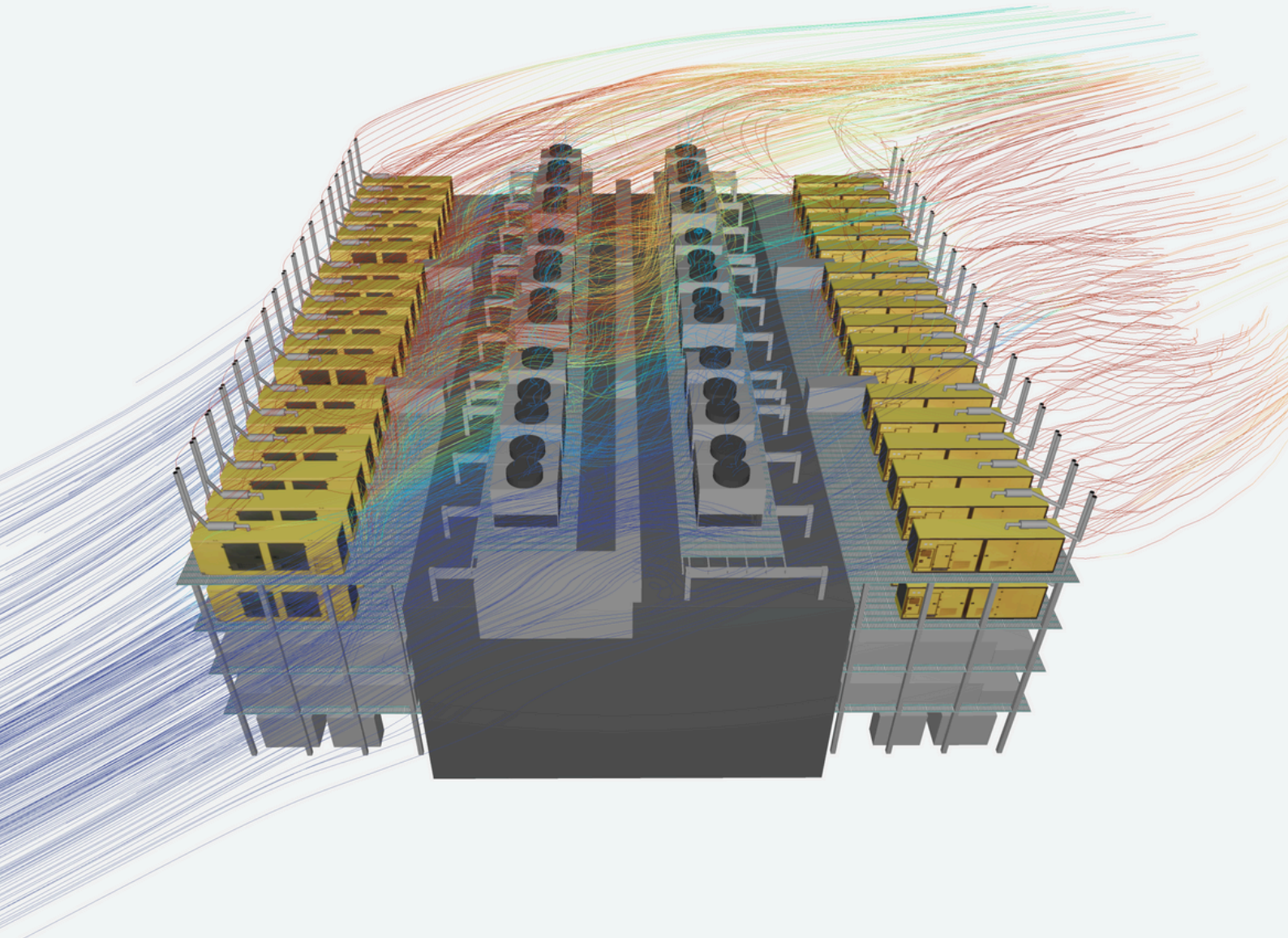




For all your simulation needs.

We specialize in due-diligence analysis, validation and optimization of critical infrastructure design with utmost precision, support, and timeliness.

