iCD – Intelligent Community Design

2025.2.0 Release Notes

IES Ltd

September 2025

Contents

Release 2025.2 - September 2025

Minor general improvement and bug fixes

A few minor improvements were implemented as well as some minor bug fixes.

SketchUp 2020 support dropped

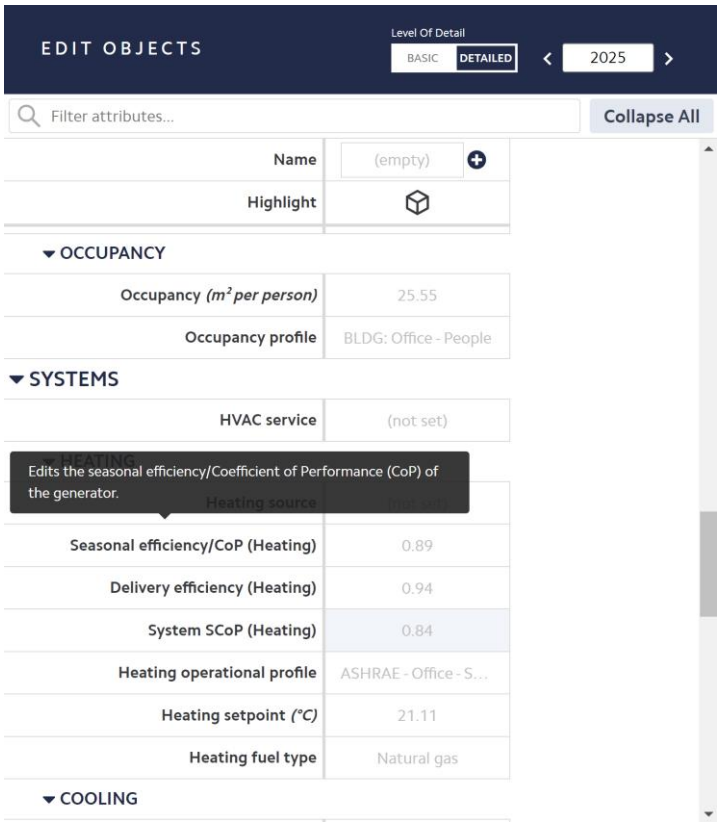
iCD does not support SketchUp 2020 anymore from this version onward

Release 2025.1 - June 2025

Tooltip on attributes

Additional tooltips were introduced in the query tool when hovering the attribute's name.

These tooltips give some additional description and explanation on what the attribute is meant to capture in order to help the user understand their role.



Outdoor thermal comfort – Fixed colour range

The outdoor thermal comfort assessment now generates the UTCI as a colour within a fixed colour scale for more consistency across models.

This colour scale was added in the Outdoor Thermal Comfort dialog in order to give visibility to the user on what the displayed colours mean (See below)

UTCI range (°C)	Stress category
above +46	Extreme heat stress
+38 to +46	Very strong heat stress
+32 to +38	Strong heat stress
+26 to +32	Moderate heat stress
+9 to +26	No thermal stress
+9 to 0	Slight cold stress
0 to -13	Moderate cold stress
-13 to -27	Strong cold stress
-27 to -40	Very strong cold stress
below -40	Extreme cold stress

SketchUp 2025

iCD 2025.1.0 is now compatible with SketchUp 2025

Minor bugs and miscellaneous improvement

A few minor bugs were fixed and some general improvement were made.

iCD was updated to make use of MTE0.36.5 for simulation and outdoor thermal comfort

Release 2025.0 - January 2025

Building Model Attribute Restructure

The structure of the Building Model Attributes within iCD has been updated to deliver a more coherent and logical workflow to users in terms of setting models up and the inputs required. This update provides a more transparent link between the attribute values and the simulation results that come from the Apache engine so that a user can more readily identify the impact of the choices that they make when modelling the building. The modelling attributes and corresponding results are also now more closely aligned to modelling in the VE, to facilitate progression from one tool to another as your modelling progresses in detail.

Additionally, the option to interact with attributes at a basic or detailed level has been added to give users the ability to increase resolution if needed. This is to accommodate both projects which have a limited amount of information on each building (e.g. regional energy plans with hundreds of buildings) or smaller scale projects where exact parameter values are available for individual buildings.

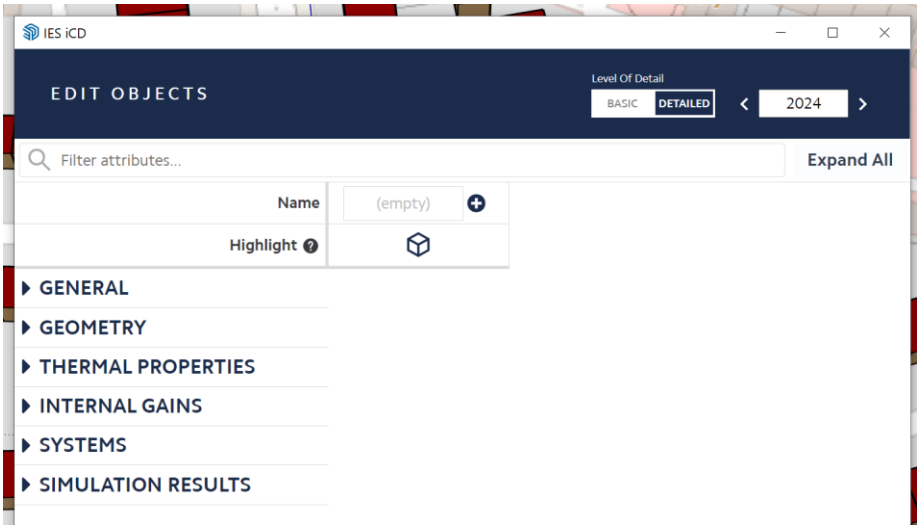
Because of these changes you should read the guidance in our FAQ before deciding whether to upgrade a project from iCD 2024 to iCD 2025. To support these structural changes iCD 2025 and beyond syncs to a new version of iCIM. Syncing to iCIM is done in the same way as before just with two new endpoints, which can be found below:

