3D wind, in minutes

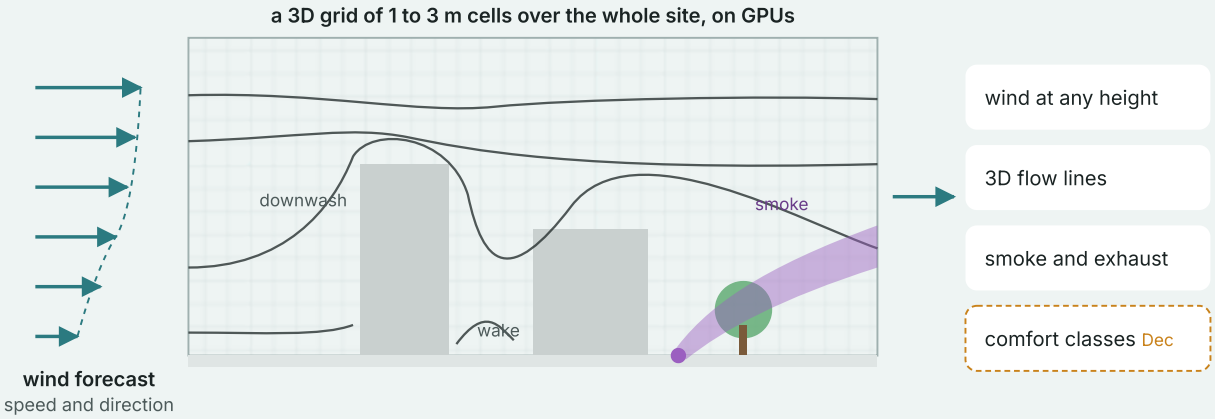
Full 3D airflow around every building and tree of a real site, from the wind forecast. Wind at any height, and where smoke or exhaust goes.

5 of 5
VDI 3783-9 test cases meet the hit-rate bar on every wind component

R 0.90
on a held-out city wind-tunnel test (AIJ Shinjuku, wind from NNW), 5 runs

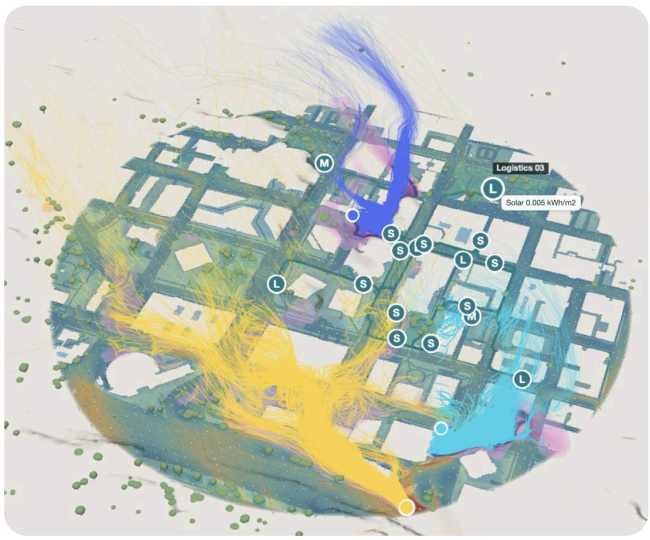
≈ 5 min
for a new site. Updates for the same site in under 30 s

Evaluated on the test cases C1 to C5 of VDI 3783 Part 9, the German guideline for testing urban wind models (test cases only, not a certification), and against the AIJ wind-tunnel benchmarks of the Architectural Institute of Japan. Expected by end of December: wind comfort classes on the 3D model.



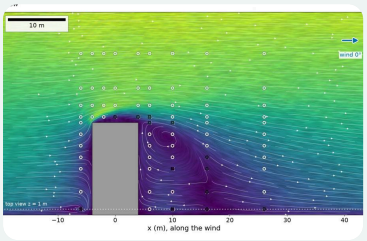


Downtown Los Angeles: 3D wind from the forecast (white lines) and smoke from two sources, with team positions.



Same site, three smoke sources over one afternoon. Felt heat on the streets below.

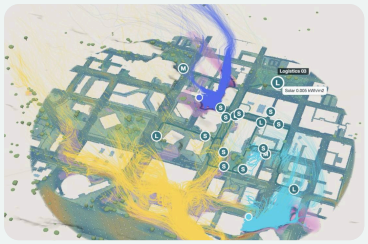
What your users could get from it



How does a new tower change the wind?

Downwash, corner streams and the wake behind it, in 3D. See which entrances, terraces and balconies get the gusts.

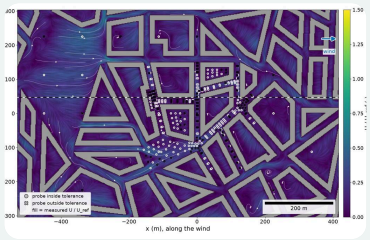
Sell it as: tower wind check



Where does the smoke go?

