

数字水展馆

Digital Water Pavilion

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1 理念

数字水展馆旨在展示萨拉戈萨的现在与未来，交流关于这个城市的体验与信息。萨拉戈萨处于可持续城市发展的关键时期，2008年国际博览会和最近几年内最大的城市更新项目La Milla Digital将在未来几十年内重新塑造这个城市，在西班牙甚至在国际上重新定义其城市印象。

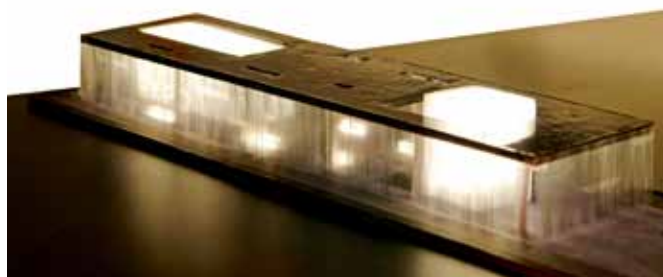
博览会主题为水，而La Milla Digital将关注的焦点放在知识经济的发展上，意在城市环境中达成数字与信息技术的一体化。

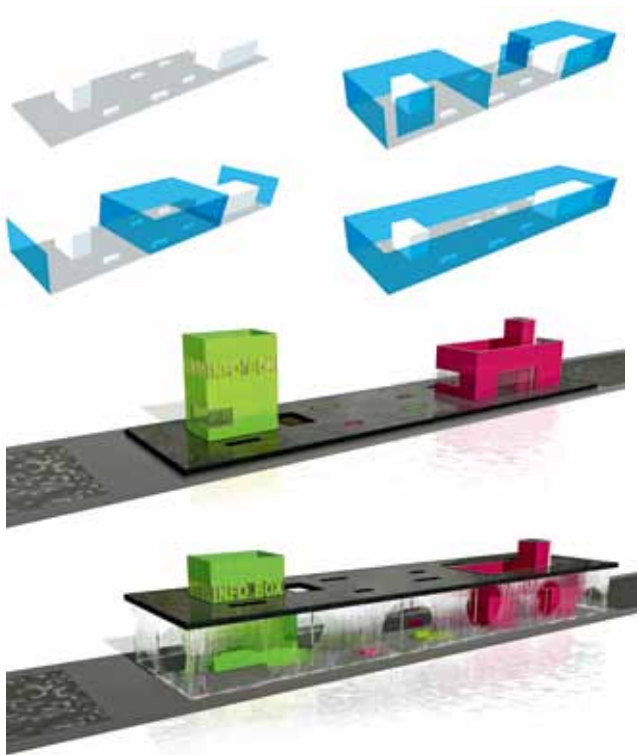
两个项目间的关系在数字水系统的使用中得到体现，“数字水”也可以被描述成一面被数字技术控制的水幕墙：其上可以进行各种形式文字与图案的展示，与传感器相连创造出交互的数字物理环境。

基于Digital Water的特点，它似乎成为传递萨拉戈萨未来的理想媒介。我们打算在新的展馆中对其大力推广，使其成为主要的建筑组成部分之一。

2 景观

展馆成为从Delicias车站延伸到博览会的景观轴Paseo del Agua的一部分。Paseo del Agua在地面与屋顶有两种不同的高度





1 Concept

The Digital Water Pavilion aims to communicate experience and information about Zaragoza, both in its present state and in the future.

The city is living a period of sustained urban growth, with the co-presence of two main projects: the International Expo 2008, ZH2O, and La Milla Digital, the largest urban renovation project in the city in recent years. The two interventions are going to shape the city in the next decades, and redefine its image both in Spain and internationally.

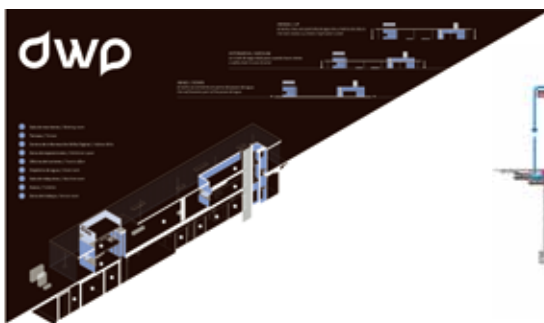
The Expo's theme is water; La Milla Digital focuses on the knowledge economy and aims to achieve a successful integration of digital and information technologies in the urban environment.

