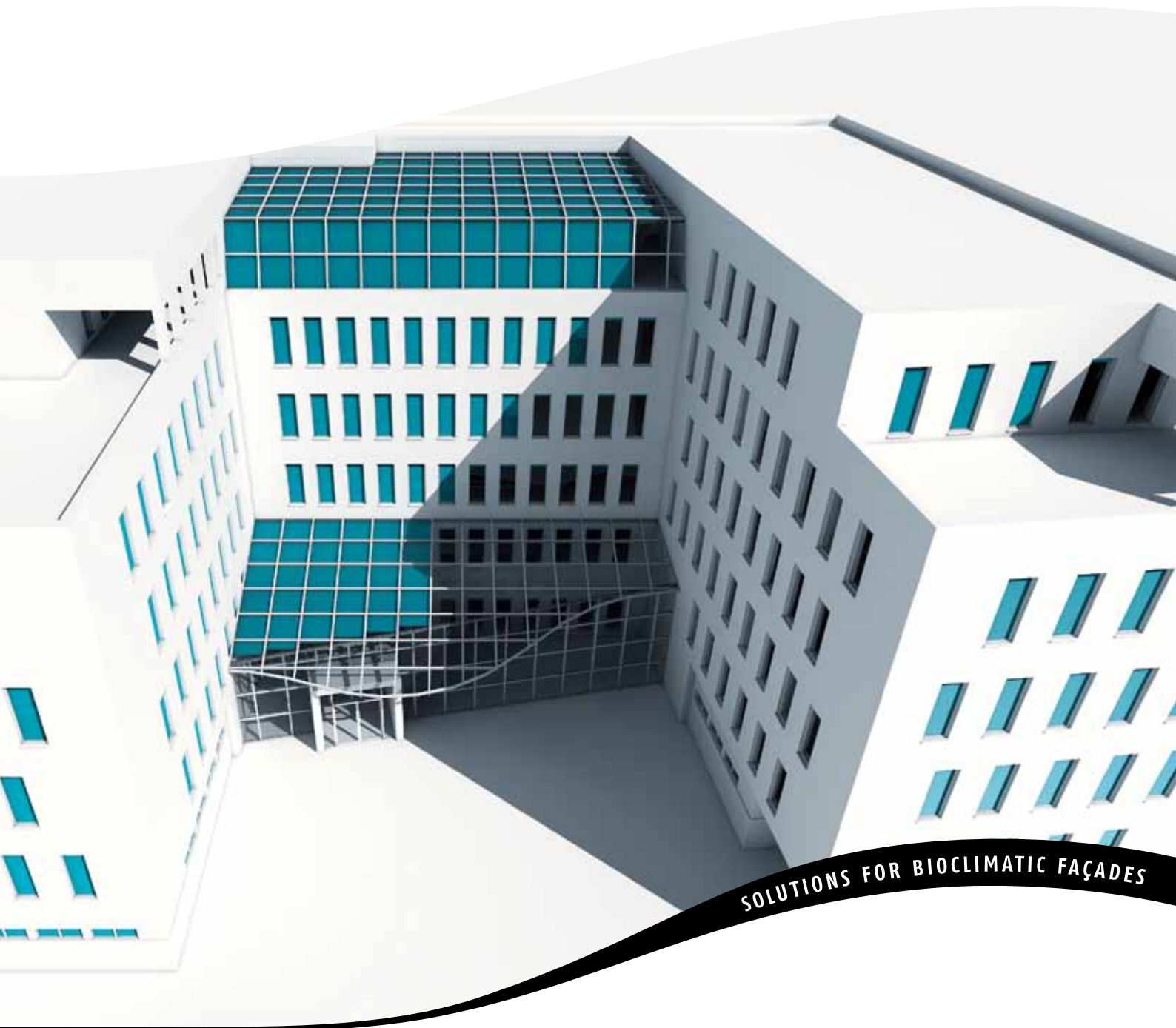


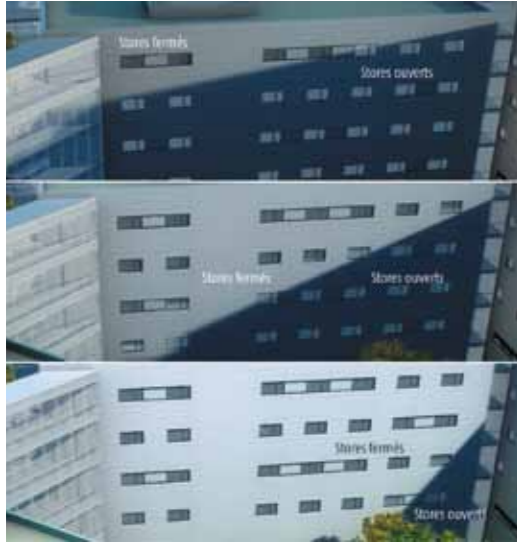
Somfy and shadow management



SOLUTIONS FOR BIOCLIMATIC FAÇADES

somfy[®]

THE SHADOW MANAGEMENT FUNCTION



Depending on the time of day and the building's location, shadows move, affecting the level of sunlight in each room.

Thanks to Somfy's "Shadow management" solution, each solar shading device is individually controlled, thereby guaranteeing optimum levels of user comfort.

BENEFITS

- > Management of solar shading based on shadows cast on windows to provide better visual comfort for occupants.
- > Optimisation of standard solar functions.
- > Reduced use of artificial lighting.
- > Control on a per window or zone basis.

Without the "Shadow management" function



All solar shading devices are lowered, even those in the shade.

With the "Shadow management" function



Only solar shading devices exposed to the sun are lowered.

Operating principle.

The "Shadow management" function enables optimisation of standard solar functions such as sun tracking by activating or deactivating solar shading based on the shadows cast on windows.

"Shadow management" by Somfy is based on 3D modelling of the building carried out in advance taking the following various factors into account:

- > The building's architecture
- > The building's geographical location
- > The number and position of its windows
- > The position of neighbouring buildings
- > The sun's path relative to the building

These details are compiled and recorded in a database which is then provided to the integration project and connected to the existing installation.

Based on this analysis, Shadow management manages the movement of shadows from one window to another through the use of a sun sensor, located on a mast on the roof of the building, per facade exposed.

The shadows cast by the surrounding buildings or changes in weather conditions are managed in real-time. Thus, only windows exposed to the sun have their solar shading lowered.

