally, the architects intended to use fine-meshed bronze fabrics, type Mandarin. This approach contradicts the typical bronze characteristics – tarnishing under the influence of oxygen. For this reason, GKD developed an optically equivalent - though permanently colour stable – solution by painting stainless steel mesh type Kiwi in the desired bronze colour. Sophisticated tests confirm the permanent brilliance, UV and weather resistance of the painted mesh. In Tripoli, 8500 square metres of this mesh, whose soft colour matches the sand of the Libyan Desert, were used. The architect's idea to cut the mesh into more than 500 rhombic and trapezoidal shaped panels in different sizes presented a particular challenge. To keep cost and time expenditure within reasonable limits, GKD transferred the shapes of the individual panels onto the fabric by means of latest laser technology. The precision-cut panels were attached to the façade in Tripoli in such a way that different slit sizes - seemingly at random – were created according to an elaborate pattern specification. Their



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arrangement takes on the structure of bark from the surrounding pines, making the woven surface look natural.

Enhanced functionality

The semi transparency of the filigree mesh provides privacy from the outside world, yet allows diffuse daylight to enter the large interior. From there the view of the surrounding landscape – which melts into the column tree - is unobstructed. Despite this visual transparency, the textile membrane prevents exposure to direct sunlight during the day and serves as fully functional sun protection, transforming the wind into an even, mild airflow which ensures pleasant natural draft-free cooling. The distance of the mesh to the glass cladding is such that an air conditioned passage between glass and mesh is created, whose cooling effect results in a long-term reduction of the building's total cooling load. In the evening, the woven membrane unfolds its special kind of magic. As soon as the buildings are lit up on the inside, the light permeates through the slits and mesh and gives the façade the appearance of a forest flooded with light, entering into a fascinating symbiosis with the surrounding trees.

Spectacular communication platform

Depending on occasion and mood, **Mediamesh®** having been installed next to the main entrance provides additional spectacular impulses. 350 square metres of stainless steel mesh with interwoven LED profiles medialise the façade in the area where international representatives will enter and leave the building. Nine panels of **Mediamesh®**, each 12 metres long and 3.22 metres wide, have been harmoniously integrated into the bronze-coloured mesh membrane in front of the glass cladding. The high resolution of 292,400 pixels ensures perfect video quality. The LED profiles interwoven at a vertical distance of four centimetres, were equipped with light diodes



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every 4.25 centimetres. They transform the transparent membrane into a media façade with a highly varied application range. In addition to individually developed media displays, it is possible to transmit events, conferences or films as live feed onto the medialised mesh. Not only can the playback be used for a stylish reception, but it becomes a live exchange between indoors and outdoors in regard to atmosphere, optics and content. Thus, the deciding factor for the use of **Mediamesh®** was not only the playback brilliance during the day, but also the transparency of the system, which does not obstruct the view and, at the same time, offers effective sun protection. Combined with extreme weather resistance – without cooling it withstands subtropical climate as well as sand storms and strong rain – the innovative medialisation system meets the high demands of the designers also in regard to maintenance.

Representation as active exchange

The complex interaction of the bronze-coloured membrane and the media façade frees the architecture of the Tripoli International Convention Center from traditional representative duties. Nevertheless, the functional simplicity of the design focuses on representation by compensating the structural effect of the building in favour of a dynamic exchange with the environment with due clarity and sobriety. In the process, the robe of metal mesh acts as modern, dialogue-promoting mediator.

6.884 characters with spaces

GKD – WORLD WIDE WEAVE

As a privately owned technical weaver, GKD - Gebr. Kufferath AG is the world market leader in metal, synthetic and spiral mesh solutions. Four independent business divisions bundle their expertise under one roof:



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Industrial Mesh (woven metal mesh and filter solutions), Process Belts (belts made of mesh and spirals), Architectural meshes (façades, safety and interior design made of metal fabrics) and Mediamesh® (Transparent media façades). With its headquarter in Germany and five other facilities in the US, South Africa, China, India and Chile – as well as its branches in France, Spain, Dubai and worldwide representatives, GKD is close to markets anywhere in the world.

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Picture 1: The Tripoli International Convention Center is a representative venue of Libyas economic hot spot.



Picture 2: Tabanlioglu Architects designed a two-storey, sharp-edged building, which subtly integrates the natural environment.



Picture 3: On the front side a transparent Mediamesh® media facade is becoming a striking symbol for communicative openness.



Picture 4: The semi transparency of the filigree mesh serves as a fully functional sun protection and ensures natural cooling.

Pictures 1- 4, 7 © GKD/ Cemal Emden

Pictures 5, 6, 8 © GKD

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Picture 5-6: The arrangement of the rhombic and trapezoidal shaped panels takes on the structure of bark from the surrounding pines.



Picture 7-8: In Tripoli, 8500 square metres of the bronze-coloured stainless steel mesh came into use.



Pictures 1- 4, 7 © GKD/ Cemal Emden
Pictures 5, 6, 8 © GKD

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