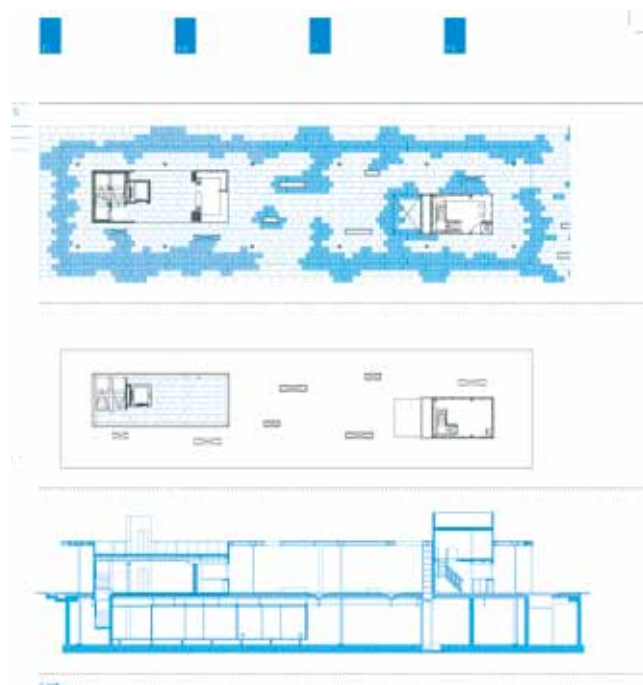
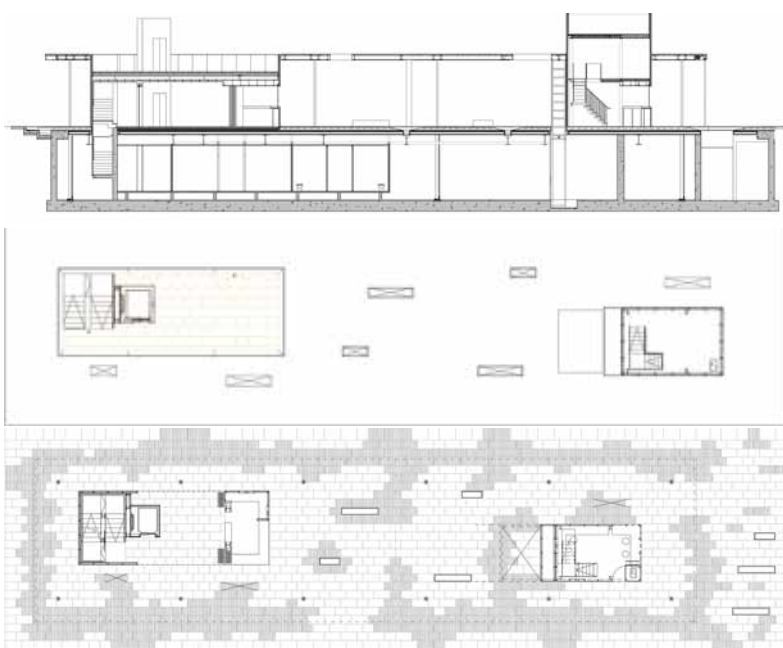
A connection between the two projects could be seen in the use of digital water, as proposed by the Massachusetts Institute of Technology. Digital water can be described as a wall made with a digitally controlled flow of water: it would be possible to deploy writings and patterns on it, as well as connecting sensors to create an interactive digital-physical environment.

Because of its nature, digital water seems the ideal medium to convey Zaragoza's future. We plan to use it extensively in the new pavilion, as one of the main building components.

2 Landscape

The pavilion is conceived as part of the Paseo del Agua, a long landscaped axis running from the Delicias Station to the Expo. The Paseo del Agua is a wet and responsive boulevard on two levels, ground and roof. The change in height corresponds to our pavilion: its wet roof can be seen as part of the Paseo; its moveable structure allows it to relate both to the roof and all the intermediate levels.





水平。高度根据展馆而变化：其湿屋顶也是Paseo的一部分；展馆可移动结构使其与屋顶和所有高度相连。

3 组件

展馆包括以下组件：两个“方盒子”空间（一个12m²的游客问询中心和一个30m²的带楼上平台的咖啡厅），水屋顶覆盖整个330m²的空间。

问询中心和咖啡厅像两个非对称的帮助支撑屋顶的结构柱。游客信息中心的上层在夜晚灯光明亮，远远就能看到它的光辉。而咖啡厅的上层，则成为人们休息并欣赏美景的场所：从Ferrater的Delicias车站到Zaha Hadid的Pabellon Puente和埃布罗河。展馆平台上形成的视觉轴线反映了其成为La Milla Digital和ZH2O之间连接点的目标。