For EU hosting: https://icim-eu.iesve.cloud/cim/cim-endpoint
For UK hosting: https://icim-uk.iesve.cloud/cim/cim-endpoint

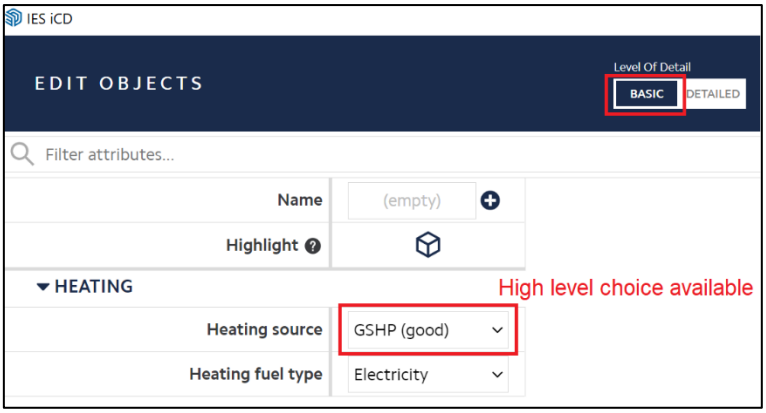
Any existing iCIM deployments will be maintained so that current and legacy projects are still hosted in their existing locations and no changes are required.

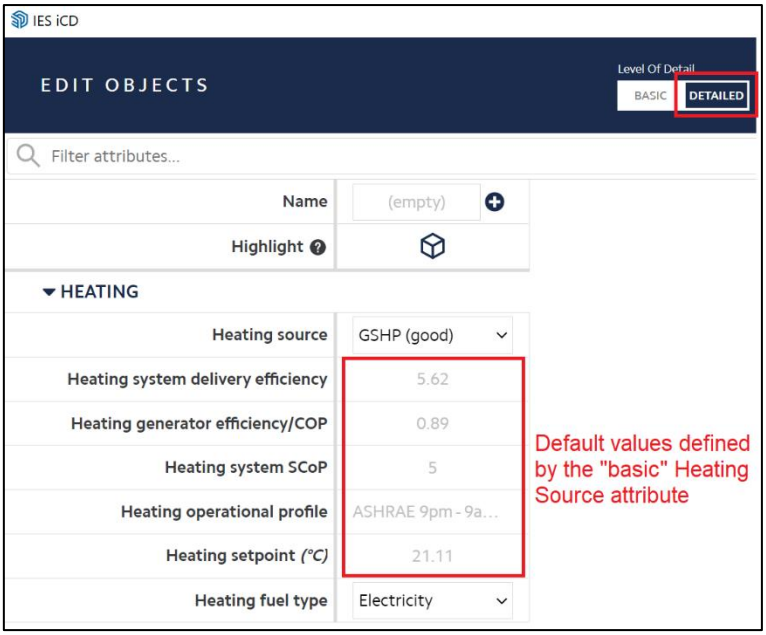
The Query Tool, through which the building attributes are accessed, has also been restructured and updated to improve the user experience and make the editing of building models much easier.

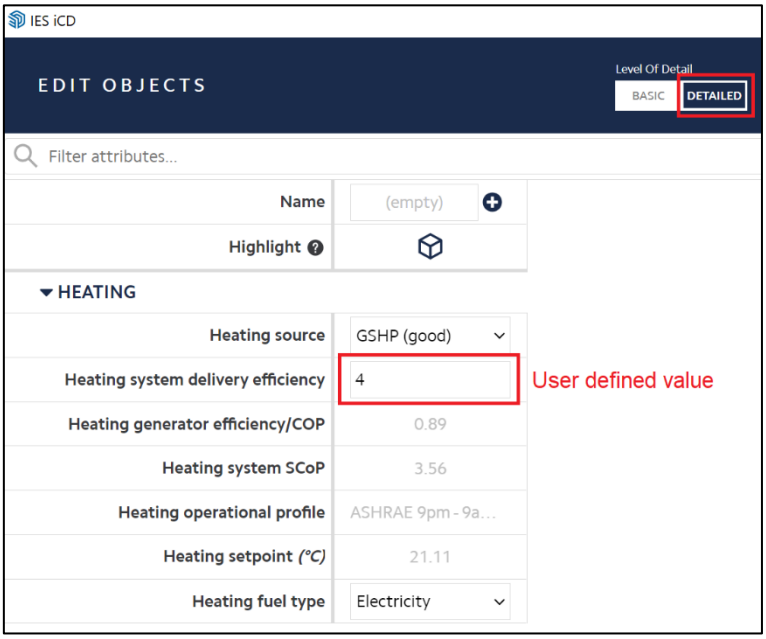
As well as having refined the list of attributes, they are also now grouped by type (shown in the figure below), and there is also a choice to interact with the attributes at either a basic or detailed level, chosen through the toggle in the top right of the Query Tool. This is to accommodate both projects which have a limited amount of information on each building (e.g. regional energy plans with hundreds of buildings) or single building project where exact parameter values are available.



To show an example of the changes, the Heating section is shown in the below figures to show the new behaviour. The “Heating Source” attribute in the basic level sets the default values of the detailed attributes depending on the option selected. If the user then moves into that layer, they can set the values of those attributes manually.







