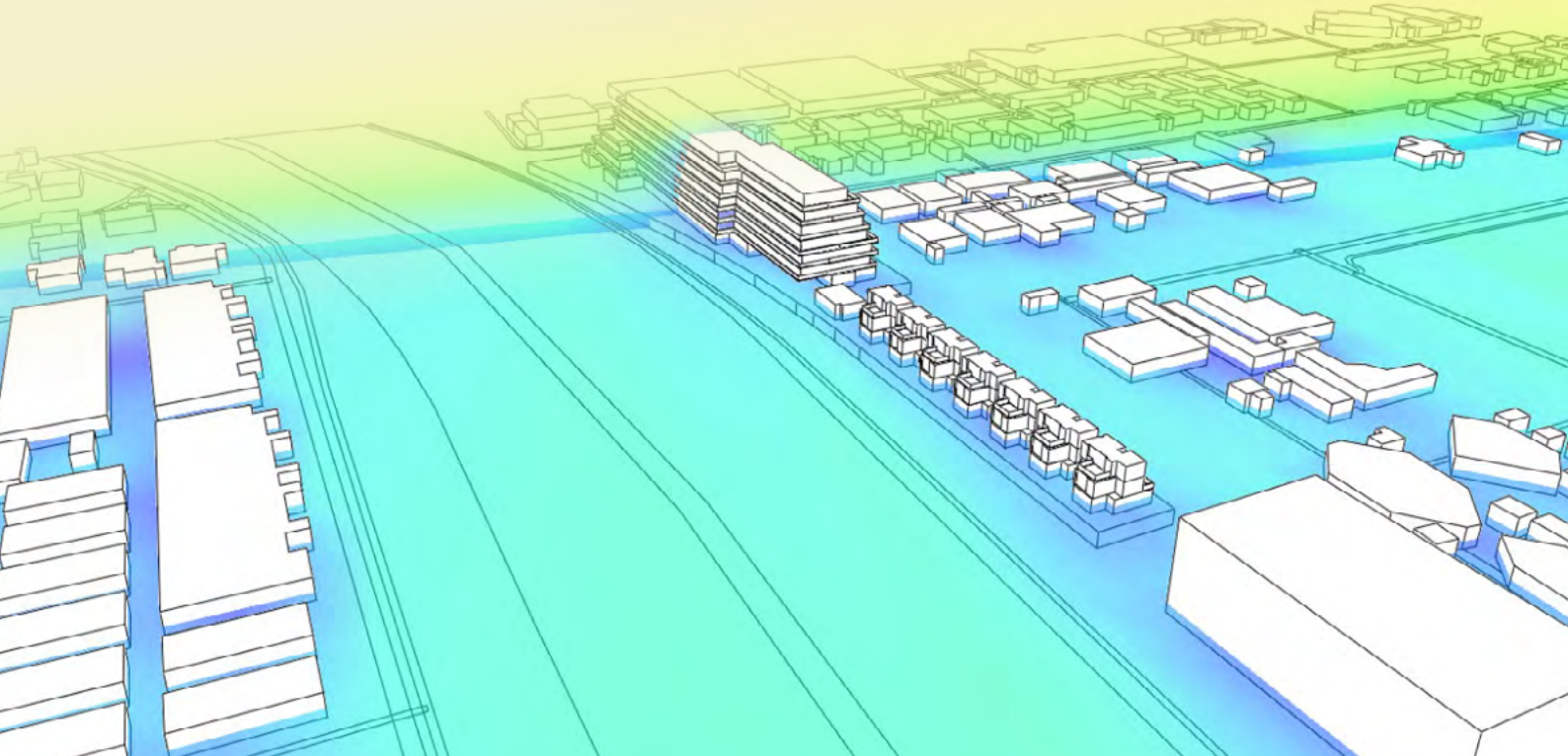
3 Day Intensive

Building Performance Modelling for **Built Environment Analysis** and **Optimization using IESVE and Cradle CFD Software**



Overview:

Advance into the future of building performance with our focused three-day training on IESVE and Cradle CFD software. Our expert trainer will guide you through diverse scenarios, enhancing your skills in energy, lighting, and air quality optimization within the built environment. Learn to create and import models from various sources, including AutoCAD, Revit, and SketchUp. The session will conclude with an introduction to advanced HVAC configurations and Computational Fluid Dynamics (CFD), equipping you with the tools to tackle complex building analysis challenges.

Authorised training partner with | HEXAGON | IES

For: Architects, Green Building Consultants, MEP Engineers, and allied services

BCA GREEN MARK | BREEAM | LEED | VGBC | malaysiaGBC

Training Highlights:

Introduction to IESVE

2 days

- Creating and archiving project files Using the wizard
- Introduction to building template manager and tabular space data.
- Introduction to HVAC system parameters, schedules and set.
- Gain expertise in modeling credits for green building certifications such as LEED, enhancing sustainability and compliance.

Model Build (ModelIT, SunCast and Components)

- Drawing basic building spaces
- Copying, moving, and editing spaces
- Working with DXF format drawings, REVIT and SketchUp imports
- Creating a building, editing openings (windows, doors, etc.)
- Creating obstructions for shading/lighting
- Setting site rotation and location
- Setting weather data for subsequent thermal analysis
- Performing shading calculations, shading images and movies
- Performing solar insolation analysis on external surfaces

Lighting

- Artificial or natural lighting calculations, or both
- User-defined thresholds or benchmarks
- Illuminance or Luminance
- Investigate indoor daylighting conditions across rooms.
- Produce plots of daylight levels/ factors and threshold areas
- Generate reports of daylight levels/factors and threshold areas
- Perform Sky View analyses.
- Compare against LEED, BREEAM and BB87 thresholds.
- Test against other industry benchmarks.

Thermal (APACHE Loads, Dynamic Simulation & MacroFlo)

- Creating thermal and HVAC plant data (profiles, HVAC plant properties, room setpoints,
- internal gains, air exchanges)
- Creating constructions, applying thermal and construction data
- Defining renewable energy sources
- Performing thermal simulations and reviewing results in VistaPro
- Creating opening characteristics and applying them to model
- Performing natural ventilation simulations
- Using VistaPro to review the effects of natural ventilation due to wind and buoyancy.

IESVE Modules covered

ModelIT
SunCast
Apache Loads
MacroFlo
Radiance
ApacheSim
Radiance and FlucsPro

CFD(scSTREAM)

1 day

Natural Ventilation
Analyze the impacts of natural air flows on indoor air quality and thermal comfort.

Airflow Around Buildings:
Study the effects of external airflow on building's aerodynamics and pedestrian comfort.

Indoor Air Conditioning:
Examine internal airflow, temperature distribution, and HVAC performance optimization.

Urban Heat Island (UHI):
Explore the impact of urban design on local climates, particularly site temperature elevations in urban areas.

Learning Outcomes:

- Master IESVE project setup and management.
- Learn to use CFD for the built environment.
- Gain expert skills in integrating architectural models for simulation.
- Conduct advanced thermal simulations to optimize building performance.
- Receive an IES certificate and e-training materials.
- Get a 60-day IESVE trial license post-training.

Trainer details:

Girish R Visvanathan

is an acclaimed sustainability expert with over 15 years of experience leading green projects in diverse industries. He excels in creating mathematical models for improving air quality and energy efficiency. An authorized IESVE trainer and IGBC Fellow, Girish is recognized globally for his impactful training sessions and contributions to sustainability standards.

Register today!

Note: We reserve the right to adjust the program dates and venue based on economic considerations and availability. Participants will be notified in advance of any changes, and applicable refunds will be issued.