

## THE LARGEST VERTICAL GARDEN OF THE WORLD IN BOGOTA FOR A GREENER AND MORE SUSTAINABLE CITY

In Bogota, the capital of Colombia, the largest vertical garden has been built on the residential Santalaia building. On September 2016, at the conclusion of construction works, [the international magazine Green Roofs](#) named this futuristic building as the project of the week. The Green Roofs website also shows a [scheme of its main features](#).

The architects Carlos Lleras and Luis Guillermo Vallejo of the company Exacta Total Project have coordinated the design of the building and its construction. The [Colombian Company Groncol](#) realized the vertical gardens with the technological support of the [Spanish Company Paisajismo Urbano](#). The project took a total of eight months of planning and eight months of construction.

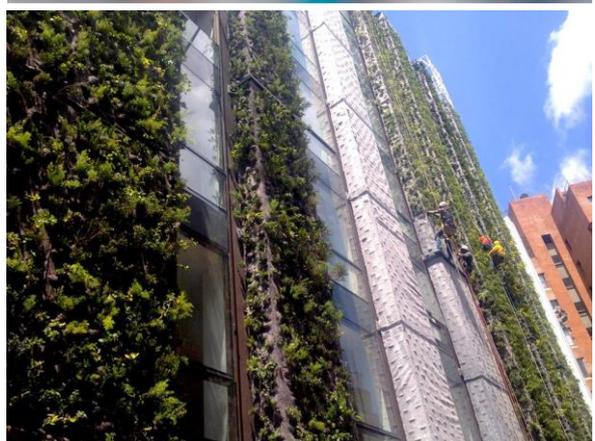
The nine floors building measures 3.100 sq meters. In total, about 115,000 naturalized plants of 10 different species and 5 different families were incorporated in the massive green wall: they include Hebe Mini, asparagus fern, rosemary, vincas, and spathiphyllum, among others. Plants were selected for the climate of Bogota, so they only need to be pruned like any other garden.

Among 42 irrigation stations have been installed which are automatically regulated with humidity and solar radiation to optimize water consumption. The construction uses a water treatment plant that recycles the leftover from irrigation, and rain water as well as grey waters of the building.

The vertical garden of the Santalaia building with its 3,000 square meters of vegetation provide oxygen for 3,000 people per year. It contributes process 2 thousand tons of harmful gases and more than 400 Kilos of fine particles generated by pollution.

Besides of the Santalaja vertical garden the city of Bogota can count on more or less 32.000 sq. meters of green roofs and more than 1.100 sq. meters of vertical gardens realized in universities, commercial malls, business buildings and restaurants.

Considering that large cities are responsible for 70% of the emission of greenhouse gases, the District Environmental Secretariat of Bogota in 2010 built 1,400 sq. meters of green roofs in its new headquarters and in 2013 its Eco-urbanism and Environmental Management Sub-Directorate launched the campaign [a natural skin for](#)



[Bogotá](#) to inform on sustainability, green roofs and vertical gardens in the city.

In particular, the Secretariat developed and disseminates the [Practical Guide: green roofs and vertical gardens](#) in order to promote the use of green infrastructure technologies. The green infrastructure combines the use of vegetation and green architecture, increases carbon storage and represents a sustainable building solution that generates environmental benefits and plays a role in climate change mitigation.

The [District Environmental Secretariat of Bogotá](#) website summarizes with effectiveness the environmental benefits of green roofs and vertical gardens in the city:

- The reduction of noise and the heat island effect, a phenomenon that consists of the increase of temperature in the urban centre compared to the periphery. Bogotá has an increase of 3 or 4 degrees of heat in areas where there is greater urban density than in the surroundings.
- The energy saving. A green roof allows a reduction of 23% in energy consumption for heating and 75% for air conditioning.
- The function of the green roof and vertical gardens as shelter for microorganisms in urban areas, also enhances a stimulus to biodiversity which contributes to a living environment for birds and insects.
- The water retention from rains, which are becoming stronger due to climate change. Green roofs and vertical gardens reduce sewer overload and prevent overflows. A research study by the University Kuleuven in Belgium demonstrate how the green infrastructure, according to its different characteristics, can diminish of between 70% and 95% the amount of wasted water poured into to sewers, redirecting it towards plants and substratum, and giving it back to the atmosphere through evaporation.

The vertical garden of the Santalaia building, which is the result of a high professional level of architects and companies involved in its fabrication, is inserted in an advanced strategy of the city government, directed to make Bogotá a greener and more sustainable city and an example for other world urban contexts.

#### To know more

[Groncol website](#)

[Groncol in Facebook](#)

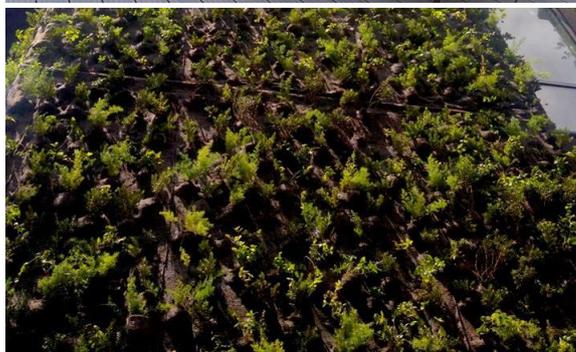
[Sitio web Paisajismo urbano](#)

[Greenroofs.com](#)

[Santalaia Project in greenroofs.com](#)

[Technical guide on green roofs and vertical gardens](#)

[Secretaria Distrital de Ambiente Bogotá](#)



[Red colombiana de infraestructura verde RECIVE](#)

[Video in Youtube](#)

[Video in Youtube](#)

[Article in ecoinventos.com](#)

[Article in revistadiners.com.co](#)

[World Green infrastructure congress- Berlin2017](#)

[International Green Roofs Association](#)