More specifically, the following attributes in the existing version of iCD have been impacted by these changes, with some information and context included:

Name	Upgrade note
General	
Roof overlap	User can define extra local shade to model the Roof overlap
HVAC service	
Fuel Type (heating & hot water)	This attribute was changed to Heating fuel type (only). DHW has its own fuel type now.
ICL settings	
Infiltration	"**Infiltration max flow**" renamed "**Infiltration**" to define the infiltration (Value in ac/h)

Heating/hot water generator efficiency	Attribute removed. Replaced by "Heating Source" and/or "Seasonal efficiency/CoP (Heating)"
Cooling generator efficiency	Attribute removed. Replaced by "Cooling Source" and/or "Seasonal EER (Cooling)"
Ventilation type	Removed. All ventilation power is now defined either via "Auxiliary max power consumption" or "Specific Fan power"
Hours of use	Modelled by different profile attributes that are now available
ICL intervention	
Boiler plant improvements	No longer available
Chiller plant improvements	No longer available
Ventilation	Removed. Now indicated via attribute "Ventiliation Heat Recovery Effectiveness"
Distribution pipes insulation	Removed. Now modelled separately with "Delivery efficiency" attributes for heating, cooling and DHW.
Roof insulation	This dropdown attribute was removed. Now relying solely on Roof U-value
Loft insulation	This dropdown attribute was removed. Now relying solely on Ceiling U-value
Exposed floor insulation	This dropdown attribute was removed. Now relying solely on Ground floor U-value
External wall inner insulation	This dropdown attribute was removed. Now relying solely on Wall U-value
External wall outer insulation	This dropdown attribute was removed. Now relying solely on Roof U-value
Fabric opaque doors	Attribute removed.
Distribution systems insulation	Can be modelled with DHW delivery efficiency to some extent.
Heat pump (heating)	Attribute removed. Can be replaced by "Heating Source" and/or "Seasonal efficiency/CoP (Heating)"
Heat pump (cooling)	Attribute removed. Can be replaced by "Cooling Source" and/or "Seasonal EER (Cooling)"
Details (optional)	
Vacancy rate	Attribute removed. Data should be moved to Custom attribute.
Rent	Attribute removed. Data should be moved to Custom attribute.
Condition	Attribute removed. Data should be moved to Custom attribute.
Ownership	Attribute removed. Data should be moved to Custom attribute.
Building id	Attribute removed. Data should be moved to Custom attribute.
Owner/occupier	Attribute removed. Data should be moved to Custom attribute.
Address # / street	Attribute removed. Data should be moved to Custom attribute.
Address district	Attribute removed. Data should be moved to Custom attribute.
Address town	Attribute removed. Data should be moved to Custom attribute.
Address region	Attribute removed. Data should be moved to Custom attribute.
Country	Attribute removed. Data should be moved to Custom attribute.
ZIP code	Attribute removed. Data should be moved to Custom attribute.
Has real data	Attribute removed. Data should be moved to Custom attribute.
Underlying land use	Attribute removed. Data should be moved to Custom attribute.
Flood plain / risk	Attribute removed. Data should be moved to Custom attribute.
Total investment cost	Attribute removed. Data should be moved to Custom attribute.
Advanced - System	
Power factor - general	Attribute removed. Can no longer be modelled

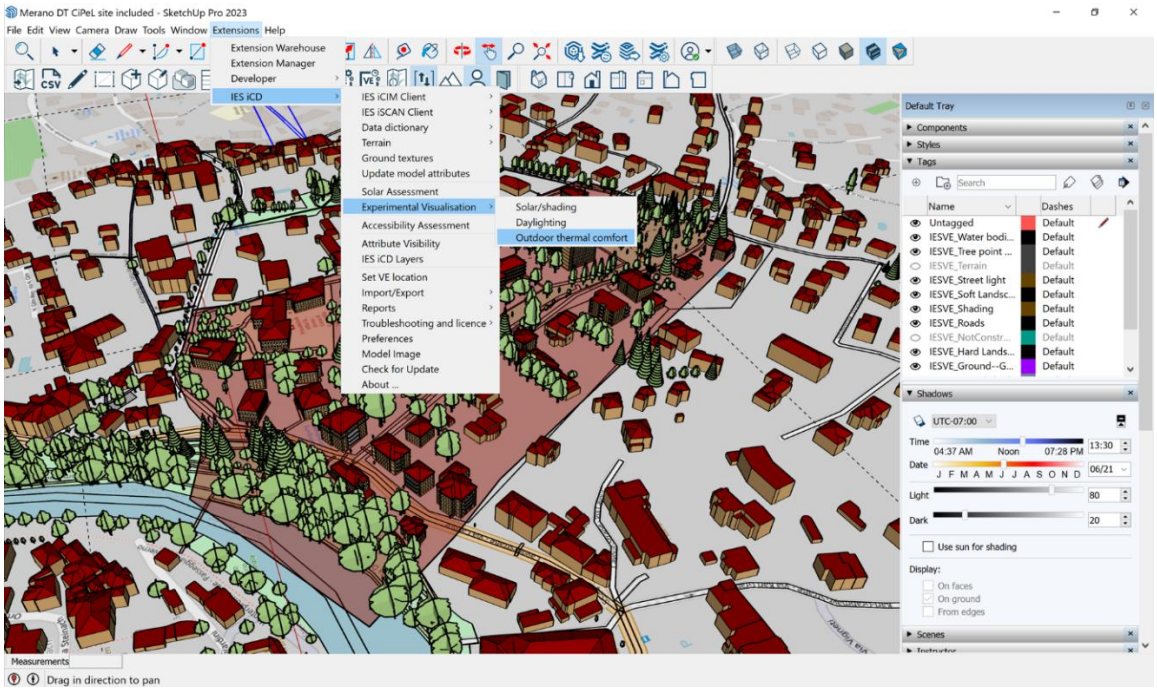
Power factor - heating	Attribute removed. Can no longer be modelled
Power factor - dhw	Attribute removed. Can no longer be modelled
Simulation results	
Sim heating energy	Attribute renamed
Sim dhw energy	Attribute renamed
Sim cooling energy	Attribute renamed
Sim auxiliary energy	Attribute renamed
Sim lighting energy	Attribute renamed
Sim equipment energy	Split into 2 attributes: Total Plug load and Total process load
Sim total energy	Attribute renamed
Sim total carbon	Attribute renamed
Sim water kitchen tap use	Water simulations are no longer available
Sim water washroom tap use	Water simulations are no longer available
Sim annual water runoff	Water simulations are no longer available
Sim water toilet use	Water simulations are no longer available
Sim water urinal use	Water simulations are no longer available
Sim water bidet spray	Water simulations are no longer available
Sim water shower use	Water simulations are no longer available
Sim water total	Water simulations are no longer available
Heating load peak date/time	Peak loads are no longer generated
DHW load peak date/time	Peak loads are no longer generated
Cooling load peak date/time	Peak loads are no longer generated
Electrical demand peak date/time	Peak loads are no longer generated
Gas/Fuel demand peak date/time	Peak loads are no longer generated
Heating load peak value	Peak loads are no longer generated
DHW load peak value	Peak loads are no longer generated
Cooling load peak value	Peak loads are no longer generated
Electrical demand peak value	Peak loads are no longer generated
Gas/Fuel demand peak value	Peak loads are no longer generated
Benchmarks	
Benchmark total carbon (inc renewables)	Attribute removed. Data should be moved to Custom attribute.
Benchmark total energy (inc renewables)	Attribute removed. Data should be moved to Custom attribute.
Benchmark total energy (demand only)	Attribute removed. Data should be moved to Custom attribute.
Benchmark heating (demand)	Attribute removed. Data should be moved to Custom attribute.
Benchmark hot water (demand)	Attribute removed. Data should be moved to Custom attribute.
Benchmark cooling (demand)	Attribute removed. Data should be moved to Custom attribute.
Benchmark lighting (demand)	Attribute removed. Data should be moved to Custom attribute.
Benchmark power (demand)	Attribute removed. Data should be moved to Custom attribute.