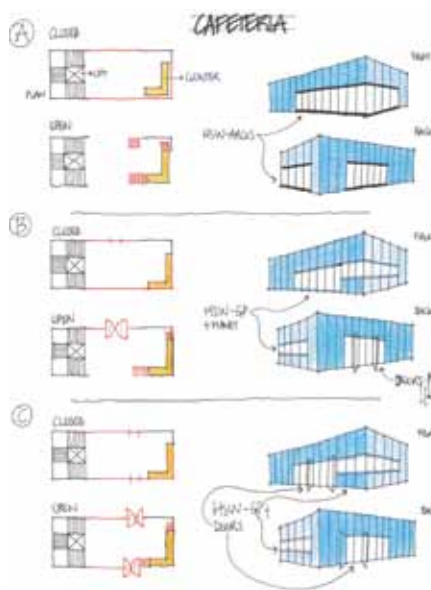
3 Components

The Pavilion contains the following components: two “boxes” (a tourist information point of 12 m² and a café of 30 m² with a terrace upstairs), with a wet roof covering the remaining 330 m².

The tourist information point and the café work as asymmetrical poles, both at a structural level (they help stiffening the roof) and at a more general one. The tourist information point's upper level is lit and can be seen from far away. The café's upper level hosts a dehors, where people can have a seat and enjoy the view: from Ferrater's Delicias Station to Zaha Hadid's Pabellon Puente and the Ebro river. The visual axis as it is perceived from the pavilion terrace reflects its aim to be a connection point between La Milla Digital and ZH2O.

4 Communication

The pavilion is primarily a vehicle for information about Zaragoza's present and future. The tourist information point is a glass box which can host up to six people who will deliver traditional material. However, most of the information will be available throughout the building, with interactive screens, projected videos, and eventually text and lettering on the water wall.



4 交流

此馆是展示萨拉戈萨的现在与未来信息的平台。问询中心是一个能同时接纳6人的玻璃“盒”。但大多数的信息通过整个建筑自身来传达：互动式屏幕、投影视频、水幕墙上映射出的字符信息等。餐吧是另外一个信息媒介，游客可以通过各种方式（桌布、变换墙体等）了解到萨拉戈萨的未来。随着此地被改造成公园，咖啡吧的存在对于博览会后保持建筑活力起到非常大的作用。

展馆传递出萨拉戈萨现在与未来的经历，我们构想了不确定环境表达美、净化水源与数字技术交互式潜能。水幕墙与数字技术的同时使用使得建筑充满变化，并具移动性。沿建筑四周和内部的水幕墙在不同时间创造出可以重构的空间。而且，由于液压活塞可以向上或向下喷射液体，屋顶也因此具有了移动性。于是产生了一系列的空间建构：随游客流线、不同时段、天气条件等，建筑可以随时自我调整。