Computational Fluid Dynamics • Acoustic Analysis • Lux Simulation



VALIDATE AND OPTIMIZE YOUR DESIGN.

**COLLABORATE WITH US, ENSURE UTMOST
CLIENT'S SATISFACTION.**

PAST & PRESENT STAKEHOLDERS



SUNWAY®



BW DIGITAL

yondr

**B-Global
Tech**




trueIDC


BDx
DATA CENTERS

WHO ARE WE?

Hyperion i4 Global Solutions (Hi4-Global) is a specialist consultancy based in Singapore, providing high-resolution Computational Fluid Dynamics (CFD) and Flow Network Modelling services for critical infrastructure. Our core expertise lies in simulating airflow, thermal behavior, and fluid dynamics across a wide range of mission-critical environments – from data centers and electrical rooms to substations and industrial facilities. In addition to our CFD focus, we also provide acoustic simulations to assess environmental noise impact and support regulatory compliance, as well as lux simulations to verify lighting levels and enhance safety, comfort, and energy efficiency. These complementary services offer added value to projects requiring holistic environmental analysis.

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 <https://hi4-global.com/>

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OUR NICHE

Dedicated provider of Computational Fluid Dynamics (CFD) analysis (both Internal & External CFD) and Flow Network Modelling within the Built Environment sector, with a strong focus on Data Centers & Critical Infrastructure projects. Other services include Acoustic Analysis and Lux Simulation.

"Comprehensive CFD Analysis & Tailored Solutions For Validating Your Data Center design"



ABOUT US AND OUR SERVICES



SIMPLIFY

Our goal is to simplify the needs of our clients and provide the most effective solutions, in terms of modelling methodology and computation to be produced within reasonable budget and timeline.




SIMULATE


After generating and optimizing models based on desired boundary conditions, we will utilize state-of-the-art software & equipment to generate the appropriate simulation results.




SOLVE

We will ensure detailed report will be furnished to meet the needs of clients, regardless if it's meant to fulfil compliance requirements, sustainability needs or simply to support engineering study.

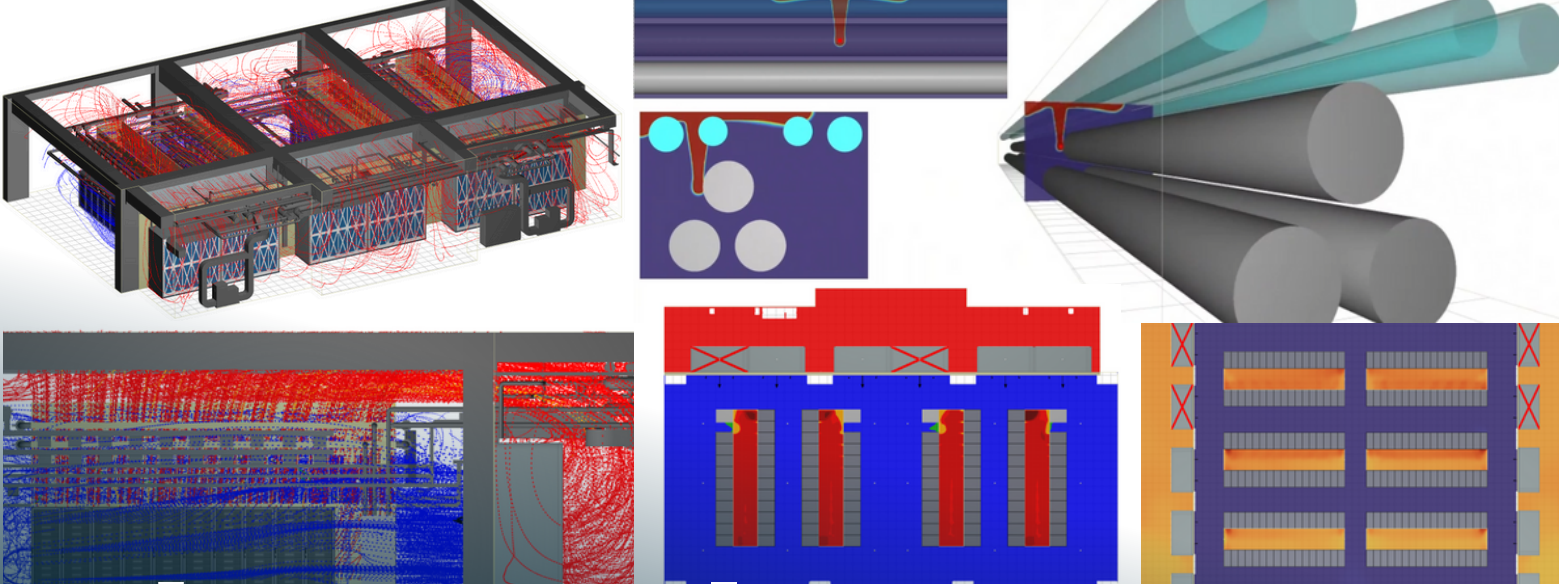
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internal CFD analysis