Renewable energy (heat generation)	Attribute removed. Data should be moved to Custom attribute.
Renewable energy (elec generation)	Attribute removed. Data should be moved to Custom attribute.
Advanced - Misc	
Heating SCoP	Read only. Now derived from Seasonal efficiency/CoP and delvery efficiency.
Cooling SSEER	Read only. Now derived from Seasonal EER and delvery efficiency.
Computers max power consumption	Attribute replaced by plug load max power consumption
Computers profile	Attribute replaced by plug load energy profile.
DHW cold water temperature	Attribute removed. Default value = 10 degC
DHW storage insulation thickness	Attribute removed.
DHW storage insulation type	Attribute removed.
DHW storage system	Attribute removed.
DHW storage volume	Attribute removed.
DHW supply temperature	Attribute removed. Default value = 60 degC
Max humidity value	Attribute removed.
Min humidity value	Attribute removed.
Solar DHW inclination	Attribute removed.
Solar DHW shading factor	Attribute removed. Default value assumed to 1.
Off-schedule auxiliary energy value	Attribute removed.
Cooling system heat rejection	Attribute is not editable anymore. Default value= 10 %.
Ventilation heat recovery return air temp	Attribute removed.
Computers diversity factor	Attribute removed. Assumed default value of 1.
Infiltration profile	Attribute removed. Assumed "on continuously"
Lighting dimming profile	Attribute removed. No dimming profile.
Lighting diversity factor	Attribute removed. Assumed value of 1.
Natural ventilation max flow	Attribute removed. Replaced by Flowrate.
Natural ventilation profile	Attribute removed. Replaced by Ventilation operational profile.
People max latent gain	Attribute removed.
People max sensible gain	Attribute removed.
Occupancy diversity factor	Attribute removed. Assumed default value of 1.

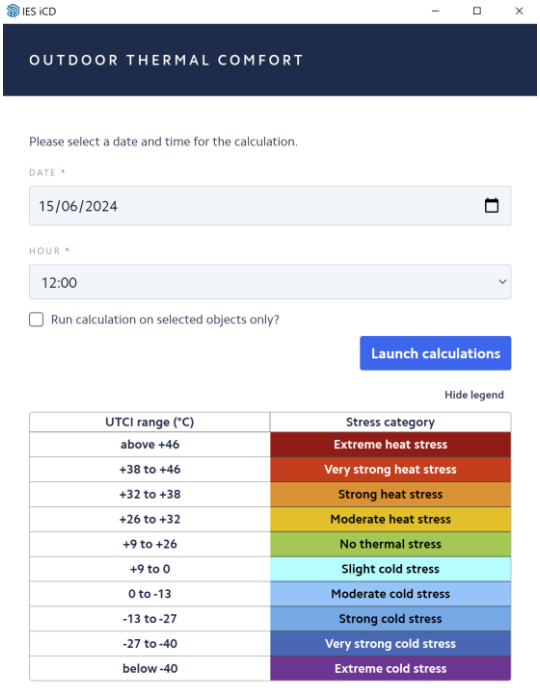
Outdoor Thermal Comfort: Universal Thermal Climate Index (UTCI) Calculator

UTCI is the industry standard metric for assessing outdoor comfort in an urban space. Air temperature, radiation, humidity and wind speed are all taken into account. Users can analyse the impact of elements such as trees, landscape and building orientation to analyse outdoor thermal comfort and investigate to find the best design solution.

The feature is accessed through the Extensions menu tab.