如果我们需要从室外进入信息问询空间，所有的水幕墙将被关闭，同时围绕吧台的水幕将开启，临时创造出一个私密的空间。在其他情况下，建筑中间也能创造出一个开放的空间。此

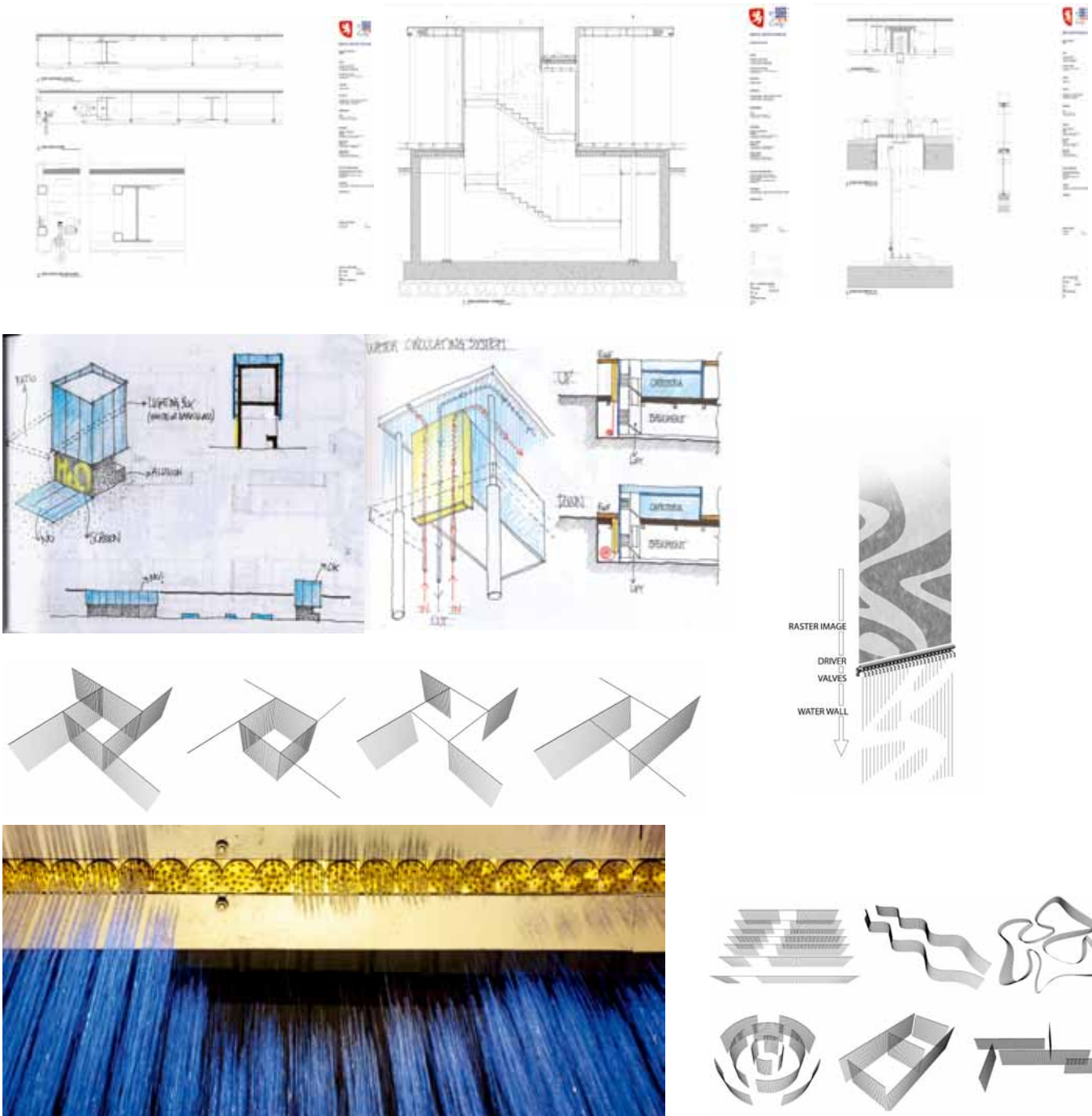
The bar is another medium of information, where the visitors can learn about the future of Zaragoza on a variety of means (for instance, tablecloths and changeable walls). The presence of the café will be important in the future, as it will help keep the building alive well after the Expo is over. After September 2008 the Expo's Puerta Sur will become a park, which would be effectively complemented by the café. In general the pavilion will sustain the park's use and feature exhibitions about Zaragoza and La Milla Digital.

Reconfigurability
The pavilion should transmit an experience about Zaragoza, its present and future. We thought of a non-fixed environment to communicate the beauty and purity of water and the interactive potential of digital technologies.

The co-presence of water walls and digital technology allows the building to be changeable and moveable. Water walls alongside the perimeter and additional internal ones create spaces that are reconfigurable through time. Furthermore, the roof is moveable thanks to hydraulic pistons that can push it up and down. The result is a vast array of space configurations: the building can adapt according to people flows, moments of the day, weather conditions, or program needs.

Some examples: if we need to give full access to the info box from the exterior, all the water partitions around it can be switched off, while a new water curtain could be displayed around the bar making it a more intimate space. In a different situation an open space could be created in the middle of the building, leaving the two boxes enclosed and acting independently. Finally, in the case of high winds, the whole roof can be lowered to 3 m and be still used.

We can also describe the structure as a ON/OFF switch. When the roof is at ground level the building disappears and offers just a minimal space of 50 m²; when the building is open and the roof is high (4.5 m) all 400 m² can be used.



时，两个盒子体块封闭，功能独立。最后，考虑到大风的影响，屋顶标高能降低至3m，并仍能正常使用。

我们可以简单用“开”和“关”来定义，当屋顶降低到与地平面同高时，建筑就消失了，额外提供出最小50m²的空地；而4.5m高的建筑在使用时能提供400m²的使用空间。

5 流动性

建筑设计的流动性是近年来的热门话题。数字技术的发展使得流动的形式设计成为可能，但大多数以固定配置建于钢筋混凝土结构之中。我们的展馆旨在探索流动性建筑的边界，以真实流动的水来建造，呈现出具有适应性的瞬态空间与人们多变的要求相匹配。此结构的多余部分已被拆除，只剩下两个“盒子”空间和5个桌子长凳，这些最小的配置能保证在所有围合空间中使用。（译/李昭君）

5 Fluidity

Much has been written in recent years about the concept of fluidity in architecture and how fluid forms have become possible thanks to the use of digital technologies. However, most fluid forms are then built in concrete or steel, i.e. as fixed configuration. Our pavilion aims to explore the boundaries of fluid architecture by making a building that is really fluid. Apart from the tourist information point and the café, which are reduced to their bare minimum, all the rest are adaptable, transient space, which respond to people's changeable fluxes.

The structure has been cleaned from all superfluous elements: what are left it are two boxes and 5 tables-benches, a minimum configuration that can be used under all partition and roof positions. **ATI**