IESVE FOR ENGINEERS

Innovative, award-winning and in-depth suite of integrated analysis tools

www.iesve.com
IESVE FOR ENGINEERS

A flexible, integrated system for performance assessment that brings productivity and excellence to every aspect of sustainable building design.
IESVE FOR ENGINEERS

Used by leading sustainable design experts around the globe VE for Engineers can virtually test the feasibility of different energy saving strategies and new technologies. It is an intelligent response to climate change.

RATING SYSTEMS
LEED, BREEAM, Green Star, DGNB and QSAS. The list of green building rating systems is long and growing steadily across the globe. Plus, building regulations in many countries now incorporate an energy performance requirement. VE for Engineers offers a wide range of approved guided tools and analysis capabilities which make achieving these popular systems easy and cost effective.

INTEGRATED MODELLING
The first class suite of VE for Engineers analysis tools all share one central integrated data model. Saving time and facilitating integrated analysis you can adjust and hone the model without duplication. Also, share results and input data amongst applications to refine and inform simulations. Import models, or build directly within the IES ModelIT application.

EXTENSIVE REPORTING
The VE for Engineers suite allows you to easily visualise and communicate results at a highly detailed level. Our results analysis and reporting capabilities are about more than just aesthetics. They offer extensive, clear and diagrammatic technical information and visualisation.

UNRIVALLED INTEROPERABILITY
Integrating Performance Analysis into the heart of the design process, IES offers an unrivalled interoperability with other CAD design and analysis tools.

MIX AND MATCH TO CREATE YOUR PERFECT ANALYSIS SUITE

Analysis Capabilities
- Energy/Carbon
- BREEAM
- LEED
- Green Star
- Light/Glare
- Daylight Harvesting
- Solar Penetration/Shading
- Sun Path Tracking
- Climate/Bio-Climatic
- HVAC Modelling & Sizing
- Load Calculations
- Passive Design
- Hybrid Strategies
- Renewable Feasibility
- Natural Ventilation
- Thermal Comfort
- CFD Airflow
- Cost/Value
- Occupant Movement
- Fire Evacuation
- Lift Design
- Part L
- EPCs
- Section 6
- BERs

EARLY STAGE – DETAILED DESIGN
Use VE for Engineers across the entire design lifecycle
VE FOR ENGINEERS

BUILDING PERFORMANCE ASSESSMENT TOOLS

MODEL BUILDING
The single central 3D data model at the heart of the system provides geometry and data shared by all tools.

ModelIT
- Contains information on geometry, materials, occupancy, climate and equipment.
- Enables you to create a 3D analysis model from scratch.
- Alternatively, import CAD data into the system in 3D or 2D.

REGULATIONS
Ensure compliance against global regulations using 3D solutions. Specific modules provide automation and unique built-in Quality Assurance (QA) functionality.

- UK Part/Part/Section6/EPCs/BERs (Domestic & Non-Domestic)
- ASHRAE 90.1: 2004/07/10 and EC8
- ASHRAE SS
- ASHRAE E2
- CIBSE Guide A/ISO 7730
- US EPAct
- Australia Part/NA/ERS/CBED
- New Zealand Part H1
- Architecture 2030
- Title 24
- South Africa Regulation XA3 of Part XA

RATING SYSTEMS
Measure against global rating systems. Specific modules provide automation and unique built-in Quality Assurance (QA) functionality.

- LEED USA / Canada / India
- BREEAM UK/Gulf
- Green Star (Aus)
- Green Mark (Singapore)
- Eistidama (UAE)
- QSAS (Qatar)
- LOTUS (Vietnam)
- DGNB (Germany)

CLIMATE
Add the powerful early stage climatic and natural resource capabilities of VE-Gaia to your VE for Engineers suite.

VE-Gaia
- Climate, Solar, Daylight, Natural Resource Availability & Water
- Energy, Carbon & AIA 2030 Challenge analysis

ENERGY & CARBON
Design for the future with innovative low impact energy systems and strategies.

ApacheSim
- Advanced dynamic thermal simulation at sub-hourly timesteps for better computation of building components
- Assess solar gain on surfaces, surface temperatures and radiant exchanges
- Extensive range of results variables for buildings and systems
- Building & room-level annual, monthly, hourly, and sub-hourly analysis
- Assess passive performance, thermal mass, and temperature distribution
- Link results from Apache-HVAC, MacroFlo, Suncast & RadianceES and use as integral thermal simulation input
- Export results to MicroFlo as boundary conditions for detailed CFD analysis

SOLAR
Harness the power of the sun and analyse how it affects your building – inside and out.