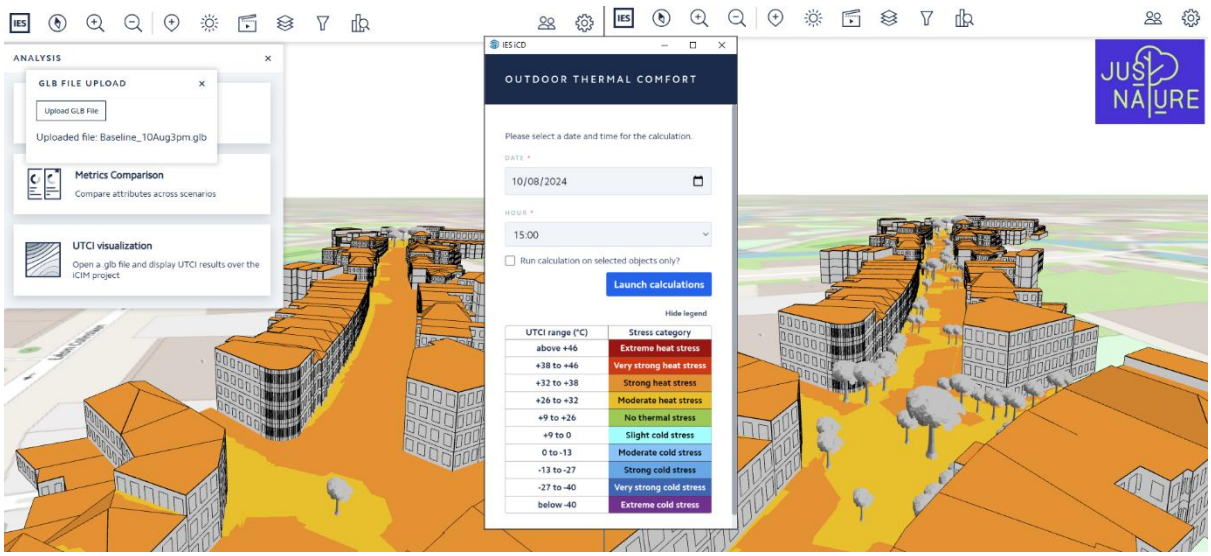
A specific date is chosen for the simulation. Comfort levels are assessed by a standard scale:



UTCI range (°C)	Stress category
above +46	Extreme heat stress
+38 to +46	Very strong heat stress
+32 to +38	Strong heat stress
+26 to +32	Moderate heat stress
+9 to +26	No thermal stress
+9 to 0	Slight cold stress
0 to -13	Moderate cold stress
-13 to -27	Strong cold stress
-27 to -40	Very strong cold stress
below -40	Extreme cold stress

Once simulated, the model can be synchronised to iCIM for visualisation. To do this, first the following option must be selected in the Extensions menu: Extensions > IES iCD > Troubleshooting and licence > retain simulation results.

An example is shown below:



Release 2024.2 – June 2024

Simulation Progress dialog – Report on failed simulation

Organisations need to have a deep understanding of their building energy consumption: how much they use, where they get it from (hedge or wholesale), do they generate it, plans to expand and future usage. This clarity is necessary to make tariff decisions, but also for operational and financial strategic business decisions.

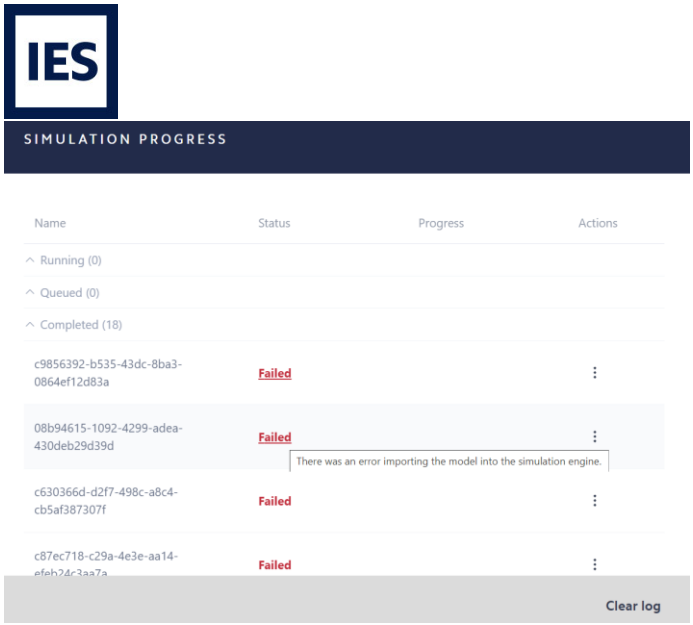
When a simulation fails, the simulation log informs the users via the “Failed” status

The user can hover over the “Failed” status in order to identify the stage at which the simulation failed.

With this update the user can access a more detailed report for two different error types:

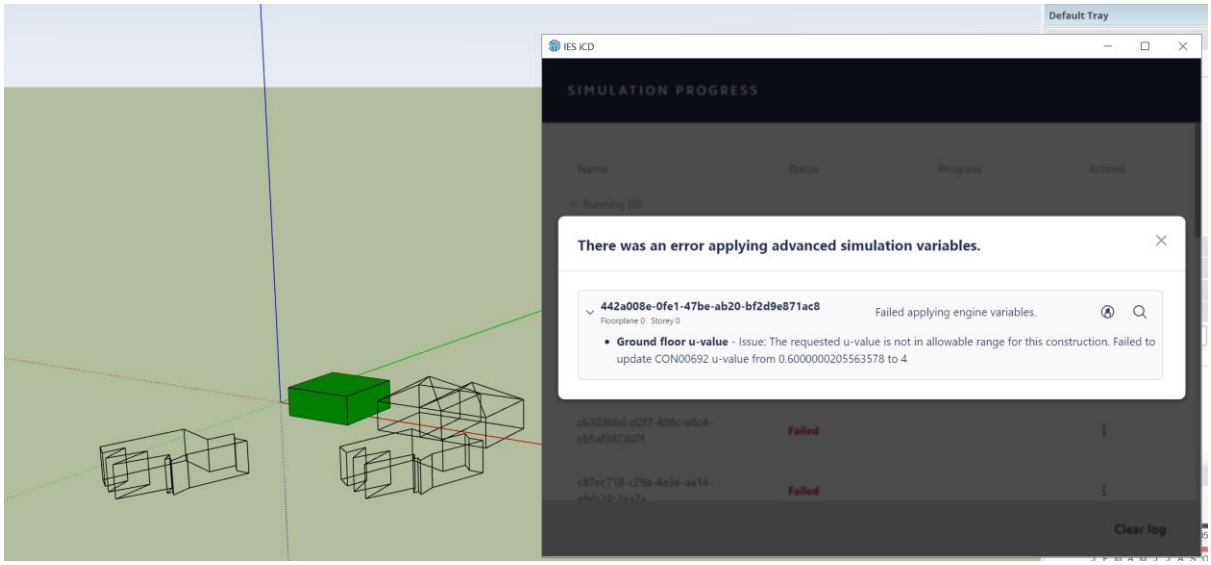
- When there is a problem with the geometry of a building (“There was an error importing the model to the simulation engine”)
- When the attribute’s value of a building is not valid for the simulation (“There was an error applying advanced simulation variables”)

