A Partnership for Driving Measureable Change for Sustainable Built Environments
Integrated Environmental Solutions Ltd

Founded June 1994
Head Office in Glasgow, Scotland

Offices: Dublin, Melbourne, Pune, Boston, Minneapolis, Vancouver and Atlanta

IES staff representation in UK, Europe, US, Canada, Malaysia, Middle East.

software in over 130 countries; international reseller network

International sustainability consultancy from IES Consultancy Services

International software training via Authorized IES Trainers

Partnerships with Trimble SketchUp, AECOM, Toyota + others
**Integrated Environmental Solutions Ltd**

**Reference Sites**

**multi-disciplinary:**
- AECOM: FaberMaunsell (UK), DMJM (US), Bassett (Australia)
- Arup (UK, Ireland, China, Germany, Australia, US, Botswana)
- Aurecon Group (Australia and New Zealand, South Africa)
- Halcrow Group (UK and Middle East)
- Ramboll WhitbyBird (Scandinavia, UK and Middle East)
- Stantec (Canada, US)
- WSP Group: (UK and Middle East), Flack + Kurtz (US) and Lincoln Scott (Australia)
- URS (US, UK)

**architecture:**
- RMJM (UAE)
- Cannon Design (US and China)
- Broadway Malyan (UK, UAE)

**engineering:**
- Buro Happold (UK, Ireland, Germany, UAE, USA)
- Syska Hennessy (US)
AEC Software: VE for Engineers

Engineering interface

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

- OPERATION
- COMPLETION
- DETAILED DESIGN
- SCHEMATIC
- CONCEPT
- MASTER PLANNING

Engineering analysis
Navigator technology
Regulations & VERS
AEC Software: VE for Architects

Architectural interface

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Use VE for Engineers across the entire design lifecycle

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Architectural analysis
Leverages VE for Engineers
Navigator technology
AEC Software: VE for Architects

Architectural interface

Built-in Quality Assurance / Integrated Guidance Notes
Track Progress - Date/User Stamp
Improved Modelling Efficiency & Accuracy

www.iesve.com
AEC Software: ModelViewer

NEW: Interactive / immersive solar shading
AEC Software: ModelViewer

- Solar Arc – full immersion solar penetration visualisation
- Multiple default animations
- Intuitive video controls, new X-Ray feature
- Model Viewer – Camera Path
AEC Software: ApacheSim

- Tabular room edit - import and export Room Data from excel
- Formulae profiles - ramp, step, multi variable control using simulation results time steps down to 1 minute
- Integrated HVAC / Natural Ventilation model - no post processing
- Near Future: Optimisation
AEC Software: SunCast

- Full solar penetration analysis
- New Feature: Solar intensity visualisation
- Pre-processing simulation for Dynamic Thermal Modelling
AEC Software: RadianceIES

- Luminance & Illuminance calculations, glare and daylight assessment
- Inclusion of Component Library information
- Inclusion of Luminaire data from LightPro
- Place light sensors enables daylighting control to be integrated with ApacheSim Energy Modelling
AEC Software: FlucsDL / FlucsPro

- Point to point daylight assessment; area thresholds
- Inclusion of Component Library Information
- Inclusion of Luminaire data from LightPro for combined assessments (FlucsPro)
AEC Software: LightPro

- Fast, straightforward luminaire placement and editing within the 3D VE model
AEC Software: MicroFlo

- Automatic (hex) mesh generation
- Inclusion of thermal boundary conditions from ApacheSim
- Inclusion of airflow boundary conditions from ApacheSim/MacroFlo
- Inclusion of Components from Component library
AEC Software: HVAC

NEW: HVAC interface drawing tools + ASHRAE 2004
AEC Software: Interoperability

Fully Integrated within the BIM Workflow

SketchUp

Revit

www.iesve.com
AEC Software: Simulex

- Define a building and its occupants
- Simulate how they move around a building day-to-day and evacuate during an emergency.
- Used worldwide and is readily accepted by planning authorities.
AEC Software: MacroFlo

- Calculation of infiltration based on internal / external pressure regime + Visualisation in VistaPro
- Natural ventilation assessment through windows / doors
- Coupled to ApacheHVAC enables true mixed mode assessment
- Utilises Performance Components: Monodraught wind-catchers
AEC Software: VE Navigators

Integrated with VE Environment
- Only one model is required

Unique guided workflow tailored to the task at hand
- Accessible to all users / specialist knowledge bar lowered

Analysis automates the complex tasks involve
- User input / actions / ability required minimised

Automated reportage
- Collation, post processing (Inc. credits) and output = dramatic staff time savings

Regional Navigators for multiple locations Worldwide
- LEED / BREEAM / UK NCM / Green Star
AEC Software: VE Navigators

