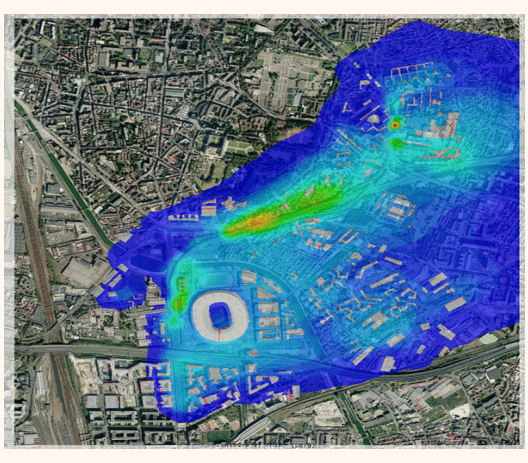
Plume August 2024 Fluidyn

Clean Air & Energy Efficient Ventilation for Paris Olympics 2024

Pollution impact management for a metropolis is a patient and continuous effort. Though we accept high pollution levels in open air, it is difficult to accept it indoors, especially in buildings like hospitals, schools etc which has sensitive population. Pollution impacts athletes also by reducing lung function, increasing respiratory and cardiovascular risks, and hindering performance. During intense activities, athletes inhale more air, and thus more pollutants, which can cause shortness of breath, coughing, and wheezing. Prolonged exposure leads to chronic health issues, while acute exposure during competitions can diminish endurance and slow recovery. Ultimately, high pollution levels compromise athletes' health, performance, and long-term well-being.



The Paris Olympics were designed to have minimal carbon impact, besides offering quality water in the River Seine for swimming, almost no air pollution in the stadiums, and minimal energy for the air-conditioning of the athletes' residential buildings.

Fluidyn participated in achieving the last two objectives. It developed a French innovation award winning technology to identify the pollution sources, which must be controlled to bring down the pollution levels inside the stadiums.

It was done by simulating local airflow in the surrounding areas as a function of expected weather conditions, 3 days ahead, to give sufficient time to the authorities to issue necessary advisories. The same can be done to ensure pollution free air for hospitals, schools etc. having sensitive population during the pollution episodes.

Fluidyn used its 3D-CFD module ***Fluidyn-PANAIR*** which is dedicated to urban air quality modelling over complex terrain at high resolution. It models the air flow from street level to city level modelling the contribution of various pollutant sources (industries, road traffic, heating, harbour) and also helps in short term and long term human health exposure assessment.

For hot summer days at 40°C, the technology Fluidyn used was to ensure air-conditioning of athletes' rooms and other facilities using fractionated ventilation- just what is required for each zone and using underground water, always at a temperature near 20°C as the heat sink, rather than atmospheric air at a much higher temperature. Geothermal solutions, for heating or cooling, have become common place in France. Water at 20° circulates through heat radiators in the buildings. It had initially developed this technology for natural cooling of the underground metro stations.

Fluidyn Expands with its Third Branch in North India

Fluidyn Office at Orai

Fluidyn is excited to announce the opening of its third branch in Orai-Uttar Pradesh. Strategically located to align with the vision of the UP Defence Corridor, the new branch will focus on delivering state-of-the-art simulations and engineering services, addressing critical needs in air quality, temperature control, fluid dynamics and Multiphysics applications.

By establishing a presence in this key region, Fluidyn aims to support the growing needs of defence and allied industries, contributing to the technological advancement and strategic goals of the Defence Corridor.

CONFERENCES:

DAE-BRNS National Conference on Development of RF Components for Accelerators (DRCA - 2024)

Fluidyn delivered a talk @ BARC (DAE) on Fluidyn Expertise in Static & Transient Electromagnetic & Magneto-Hydrodynamics Simulations.

Fluidyn has been developing multi-physics applications for process industries since 35 years.

Fluidyn-MP-MEHD (Magneto-Electro-Hydro-Dynamics) has become a key development for high-tech applications, especially for nuclear industry and for other industrial related areas, like metallurgy, fuel cells industry, plasma process industry, electro winning industry (Electrolysis processes), etc...

***Fluidyn*-MP EMG** helps to analyse the generation, propagation, scattering and interaction of electromagnetic waves with wide range of frequency including radio waves, microwaves etc and are developed for nuclear and defence applications.

Vacant job positions:

GUI/CAD Developer:

Software's - C++, QT, Windows, LINUX

Location - Orai, Uttar Pradesh.

Experience - 0 - 5 Years

- Writing C++ code for GUI, CAD processing, CFD meshing.
- Good programming knowledge
- Good analytical skills
- Aptitude in scientific software development.

Interested, please write to careers@*fluidyn.com*

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