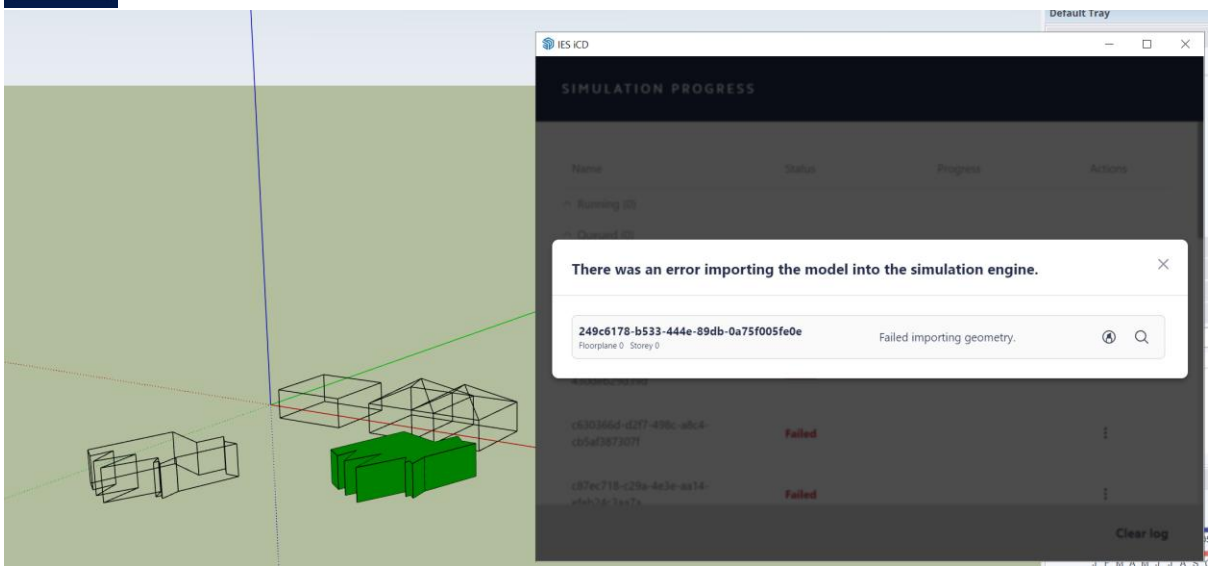
In both cases the “Failed” status is underlined and can be clicked on by the user to open the detailed report.



When opening the report, the Id of the building is displayed, as well as the space within the building concerned by the identified error. The user can highlight the building (highlighter icon) within the model as well as zoom to the building (magnifying glass icon) to facilitate its identification.

When the error is about an invalid data on an attribute the report can be expanded to identified the attribute that has a faulty value





Know issue: currently if the simulation fails due to overlapping geometry, iCD is unable to generate a report as each building individually are

Simulation progress dialog – Action on simulation log

In the simulation progress dialog, when a simulation is either in the queue, simulating, or completed, the user can perform a set of action on the simulation job.

- Stop/remove: to stop a running simulation or remove it from the queue or the log. When a running simulation is stopped, the simulation job goes to the log with the "stopped" status.
- Open in VE/Run simulation: for 2-step simulation using the VE engine the user can open the model in the VE or launch the simulation in iCD
- Select object: the user can select all object that are concerned by a given simulation in order to identified them
- Re-launch: the user can re-launch a simulation that failed or completed successfully Re-launching a simulation starts a simulation on the same object it was intialially run for with the same simulation options.

Known issue: when running simulation in batches, re-launching one of the simulation batch will re-launch all the simulation batches.

Release 2024.1.0 – March 2024

CSV import

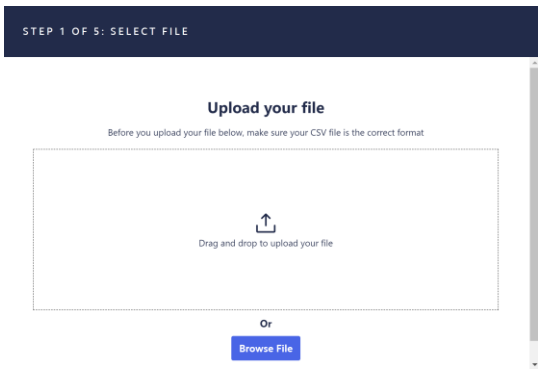
The CSV import in iCD has been redesigned in order to simplify the overall user experience and refresh the UI.

To simplify the access to the CSV import the functionality is now accessible directly from the toolbar via the below icon

The CSV import is now broken down into 5 steps described below.

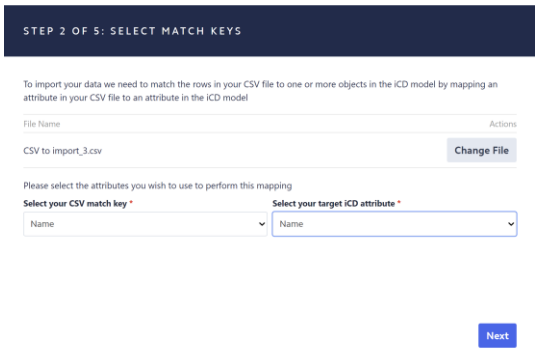
Selecting CSV file

At this step the user is asked to select the CSV file they wish to import.