Cooling with Confidence

Internal CFD analysis is essential for ensuring reliable thermal performance in data halls, substations, and other mission-critical environments. By simulating airflow, temperature distribution, and equipment heat loads, it helps identify hotspots, airflow short-circuiting, and inefficiencies that can lead to equipment failure or energy waste.



Objectives

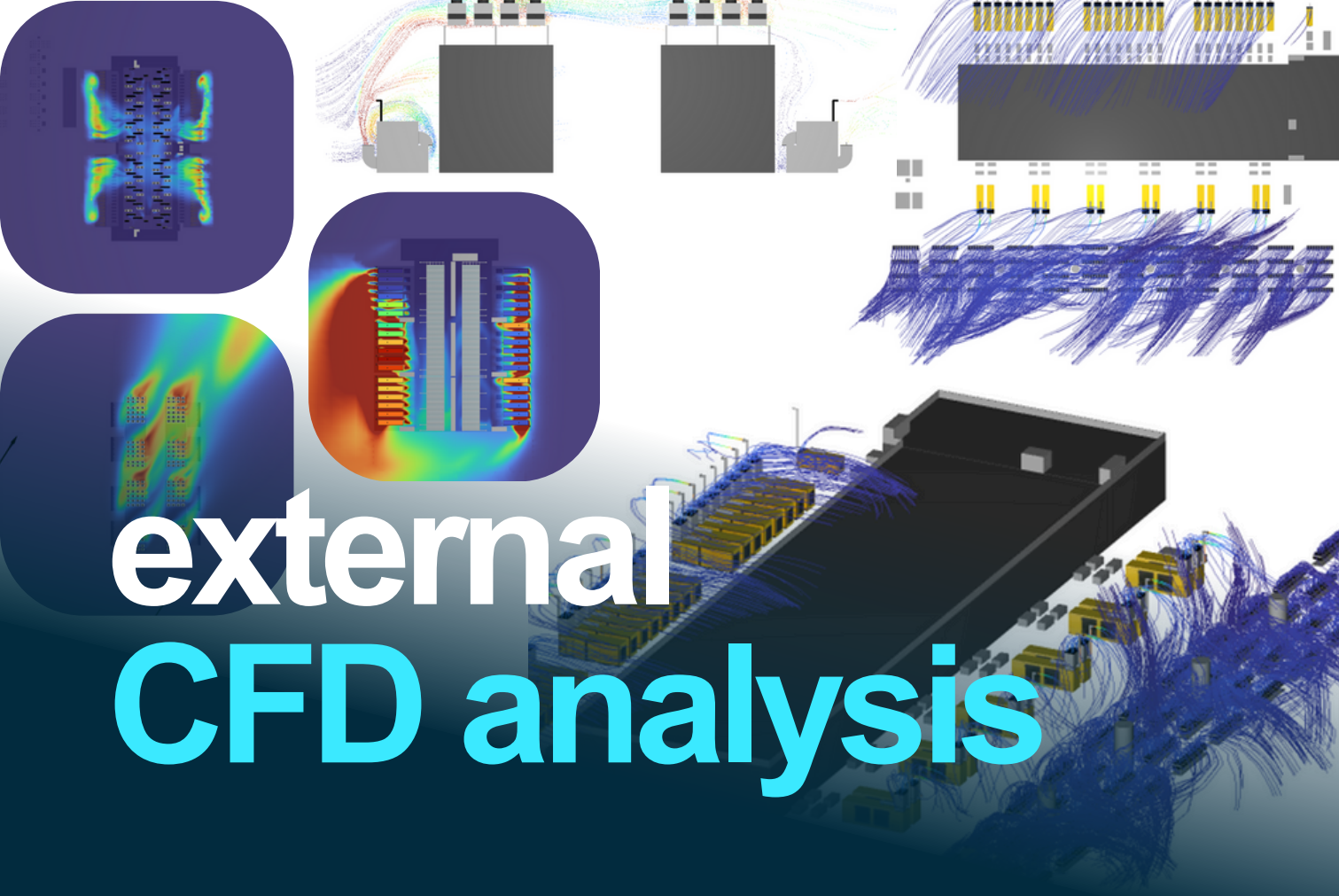
Whether it's optimizing cooling layouts, validating containment strategies, or planning for failure modes, internal CFD provides the insight needed to design resilient, efficient, and compliant critical systems.