- **Productivity** - high cost benefit of using these Navigators in project turnaround time and staff effort saved
- **Payback** - investment in Navigators paid back quickly (typically 1-2 projects)
- **Better solutions** - taken together the productivity features empower iteration to optimum solutions where previously only a few iterations were feasible within the time / budget
- **Quality Assurance** - managed / auditable process
- **Approved** - Navigators tested and where relevant approved
AEC Software: Regional VE-Navigators

VE-Navigator for ASHRAE 90.1 (LEED Energy)

• Makes LEED Energy Modeling straightforward.
• Automatically creates baseline buildings.
• Automatically selects and sizes baseline HVAC systems.
Simulates all proposed and baselines to produce submission reportage.
AEC Software: Regional VE-Navigators

VE-Navigator for LEED India

- The IES VE-Navigator for LEED-India automates credit assessment across Day lighting, Comfort, Water and Renewables for LEED India New Construction v1.0, and Core and Shell v1.0.
- It offers the ability to input and manipulate exact building data and produce reports suitable for LEED India submission.
AEC Software: Management

NEW: Track design teams progress for Green rating schemes

- Track progress of evidence and credits in real time
- Organised credit system based on assessment scheme
- All current BREEAM versions
- Upload evidence securely – with multiple uploads
- Assign responsibility and deadlines
- Track the progress of design and post construction at the same time
Research & Development

THERM: Manufacturing sustainability

THERM will create an integrated tool for sustainable manufacturing, which will take into account the building design and the manufacturing processes and allow manufacturers to understand and reduce their energy use.
Research & Development

IMPACT: Environmental Impact

IMPACT will create an integrated tool for Environmental Impact, Life-Cycle Analysis, and Life-Cycle Costing which will be integrated with the <VE>‘s design, operational energy assessment suite of tools.
Research & Development

VE-SCAN: Calibration of the Building using Dynamic Simulation

VE-Scan will quantify excess energy being consumed in a building and optimise building control by comparing the current energy usage to that of the designed / optimised building control model.
Manufacturers

Monodraught WindCatchers: Performance Components

Drag and drop WindCatcher Performance Components into your IES Virtual Environment model. Performance Components are data-rich fully formatted analysis-ready objects that can be integrated into your building design.
Manufacturers

DAIKIN: Integration of DAIKIN VRV

Tool automatically sizes the system and selects the correct model-number & allows users to compare alternative configurations so that they can easily evaluate the best option to maximise energy efficiency and lower building energy use.

Full Thermal Simulations reveal Annual Loads, Power Input and Efficiencies.
Consultancy

IES Consultancy Services

Leverage the unique international expertise of IES Consulting to help you achieve your sustainability goals. With our diverse range of services and enviable depth of experience we can give you the answers you need for your project and save you time and money like nobody else can. Come to us for inspiration, ideas and advice to help you create your most successful, cost-effective, high performance project.

Energy Management
IDENTIFY, ANALYSE & CUT ENERGY CONSUMPTION

Advanced Simulation
IN-DEPTH BUILDING PERFORMANCE ANALYSIS

LEED Services
LEED ENERGY MODELING AND MUCH MORE

BREEAM
CALCULATION SERVICES TO SUPPORT YOUR ASSESSMENTS

Regulation Compliance
COMPLETE RANGE OF SERVICES FOR UK & IRELAND

Global Consulting Team

www.iesve.com
Consultancy

IES Consultancy Services: Case Studies

Leverage the unique international expertise of IES Consulting to help you achieve your sustainability goals. With our diverse range of services and enviable depth of experience we can give you the answers you need for your project and save you time and money like nobody else can. Come to us for inspiration, ideas and advice to help you create your most successful, cost-effective, high performance project.

Scottish Parliament
Advanced 3D modelling and dynamic simulation of the Scottish Parliament using < VE > software.

OPW HQ, Trim Co. Meath
A 50% reduction in Energy Consumption achieved using IES software. {Consultancy Study}.

IGO, Thorpe Park
Highest ever BREEAM score achieved (87.55%) plus over 80% reduction in CO2 emissions.
Consultancy

IES Consultancy Services: Case Studies

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AEI Head Office, Canberra

Energy efficient and occupant comfort optimised for 3rd '6 Star' Green Star building in Australia. {Consultancy Study}

Ashley McGraw, USA

IES’ integration with SketchUp and Revit eases the workload during the design process. {Software Study}

Karakorum National Park

E + & ILA Studios integrate IES software from design stage to decrease energy usage by 52%. {Software Study}
IES Training

IES Training Services:

Leverage the unique international expertise of IES Training to help you achieve your learning goals. With a variety of training options and enviable depth of experience globally in sustainable analysis we can give you the training you need for our software and your project like nobody else can. Come to us for inspiration, ideas and advice to help you train your most important asset – your staff.

- **eTraining**
  
  Our cost and time effective e-Training allows you to master the <VE> without leaving your desk.

- **Face to Face Training**
  
  Interactive and "hands on" training sessions that can be tailor made to best meet your particular requirements.

- **Project Based Training**
  
  Our project-based training can help you grow your understanding beyond initial competency, to a more advanced level.
Contact

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