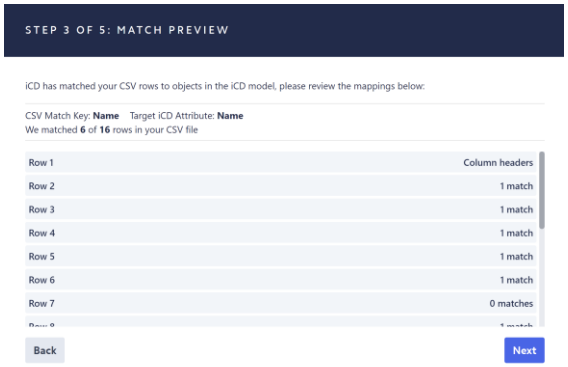
Selecting the match key

At this step the user can choose the CSV column that will be used as a match key as well as the iCD attribute it will be matched against



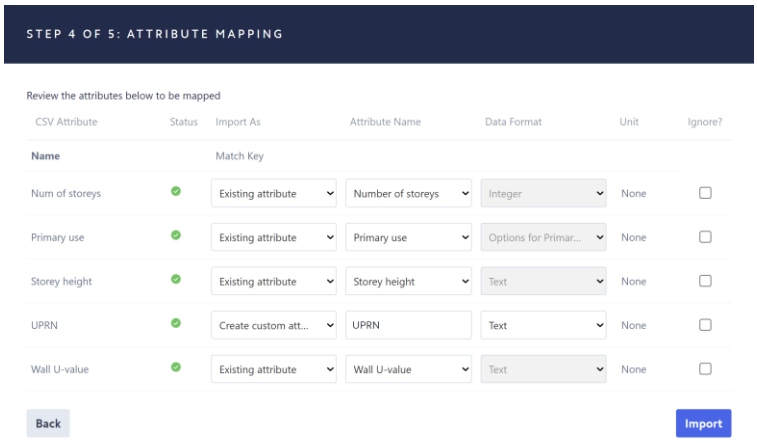
Reviewing the match

The user can review the objects targeted by the CSV import based on the selected match key.



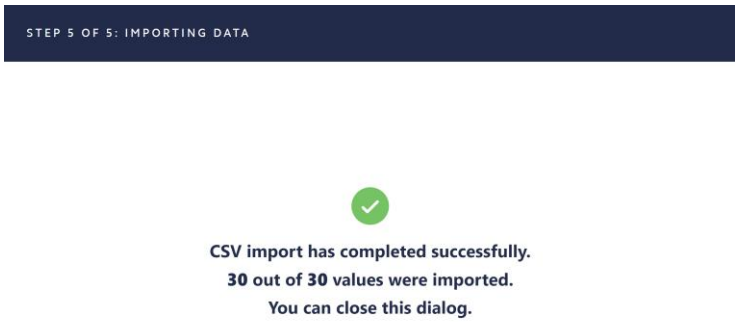
Attribute mapping

At this stage the user defines which column in the CSV file is meant to be imported into which iCD attribute (existing attribute or by creating a new Custom attribute).



Importing data

The data are imported to model as part of this stage and iCD gives the user an overall feedback



Query tool performance improvement

The overall performance of the query tool has been improved in order for it to open faster when selecting several buildings.

iSCAN export and Override Total Floor Area

Simulation results exported into iSCAN channels are now scaled based on the Override total floor area values entered in each building by the user.

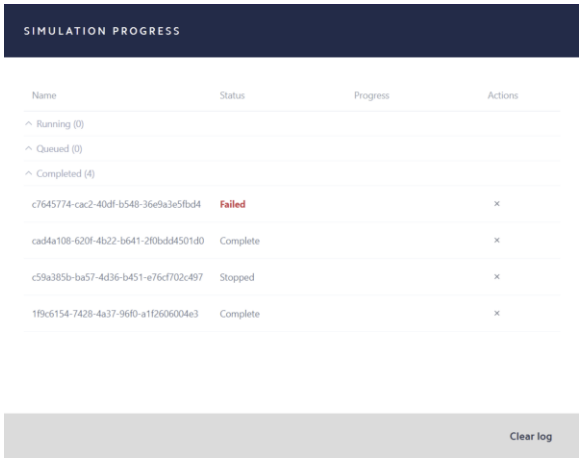
Example: for 100m^2 building with an Override total floor area set to 80m2 all data point in the exported timeseries are scaled by 80%.

Simulation Progress dialog update

The overall UI of the dialog was updated.

In addition to showing the progress of running simulations and the next queued simulations, the simulation progress dialog now keeps a record of all past simulations including their status (completed/failed/stopped) in a log.

This log can be cleared using the clear log button.



Miscellaneous bugs

Area of Interest (AOI) – fixing the “add selected” option

The “Add selected” option was fixed. This option would now add to the AOI the exact footprint of the selected object.

Release 2024.0.0 – January 2024

New login Mechanism

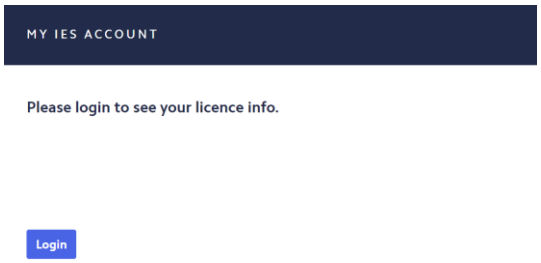
iCD was updated to make use of the Azure B2C authentication system as well as the new IES MyLicensing platform to manage licensing and authentication.

As a result, a new login interface was implemented in iCD to allow the user with a valid license to activate the iCD plugin in SketchUp.