Solutions

Hi4-Global delivers high-resolution internal CFD simulations to uncover inefficiencies, validate cooling strategies, and ensure thermal reliability across data halls, and other mission-critical environments.





external CFD analysis

Under the ‘Windfluence’

External Computational Fluid Dynamics (CFD) analysis plays a crucial role in ensuring the resilience and performance of critical infrastructure and data centers. By simulating wind flow and thermal dispersion around buildings, external CFD helps identify risks such as hot air recirculation, exhaust re-ingestion, or shortfalls in design. In mission-critical environments, getting the outside conditions right is just as vital as what’s inside.



Objectives

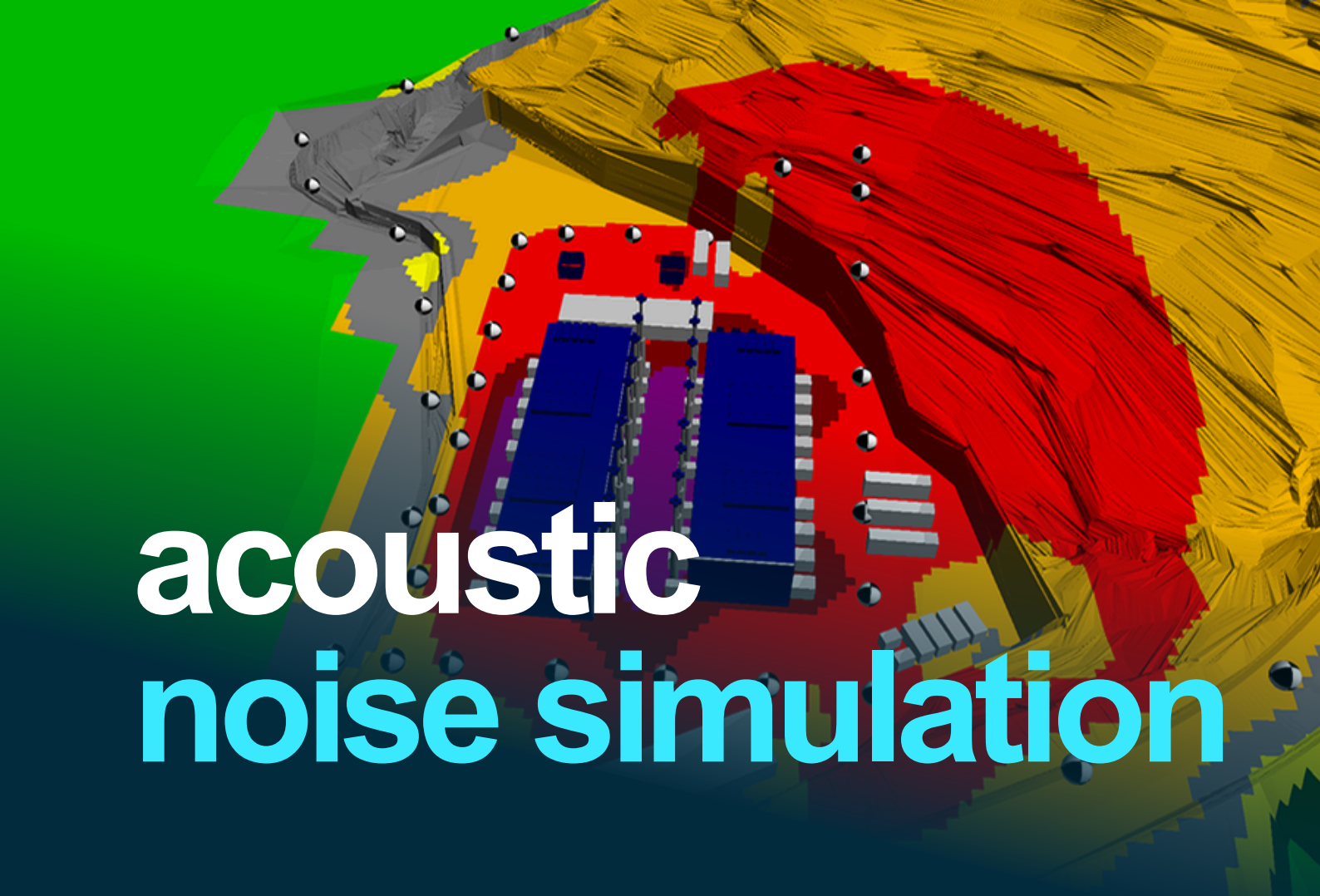
These insights support informed design decisions—optimizing equipment placement, preventing downtime, and ensuring compliance with airflow and safety standards.