Reference

Norpac headquarters, Villeneuve d'Ascq.

A leading regional company in the construction and public works sector.



> The building's energy consumption divided by four.

To meet the need to control heat gain/loss in summer and in winter, the animeo system for managing solar shading was installed at Norpac's headquarters.

The animeo system was selected because of the precise control it provides thanks to the shadow management function.

"A model of the sun's path and shadows was calculated, enabling the design of an automation program specifically for our building, on a zone-by-zone basis. This option enabled a reduction in cooling requirements and is linked with other techniques such as passive cooling using groundwater to ensure summer comfort. This way of controlling solar shading is both highly innovative and high-performance."

François Yves Lelong, Norpac Technical Manager (Fluids).

Technical description

The "Shadow management" function is installed on a web server which must reside on a PC connected to the BMS. Management of this function depends on a predefined physical address for each window and which constitutes part of the information output from the database.

This list of addresses is provided by Somfy based on the building plans supplied.

The integration work package uses this list in a database which enables interfacing with the physical network for the installation.

Documents to be supplied in order to set up this function:

At the planning stage:

- Ground/location plan (PDF)
- 3D drawing of the building (skp / rvt / dxf)

During implementation:

- 3D digital model (Rvt, Skp)
- Implementation plan (DWG, DXF)

> For further information, please consult the functional description.



Workstation – Credit : Norpac



Meeting room – Credit : Yvan GLAVIE



Thoroughfare – Credit : Yvan GLAVIE

PATENT INFORMATION

"Shadow management using modelling" patent pending
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