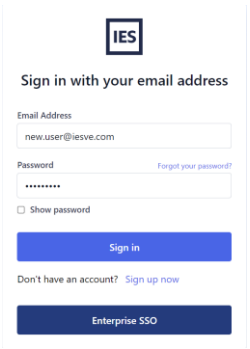
When iCD is launched for the first time, the toolbar will be grey and inactive as long as the user's license has not been validated. The only available icons when the user is not yet logged in are the My IES Account icon and the Help icon.

The My IES Account icon opens the dialog that allows the user to login

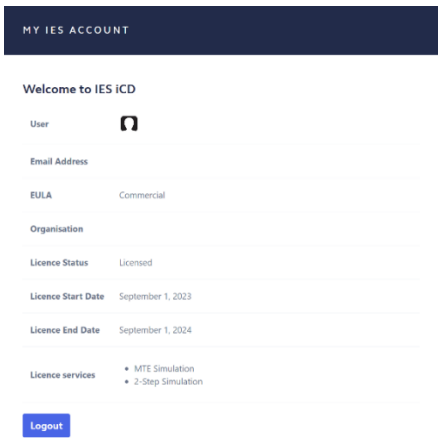
This opens the My IES Account dialog



After having clicked login, the user is navigated to the IES login page in their browser to enter their credential.



Once validated, the user can close the browser. The My IES Account dialog is updated with user license information.



Simulation improvement: Roof-space

In iCD, when a building's Roof type attribute is set to either Gable or Hipped, the building is modelled with a roof space on top of the last floor.

As part of this release, an improvement has been made to how the roof spaces are modelled to better take into account theses spaces within iCD simulation.

Important notes:

- These roof spaces cannot be edited (using attributes) and are always assumed unoccupied and un-conditioned.
- This update introduces a change in the simulation behaviour and user can expect different simulation results with this release if compared to simulation using an older version of iCD.

For more information please refer to our FAQ

https://www.iesve.com/support/icd/knowledgebase_faq

Release 2023.1.0 – September 2023

Synchronisation of iCD models to IES iRoadmap

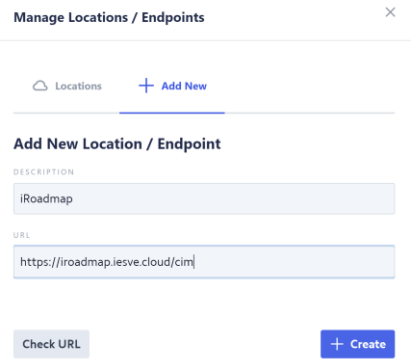
iCD was updated to use the new authentication mechanism which allows iCD users to create project in iRoadmap from their iCD model using the synchronisation functionality.

Similar to how user can currently create projects in iCIM from iCD and keep their models synchronised between the two applications, iCD users can add their iRoadmap endpoints, synchronise their iCD model to iRoadmap and use them as baseline models for their decarbonisation road mapping project.

To set your iRoadmap endpoint in iCD, the process is identical to adding an iCIM endpoint:

Open the synchronisation dialog via the button in the toolbar.

In the “manage” menu add the URL to the iRoadMap deployment



Once the endpoint saved, you can create a new iRoadmap project or synchronise your iCD model to an existing iRoadMap project using the synchronisation dialog

Bug fixing and upgrade

Fix on data painter

Fix on data painter was incorporated to prevent from potential accidental object duplication in the model.

Integrated engine

The iCD integrated engine was updated to use the latest version of the Model Translation Engine (MTE 0.27.2)

Release 2023.0.1 – April 2023

Bug fixing

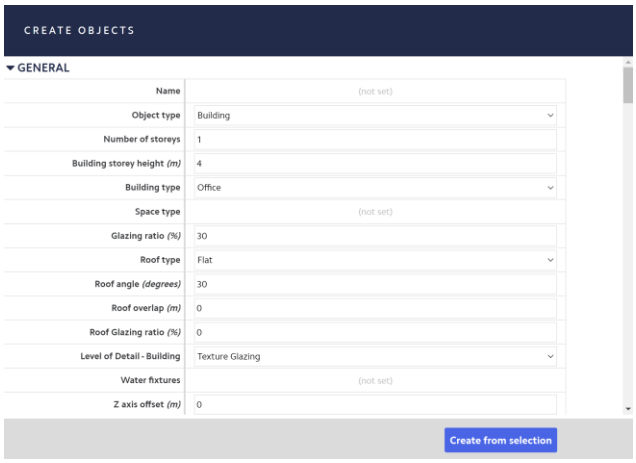
Bug introduced in the latest release resulted in some models ending up in a corrupt state (related to roof surface).

This bug has been fixed as part of this release

Release 2023.0 – March 2023

Create tool

The create tool was re-designed and improved to retain previous user settings



Computer and lighting max power consumption fixes

Recently introduced attributes Computer Max Power Consumption, Lighting Max Power Consumption and Process Load Max Power Consumption were fixed and now trigger the right Apache input and have the expected behaviour for simulation.

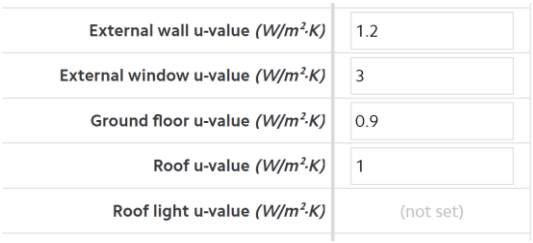
iCD plugin supported by SketchUp 2023

iCD is now compatible with SketchUp2023.

ICD integrated engine update

iCD integrated simulation engine has been updated.

The use of the new version of the integrated engine removes the error previously seen when editing a U-value.



U-values can now be set within these ranges:

	min (W/m2.K)	Max (W/m2.K)
Ext wall	0	4
Roof	0	5
Ground floor	0	1
Window	0.5	5.5
Roof light	0.5	5.5