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# Management of indoor thermal conditions with electrically heated glass in spaces with large glass facades in northern regions

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# Sweco is Europe's leading architecture and engineering consultancy

## Eight geographical business areas

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Sweden  
Belgium  
Finland  
Norway  
Denmark  
Netherlands  
Germany and Central Europe  
UK

## Leading position in Europe

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#1 in Europe  
  
One of the largest architect firms globally, with over 1,300 architects  
  
22 000 employees  
  
Office in 15 countries in Europe  
  
Net sales 2,7 bn euros in 2024  
  
Projects in more than 70 countries annually worldwide

## Multidisciplinary expertise and services

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Buildings and urban areas  
Industry, energy and environment  
Infrastructure and traffic  
Architecture  
Sustainability consultancy



Is it possible to create a space with high-level thermal comfort without compromising the architectural design?



Cold air causing discomfort →

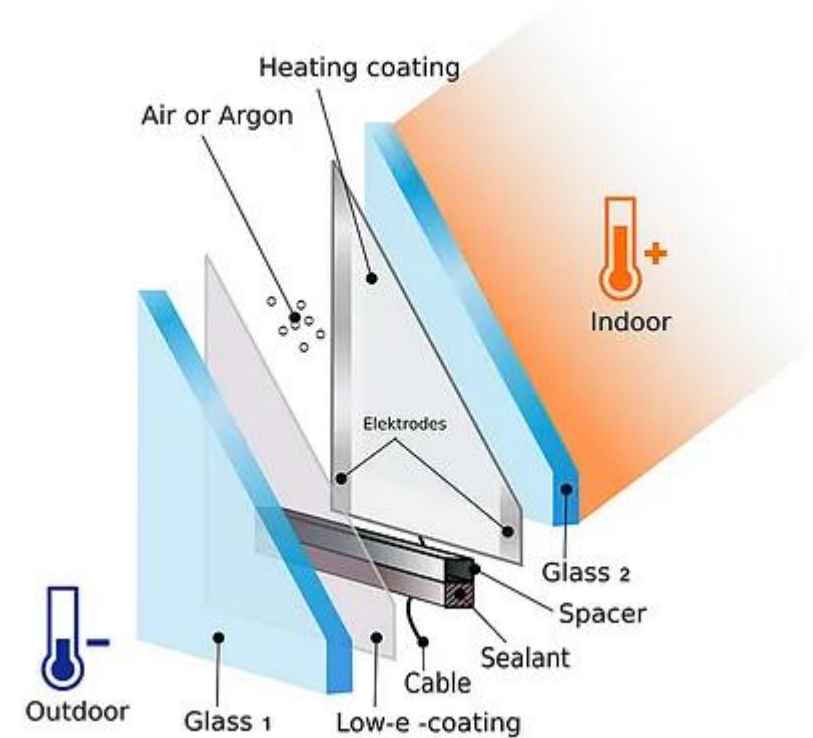




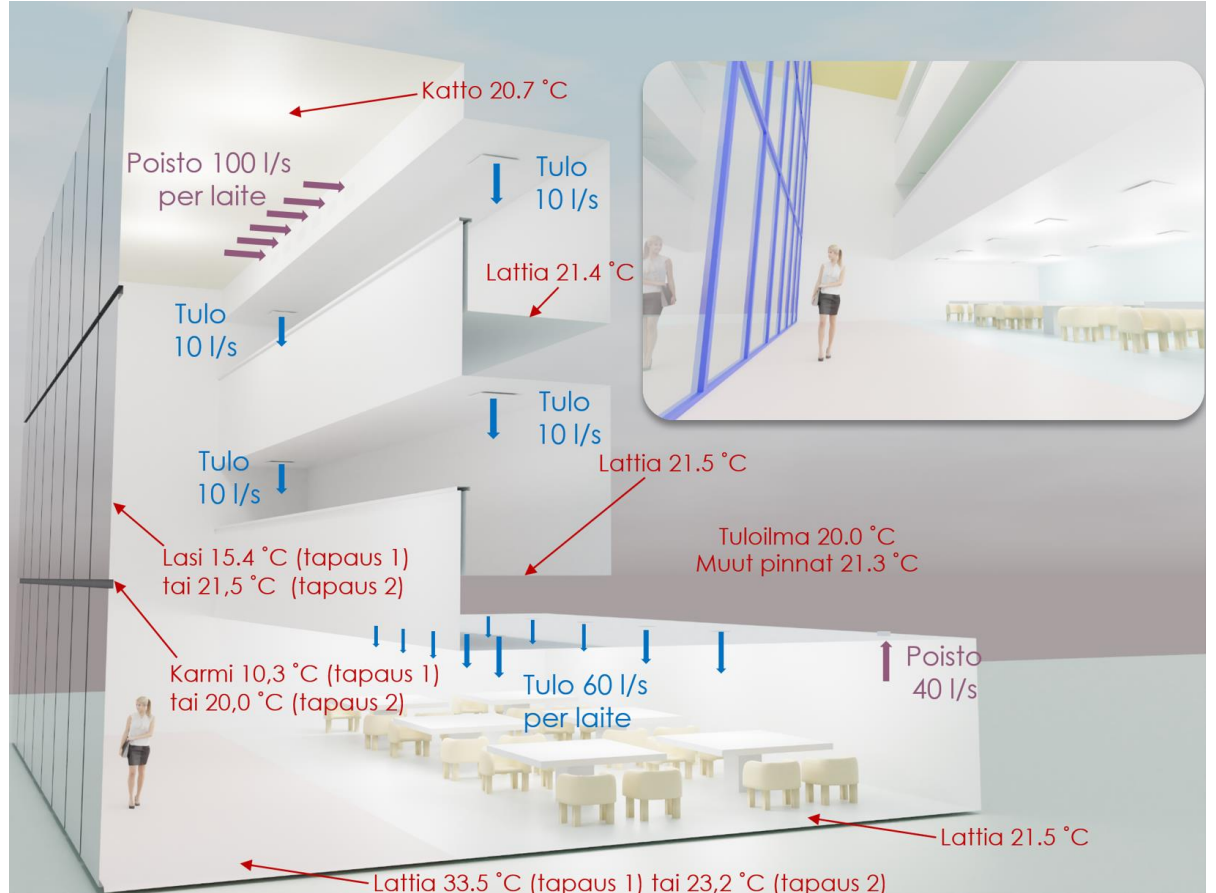
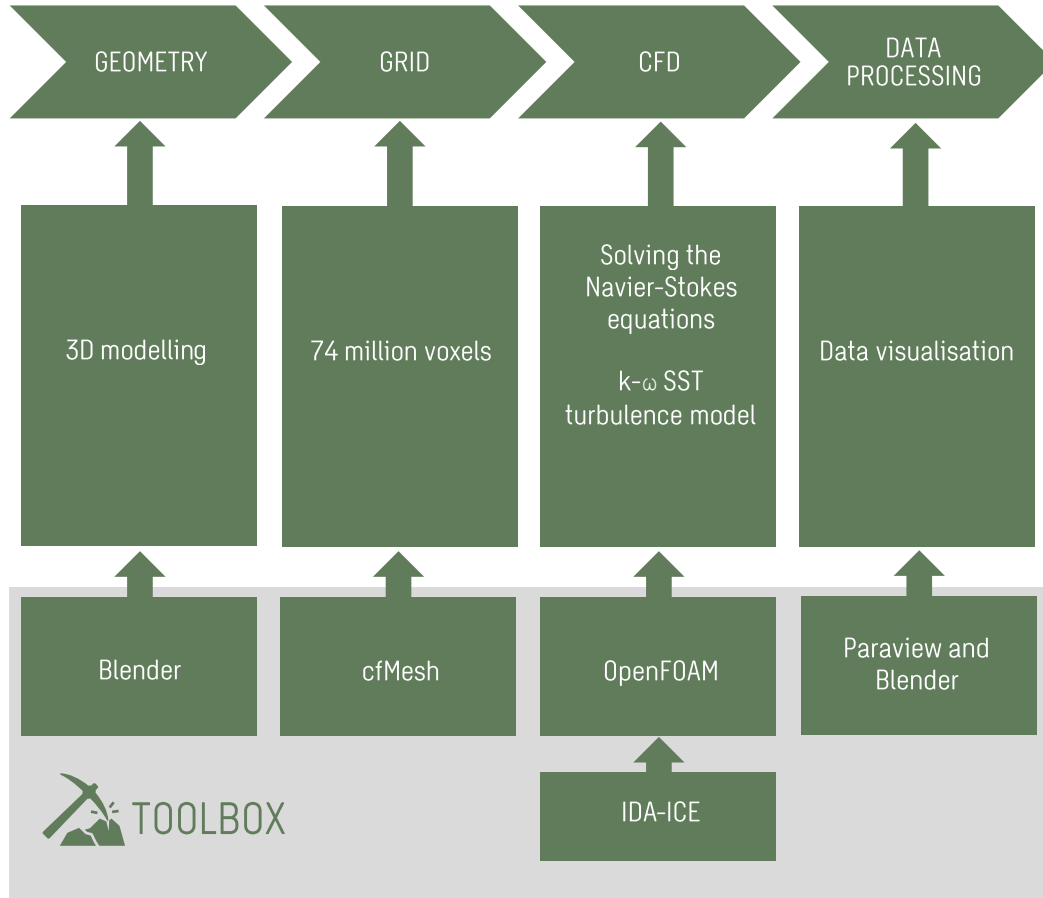