Solutions

Hi4-Global provides detailed, scenario-based external CFD simulations tailored to your site conditions, enabling data-driven decisions from concept to operation.





acoustic noise simulation

Making Sound Decisions

Environmental noise from generators, cooling towers, and HVAC systems can pose significant challenges for data centers and critical infrastructure—especially when located near sensitive receptors or in urban zones. Acoustic simulation allows early prediction of sound propagation and noise levels, enabling proactive design adjustments and mitigation strategies.



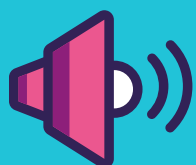
Objectives

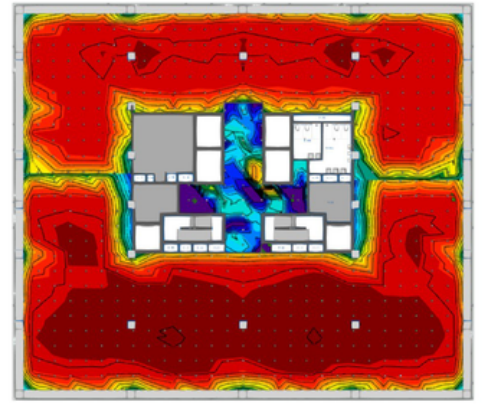
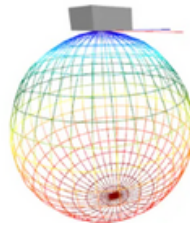
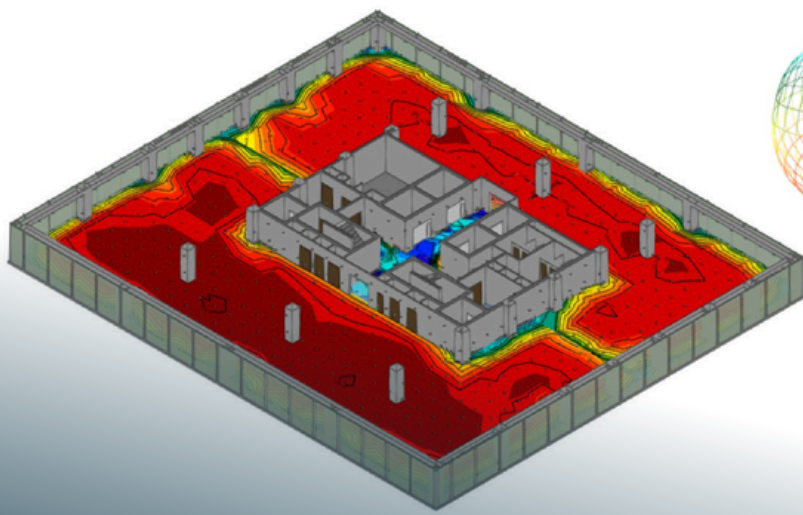
This supports regulatory compliance, while protecting community well-being and preserving operational permits. In sound-sensitive environments, accurate modelling is key to building quietly and responsibly.



