

# Climate-informed designs. Outdoor spaces that work.

Integrate robust outdoor comfort analysis into your early designs to create climate-conscious spaces that maximize property value and performance.

As cities emphasize sustainability and citizens push for functional outdoor spaces, the demand for climate-informed architecture is increasing.

At the same time, facility owners recognize the economic benefits of properties that:

- Attract more foot traffic to ground-level businesses
- Extend the seasonal availability of outdoor spaces and amenities
- Preserve user comfort and safety in a range of weather conditions

As a result, designs guided by outdoor comfort analysis—especially when used from day one—will have real advantages over those that only examine microclimate effects in the project's later stages.

## Why Orbital Stack?

- Win more projects
- Maximize project value
- Reduce risk and lower costs

## Outdoor comfort analysis made easy

Designed by users, for users, Orbital Stack equips you with robust outdoor comfort analysis that's:

### **Fast**

- Get started on day one
- Rapid results enable iteration
- Incorporate analysis into proposals

### **Affordable**

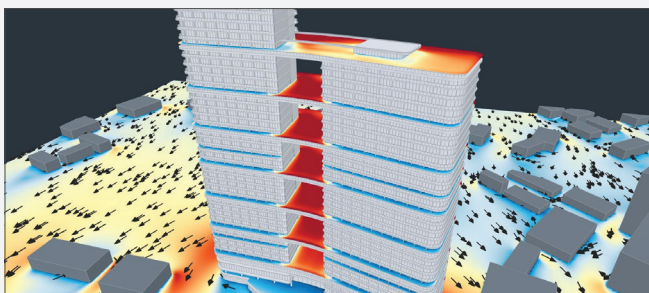
- Subscription-based pricing
- Freemium option
- Free trial

### **Understandable**

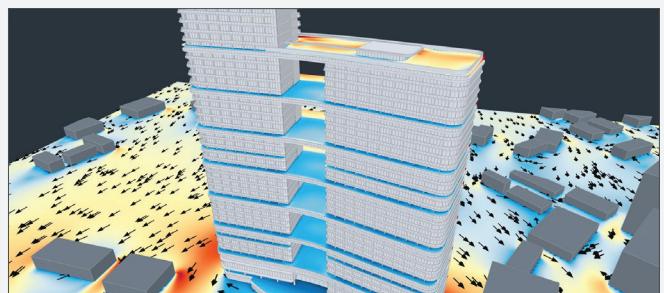
- No specialized skills needed
- Intuitive visualizations
- Clear legends and display options

## Trusted by world-class architects and developers

Designers around the world use Orbital Stack to maximize outdoor comfort, property value, and building performance.



Easterly winds create concentrated gusts (red) that render outdoor patio and restaurant spaces in the base design uncomfortable.



The updated design incorporates vented glass walls and high-level trellises that make the terraces comfortable (blue), increasing their value.

# Guiding your designs has never been this fast, easy, or accessible

## 1 Configure

Simply upload your CAD Geometry and specify your location.

We do the rest.

## 2 Simulate

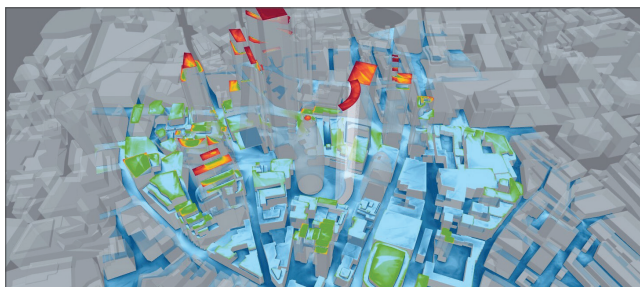
Orbital Stack simulates local conditions to reveal the microclimates created by your building and its surroundings.

## 3 Explore

Use our clear interface to analyze your outdoor spaces and to identify what physical factors may need refinement.

### Wind Comfort Analysis

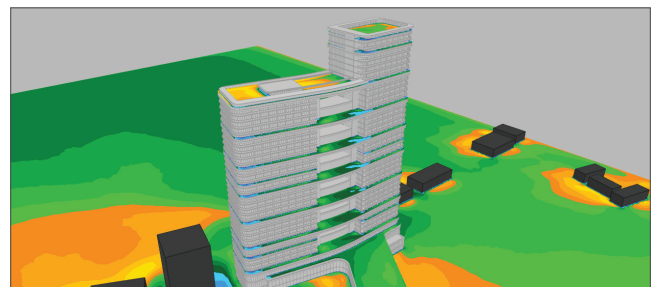
Offers a statistical view of conditions to determine if a location is suited for sitting or strolling, or requires mitigation.



*Vivid renderings showcase the comfort of outdoor spaces and their suitability for different activities.*

### Thermal Comfort Analysis

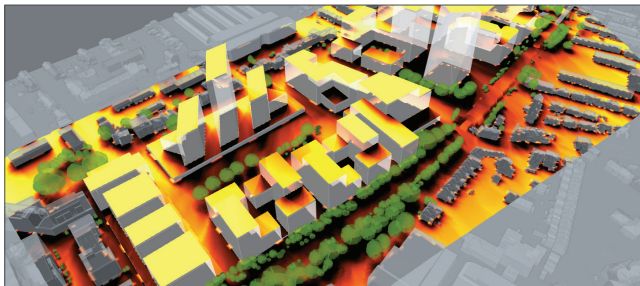
Provides objective metrics (e.g., SPMV\*, UTCI) that show how outdoor spaces meet their intended usage profiles.



*Even at a glance, it's easy to see which areas are comfortable and which aren't, allowing designers to identify where mitigations may be needed.*

### Shadowing Analysis

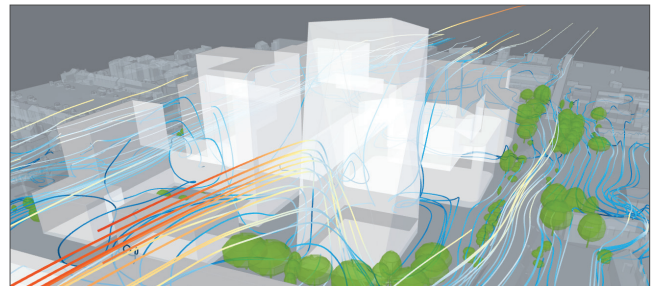
Indicates where shadows would fall for the given season and/or time of day, during sunny conditions.



*Areas of light and shade become clear as day, helping to guide designs that make effective use of the outdoor environment.*

### Airflow Analysis

Profiles the wind behavior from different directions, using streamlines to illustrate localized flow patterns.



*Streamlines bring wind patterns to life, creating an intuitive understanding of how different flows shape local conditions.*

## Ready to take your designs to the next level?

[Book a personal demo](#)

Built by leading global engineering firm RWDI, Orbital Stack was founded in 2020 to commercialize the powerful modeling and analysis capabilities that RWDI has honed in building performance, climate and environmental engineering over five decades.

For more information, please visit [www.orbitalstack.com](http://www.orbitalstack.com) or reach out at [sales@orbitalstack.com](mailto:sales@orbitalstack.com).

600 Southgate Drive • Guelph, Ontario, Canada N1G 4P6