Could the problem be solved  
with electrically heated glass?

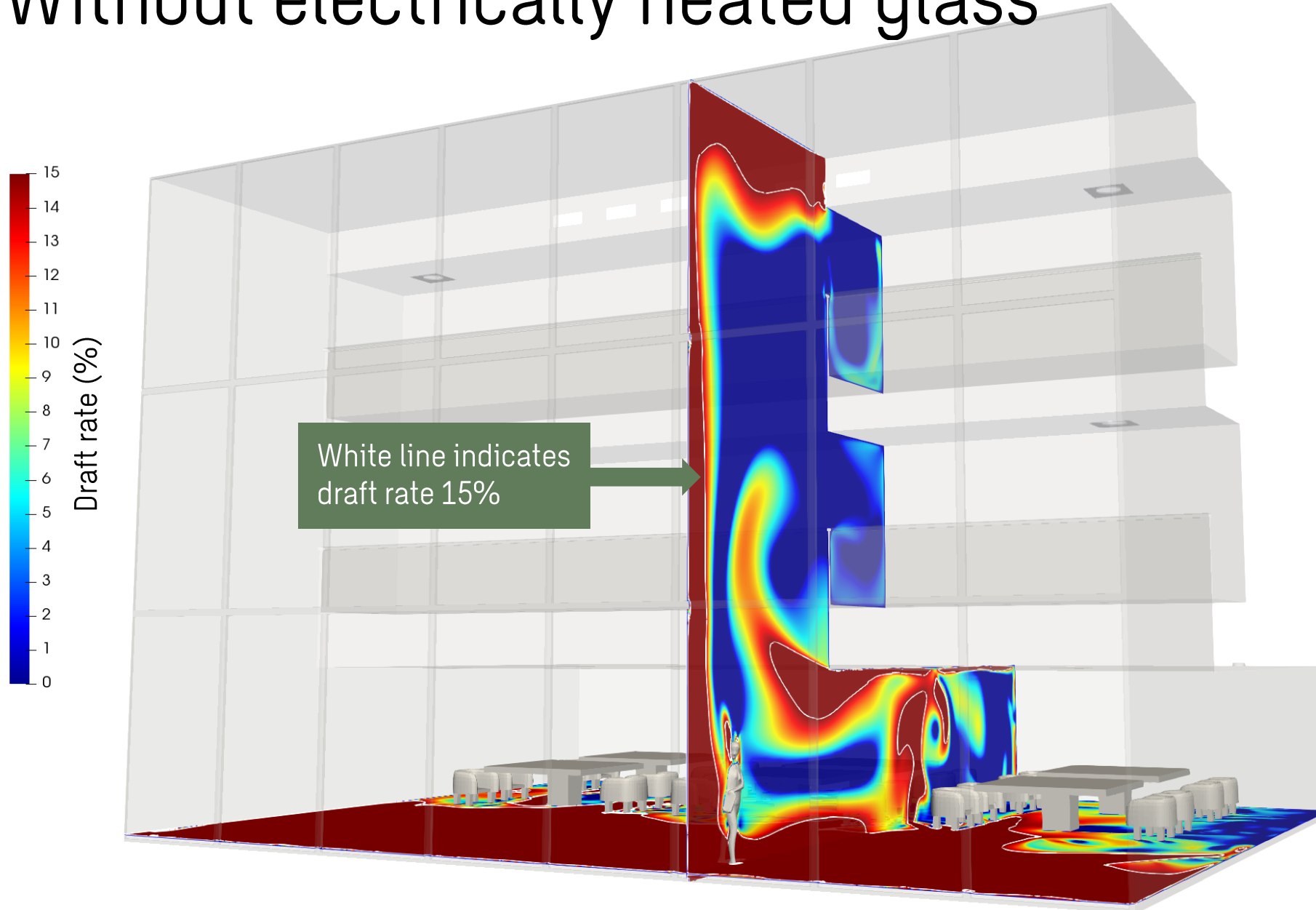


# Computational Fluid Dynamics, CFD



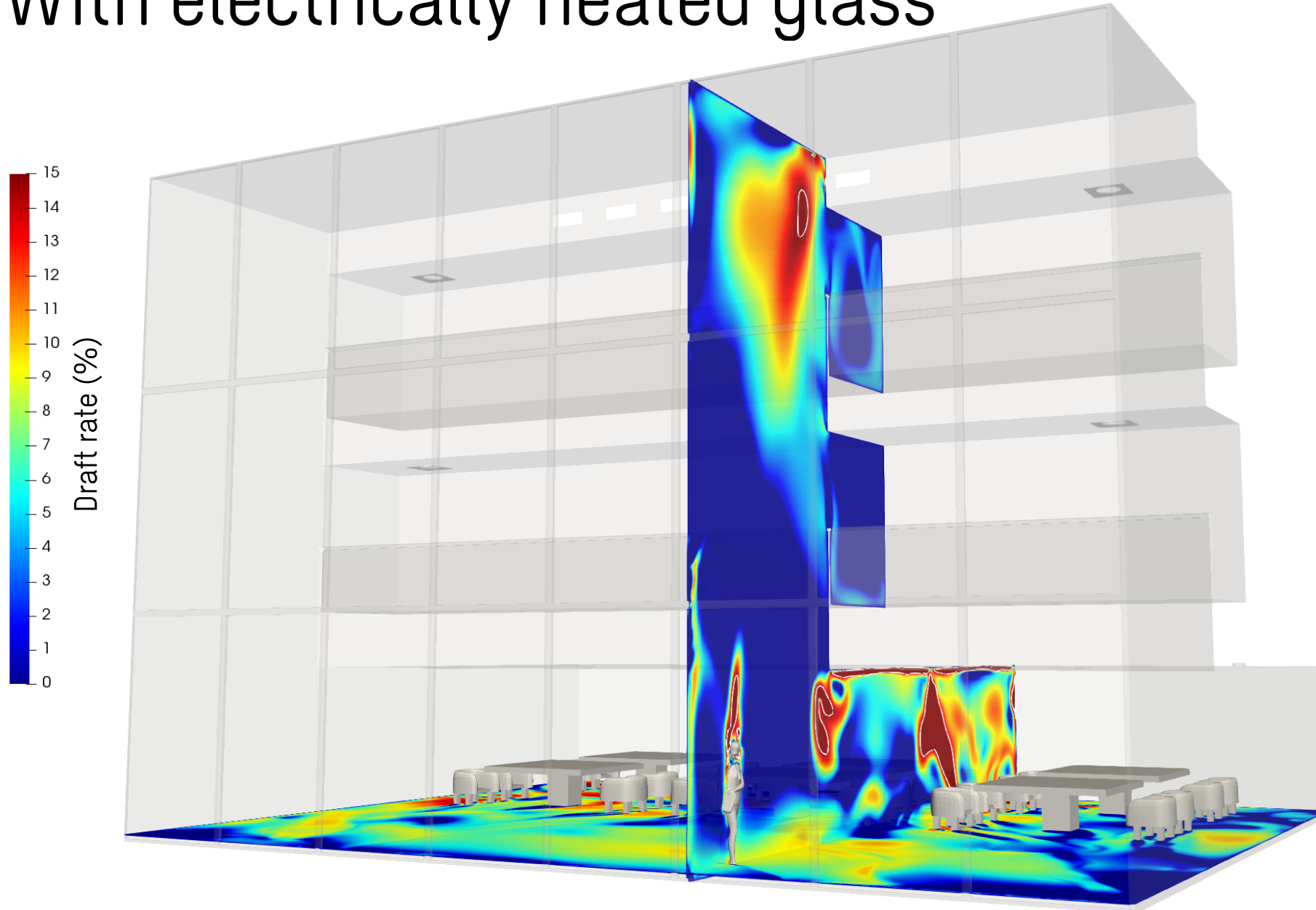


# Without electrically heated glass



The draft rate describes the percentage of occupants complaining of draft in accordance with temperature, average air speed and turbulence.

# With electrically heated glass



The draft rate describes the percentage of occupants complaining of draft in accordance with temperature, average air speed and turbulence.



