Hes·so VALAIS WALLIS
Haute Ecole Spécialisée de Suisse occidentale
Fachhochschule Westschweiz
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Institute of Business Information Systems
eServices

Clean City

Development of tools and methods to predict the air quality to support urban project designers and/or authorities in their decision-making process.

Realization

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Information

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Keywords

- Pollution
- Urbanism
- High performance computing
- Decision-making tools

Our skills

Analysis of the project computing infrastructure

Valorization

Drawing on the skills acquired in various projects

Partnership

- hepia
- Service de protection de l'air du Canton de Genève (SPAIR)
- EIA-FR
- HEIG-VD

Funding

HES-SO call

Schedule

01/2012 – 12/2013

Illustration: Anne-Christine Dallemagne/La fabrique

The **densification of cities** creates many problems related to urban traffic, pollution, and noise. Currently there are no tools to study the impact of different spatial planning projects on the urban climate. Clean City aims at offering urban engineers a **decision-making tool** to assess the air quality and especially pollutant dispersion.

The **objectives** of this project are:

- CAD modelling of the "Quartier des Pâquis" for CFD (Computational Fluid Dynamics) purposes and for building a 3D-model.
- Design of an IT system based on CFD freeware.
- Simulation of situations and comparison of results with wind tunnel experiments.
- Development of a method to be able to offer solutions to all kinds of urban engineering projects.

The task of the Institute of Business Information Systems within this project is the development of an **IT system** based on CFD freeware that offers the required computing power for this type of very complex simulation and modelling.