A fire, a generator or a kitchen exhaust: the plume follows the forecast wind around every building, for the next hours.

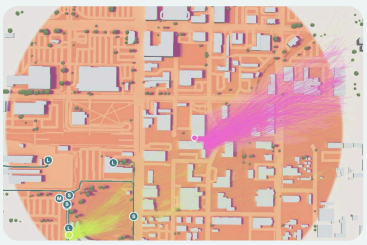
Sell it as: smoke forecast



Is the courtyard ventilated?

Find still-air pockets and the streets that carry a cooling breeze. Wind at 2 m, on a balcony at 30 m, or on a roof.

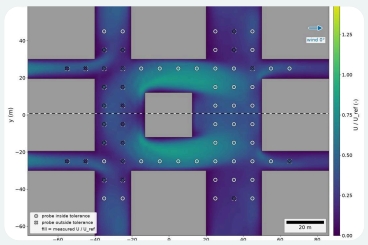
Sell it as: ventilation map



Is it safe to work up there?

Wind on scaffolds, cranes, roofs and event stages, hour by hour from the forecast. Plan lifts and set-up in the calm hours.

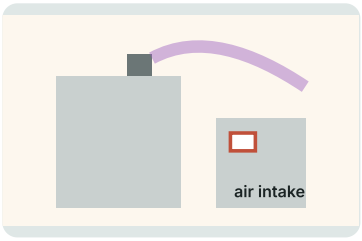
Sell it as: wind work window



Where do people feel the wind?

Pedestrian wind comfort classes computed on the full 3D flow, for every street and square of a district.

Sell it as: 3D wind comfort Dec



Does the exhaust come back in? Next

Check where exhaust and hot air reach fresh-air intakes and windows, before the plant is placed.

Sell it as: intake placement check

Three ways into your web app

1 · A layer while you design

Flow lines and wind speed on the ground and facades, in the 3D view. Move a block and run it again.

2 · One number per option

"Entrance: calm on 9 of 10 days." "Terrace wind halved." Easy to compare between options.

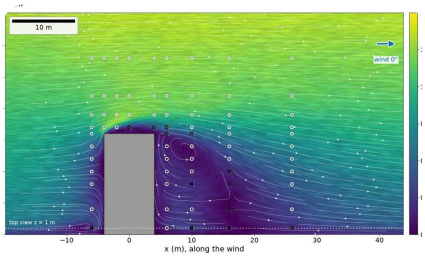
3 · A live forecast

The site set up once, then updated with every new wind forecast in seconds.

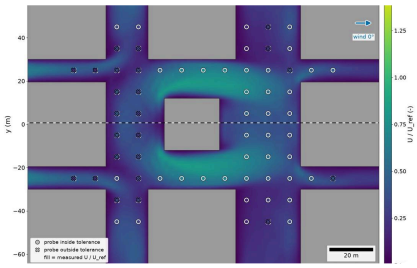
One upload, more answers. The same buildings also give sun, daylight and heat comfort. The 3D wind feeds the felt heat on every street.

What goes in, and how it is tested

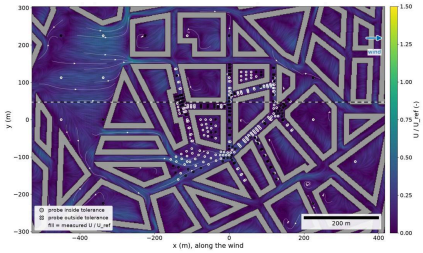
INPUT	WE GET IT AUTOMATICALLY	BETTER, IF YOU HAVE IT
Buildings Now	Your massing model, and the neighbours from OpenStreetMap or open 3D city models	Your own context model
Trees Now	Open tree data, as porous crowns that slow the air	City tree register
Wind Now	The weather forecast, or any wind direction and speed	Your own wind station
Smoke or exhaust source Dec	A point you click on the map	Source strength from your plant data
Terrain and slopes Next	Open terrain data	National terrain model (1 m)



AIJ single tower: flow over and behind the block, R 0.99 against the wind tunnel.



AIJ tower in a city block, not used for tuning: R 0.83.



VDI 3783-9 district: hit rate 0.74 to 0.87, bar 0.66 (joint 0.50).

Now: pilot runs

- Full 3D wind on 1 to 3 m cells over a 1.4 km site
- Wind speed at any height, 3D flow lines
- Trees as porous crowns
- From the forecast or any wind direction
- A new site in about 5 min, updates in under 30 s

→

End of December

- Pedestrian wind comfort classes on the 3D flow
- Smoke from a source, on demand
- Larger areas at about a third of the cost (nested runs)
- 3D wind through our SDK, ready for your web app

Next step: pick one site where wind matters, a tower, a stage or a plant. We run it in 3D and show you the flow.

Images: demo site Los Angeles (simulated); AIJ and VDI 3783-9 benchmark runs, our model.