Solutions

Hi4-Global provides acoustic simulations to assess environmental noise impact, support regulatory compliance, and guide noise mitigation strategies for critical infrastructure.





lux & lighting simulation

Perfection in Every Lumen

Lighting simulations provide accurate predictions of how light behaves in a space. By simulating lux levels early, fixture placement can be optimised, glare reduced, and compliance with lighting standards assured. Whether for workplaces, healthcare, or data centers, lighting simulations support safer, more efficient, and regulation-ready environments.



Objectives

The objective of lux simulation is to evaluate and optimize lighting performance within a space. It ensures that illumination levels meet required standards, provides visual comfort, and supports energy-efficient design — all before physical installation.



Solutions

Hi4-Global delivers precise lux simulations to optimize lighting layouts, enhance visual comfort, and ensure compliance with regulatory standards across critical environments.



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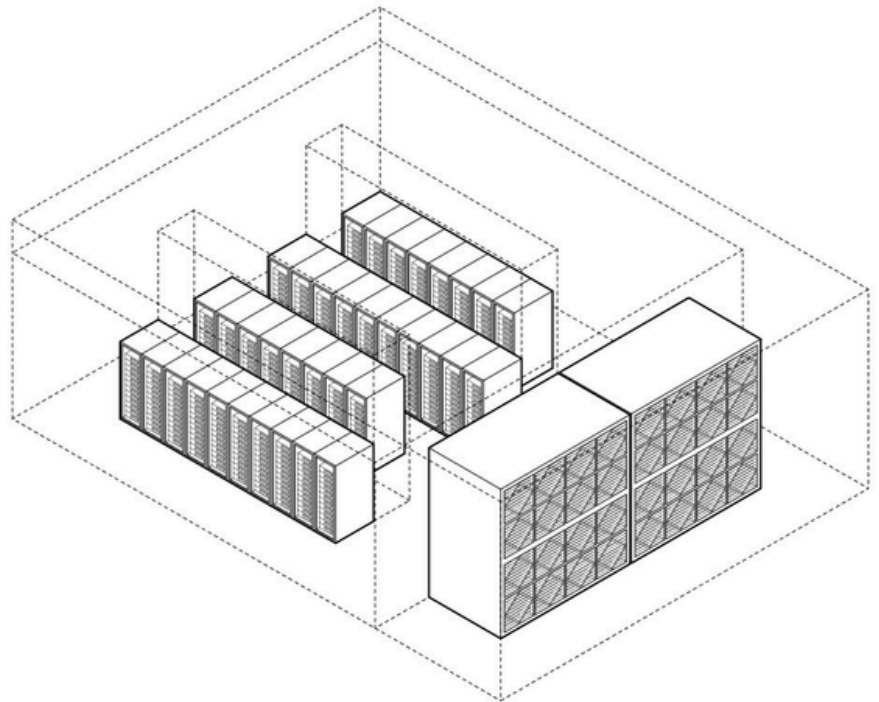
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Feel free to reach out anytime & share with us your requirements

We pride ourselves with utmost professionalism, quality, and timely service delivery throughout our engagement. Rest assured that your project will be tailored and supported by a high-performance team.

Simplify
Simulate
Solve



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