SunCast
- Control solar gains taking into account the sun’s path and solar penetration
- Assess the shading/right to light impact of surrounding buildings & terrain
- Test internal and external solar shading devices
- Generate animated, visual, graphical and numerical output for colleagues, clients or planners

MacroFlo
- Assess natural ventilation strategies at a macro level (bulk-airflow)
- Simulate thermal stack effects and wind-driven indoor airflows
- Combine with Apache-HVAC for analysis of mixed-mode operation
- Must be used in conjunction with ApacheSim

MicroFlo
- Ensure optimum ventilation and thermal comfort at the building, room and sub-room level
- Assess natural ventilation strategies at the micro level

AIRFLOW
Simulate complex airflow without in-depth expertise. Produce graphics and animations to visualise and communicate results.

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MicroFlo
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HVAC
Size and model conventional, advanced, and building-integrated systems, plants & controls in detail.

ApacheHVAC
- Simulate detailed typical & innovative HVAC systems with minimal effort
- Simulate simultaneously alongside building thermal analysis
- Pre-defined HVAC Wizard & System Prototypes saves significant input time
- Detailed analysis of HVAC energy saving measures
- Combine with MacroFlo for analysis of mixed-mode operation & achieve close to real-life results
- Advanced air side modeling flexibility for ventilated double skin facades and more
- Component based HVAC system mimics the control of a detailed system
- Must be used in conjunction with ApacheSim

ApacheLoads
- Calculate heat and cooling loads based on the ASHRAE Heat Balance method
- Links to SunCast and ApacheHVAC

ApacheCalc
- Calculate heat loss and gain calculations based on the CIBSE Guide

EGRESS
Ensure people can travel easily within your building and evacuate safely and quickly.

- Lisi
- Simulate occupant movement
- Keep people moving freely & avoid bottlenecks
- Evaluate alternative fire evacuation escape routes

VALUE/COST
Undertake efficient multidisciplinary value and cost studies.

- CostPlan
- Prepare customised capital cost estimates

DRAFT
- Compare different indicators and design options at any stage to build in a comprehensive value engineering approach

LifeCycle
- Take into account operating costs and tariff analysis
UNRIVALLED INTEROPERABILITY
Integrating Performance Analysis into the heart of the design process, IES offers an unrivalled interoperability with other CAD design and analysis tools.

Examples of leading International companies which use our software include; AECOM, Arup, Atkins, Aurecon, BDP, Broadway Malyan, Buro Happold, Foster+Partners, Gensler, Guttman & Blaevoet, Mott MacDonald, Stantec, Syska Hennessy, WSP Group and WYG.

STANDARDS & METHODOLOGIES
IES tools meet the following approved international standards and can undertake the following methodologies.

STANDARDS
- ASHRAE 140: 2004 & 07, BESTEST, CIBSE TM13,
  EU EN13791, July 2000, EPACT Qualified
- South Africa National Building Regulations: Regulation XA3

METHODOLOGIES
- UK National Calculation Methodology
- ASHRAE 62.1 calculation procedure
- ISO 7730 calculation procedure

TOOL INTEROPERABILITY

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ENVIRONMENTAL IMPACT AND COST ANALYSIS
Discover a unique new integrated approach to material selection and cost of your building while gaining BREEAM credits.

Use IMPACT for:
- Material selection
- Capital Cost and Life Cycle Costing assessment (LCC)
- Environmental IMPACT assessment (LCA)
- Rapid concept and detailed assessment
- Gain BREEAM credits for MAN05 & MAT01
- Use in UK and International BREEAM assessments
- Applicable to all building types
- Connect your existing BIM model with the IESVE BIM Analysis Suite

IMPACT is flexible and can integrate with international building sustainability assessment methods and schemes by reporting environmental impacts and life cycle costing in a number of ways including to the following methods/standards:
- ISO 15686-5: 2008 compliant
- EN 15643-2:2011 compliant
- EN 15643-4:2012 compliant
- EN 15643-1:compliant
- EN 15978:2011 compliant (from CEN TC/350)

JOIN WORLD LEADING SUSTAINABLE DESIGN EXPERTS
START USING IESVE TODAY
GET A QUOTE NOW!
Contact our expert sales team to discuss your requirements and get a personal tailored quote!
Ask about our special offers, email:
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