



**La ZAC Maurepas-Gayeulles**  
Maurepas-Gayeulles ZAC (City of Rennes 3D modelling: Rennes Métropole GIS Dpt., City of Rennes 3D texturing: Dassault Système)



# 3D MODELS AND VISUALISATION TOOLS TO ASSIST THE CONSULTATION PROCESS

## VISUALISING THE LOCAL AREA FOR BETTER UNDERSTANDING OF PROJECTS

*Computer graphics, interactive cartography, 3D visualisation and long-term planning simulations – all these new technologies are increasingly used to help stakeholders see and understand the urban landscape.*

*In major development projects, authorities rely on these tools to involve the local population more closely and encourage citizen participation throughout the project.*



**Densification potential of the city – Santiago, Chile**  
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### INNOVATIONS

- By making communication more interactive and immediate, these new technologies assist understanding of local issues and projects through increased visibility and clarity (in particular for the uninitiated).
- They also offer an overview which breaks through potential silo mentalities, and can be used to facilitate dialogue between stakeholders, including within local authority departments.
- 3D visualisation can also be used to simulate the future of a local area and its essential components (networks, built area, flows) through development and usage scenarios. For example, changes in land availability in an urban landscape can be represented through densification scenarios.

### STAKEHOLDERS

- Since 2014, Dassault Systèmes, Rennes Métropole and Rennes City Council have been involved in a partnership aimed at developing and assessing innovative digital tools to help create the cities of the future.
- The 3D model Rennes 2030, produced as a result of this partnership, invites citizens to explore the city and its projects in 3D.
- Today, this tool is essential for helping the local population fully understand issues in the Inter-Municipality Local Plan (involving the 43 municipalities of Rennes Métropole), which aims to anticipate changes in the area and allow harmonious development of the city.

## IMMERSIVE AUDITORIUMS FOR GETTING INSIDE PROJECTS

► Immersive auditorium **Le Corbusier** at the CSTB (Scientific and Technical Centre for Building) in Sophia Antipolis offers construction and urban stakeholders a shared vision of a project. Similar to a 3D cinema auditorium, it supports high-quality discussion between client teams, construction teams, design consultants and stakeholders in order to move projects forward at their different phases, by using software interoperable with the BIM digital model of the project, and a high-tech projection and sound system.

► **Immersia in Rennes** is one of the largest virtual reality auditoriums in the world. Users are plunged into a high-definition virtual world. They can then «move around virtually» in a future neighbourhood through total immersion, in order to explore it better.



→ Immersia is developed at Rennes 1 University by the research centres of the National Institute of Digital Sciences (INRIA) and the Informatics Research Institute (IRISA)...

## RESULTS

/// Rennes Métropole, its geographical data department, the planning agency Territoires Publics and Rennes company Alchimik Lab° are developing innovative tools together that will be used to present the Maurepas-Les Gayeulles urban development project in Rennes.

/// A new 3D model and an immersive system using Oculus Rift technology will provide the local authority with genuine urban mediation tools.

/// These novel links between the stakeholders involved in urban renewal create a shared vision and understanding of the urban landscape through virtual tours in future neighbourhoods.

→ France has many specialists working on these new technological solutions.

→ Design, consultancy and engineering companies also use these tools, either in collaboration with specialists, or by integrating this expertise into their own teams.

## FINANCIAL ASPECT OF THE OPERATION

/// The needs of the project must be clearly defined before a 3D model can be produced. The data to be used and the degree of its resolution will be determined by the expectations of the client team. These two parameters have a very significant impact on costs.

/// When used to assist with decisions or consultation processes, these tools do not require a high-quality resolution model. Costs can then be relatively controlled and affordable for the authorities involved.



Plaine Commune –  
3D model (Vectuel)