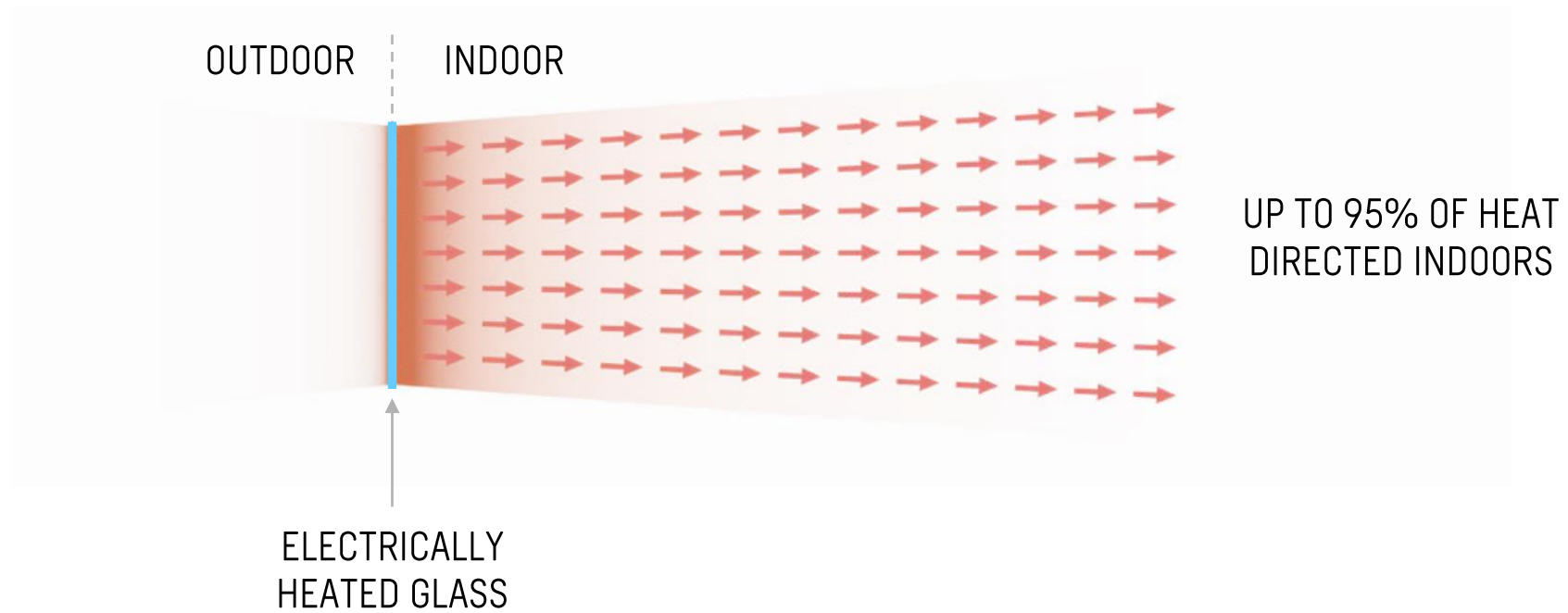
Without electrically heated glass



With electrically heated glass



# Energy efficiency?





Electrically heated glass

Electrically heated glass  
can eliminate draft issues.

When combining  
electrically heated glass  
with a building's heating  
and ventilation system, it is  
possible to achieve high-  
level thermal comfort with  
optimal energy efficiency  
without compromising  
architectural quality.

Demand-controlled ventilation

Radiant underfloor heating



ONE VANDERBUILT - SUMMIT LIFTS  
NEW YORK

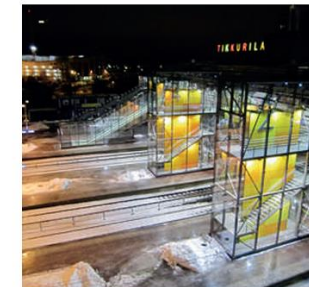
Customer: Cimolai Technology SPA  
FGL electrically heated glass  
with anti-reflective coating



TIKKURILA RAILWAY STATION  
FINLAND

Customer: Nordec Envelope  
Volume 5.500 m<sup>3</sup>

Safety glass with solar control and  
anti-condensation function and FGL  
electrically heated glass, structural  
glazing, all glass heat-strengthened or  
tempered laminated.



30 years of experience and  
all parts certified for safety



# Transforming society together

