



Microclimate, the technological legacy of the Seville Universal Exhibition Expo92 to the world

LOCATION: Seville

VTR: 2'20''

SUMMARY: The Expo92 microclimate was a pioneering system developed in Seville by a multidisciplinary team of which Professor Servando Alvarez from Seville's University was member. On the 20th anniversary of the exhibition, this specialist in energy engineering tells us about the importance of the development of bioclimatic systems for public places which were first tested at the Expo venue. Its most popular component was the bioclimatic sphere, but there were many other elements around the site such as the a micro-filter water air conditioning system throughout the site, principally along the main avenues and streets, under canopied sections both of fabric and greenery and the cold towers.

VTR:

It was one of the Expo'92 symbols, the bioclimatic sphere. A giant ball that made the hot Sevillian summer more bearable for the more than 42 million visitors of the event throughout the site.

SERVANDO ÁLVAREZ

Professor of Energy Engineering

"It was 40°C in Seville's city center and here you had areas with temperatures between 30 to 32 degrees and that was enough for sure".

It was possible thanks to more than 500 micronizers which expelled droplets of water, with a few microns of diameter, to prevent soaking the visitors.

SERVANDO ÁLVAREZ

Professor of Energy Engineering

"The water drops evaporated as they fell so you just felt the cold air. Soon we realized that what people really wanted was to get wet".

It was the most recognizable symbol, but behind the sphere was an innovative bioclimatic project for public spaces which was fully developed in Seville. During three years a team of 15 people worked on the project that popularized a strange word not known until then: bio-climatization, among them Professor Servando.

SERVANDO ÁLVAREZ

Professor of Energy Engineering

"People were quite receptive to that very popular concept. Air-conditioning generated biologically is a topic of research in many European countries and in that sense Seville was the pioneer. In fact the greatest ever developed air conditioning system design for open spaces using natural methods still remains that of Expo 92"

Greenery canopies were part of the system which is still being used today across some parts of the city such as the Santa Justa railway station. The cold tower, a symbol to represent the 12 countries members of the European Union, integrated a cooling system that became part of an investigation used as construction model in many countries around the world.



SERVANDO ÁLVAREZ
Professor of Energy Engineering

"They were as like upside down chimneys. The hot air went upwards and the cold air in the towers was pushed down. The concept of their design with some variations can be seen in structures since built in China, Italy and the US..."

It's been 20 years since we left behind indelible images as well as a path for research and development that was created in a living laboratory on the grounds of the Expo '92.

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