



**Halton**

## Halton - Enabling Wellbeing

Halton is an indoor environment specialist that offers business enhancing products, systems and services for energy efficient and safe environments for customers who care about the wellbeing of people.

Halton is involved from design to building use and focuses on creating indoor environment experiences for people.



# Halton: Enabling wellbeing in indoor environments

- Founded in 1969
- A family-owned company
- Turnover in 2011 145 M €
- Presence: 23 countries
- Indoor climate and environment solutions that combine excellent indoor environment, safety and energy efficiency.



# Strategic Business Areas

- Halton Indoors: Commercial building indoor climate
- Halton Foodservice: Inspiring kitchen environments
- Halton Marine: Safe and seaworthy indoor climate
- Halton Clean Air: A clean advantage with filtration
- Halton New Ventures: Innovations & Managing indoor environments



1/ Courtesy of Statoil

## Who Are we?

- One of the World leading manufacturers
- Several projects from Australia to Russia from Asia to USA
- Competence from concept phase to end part of building life cycle
- First active beam was launched 1990



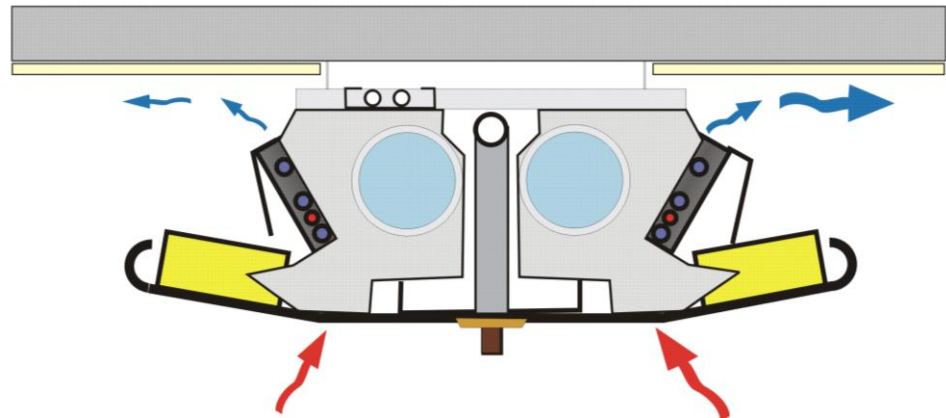
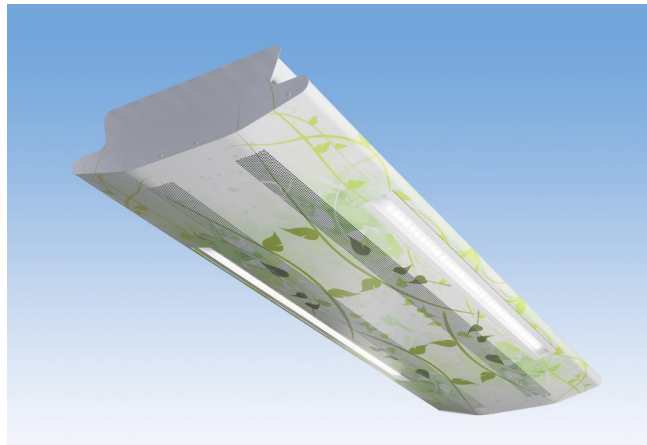
# Benefits of the integrated units

- One source responsibility lowers the risk and saves time and money
- Reduced installation lead time at site
- Improved site logistics
- Better quality of installation
- Architectural solutions

# Multi-service Chilled Beam Platform



- Ventilation
- Cooling
- Heating
- Lighting
- PA speaker
- Controller
- Detectors
- Sensors
- Cables
- Sprinklers





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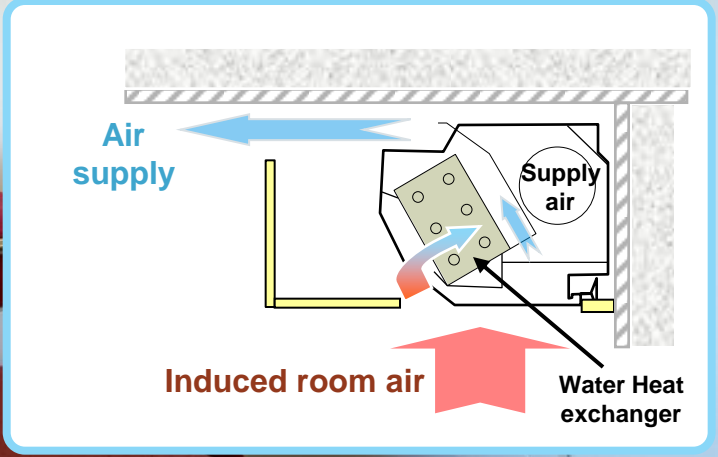
**Integrated LED's**



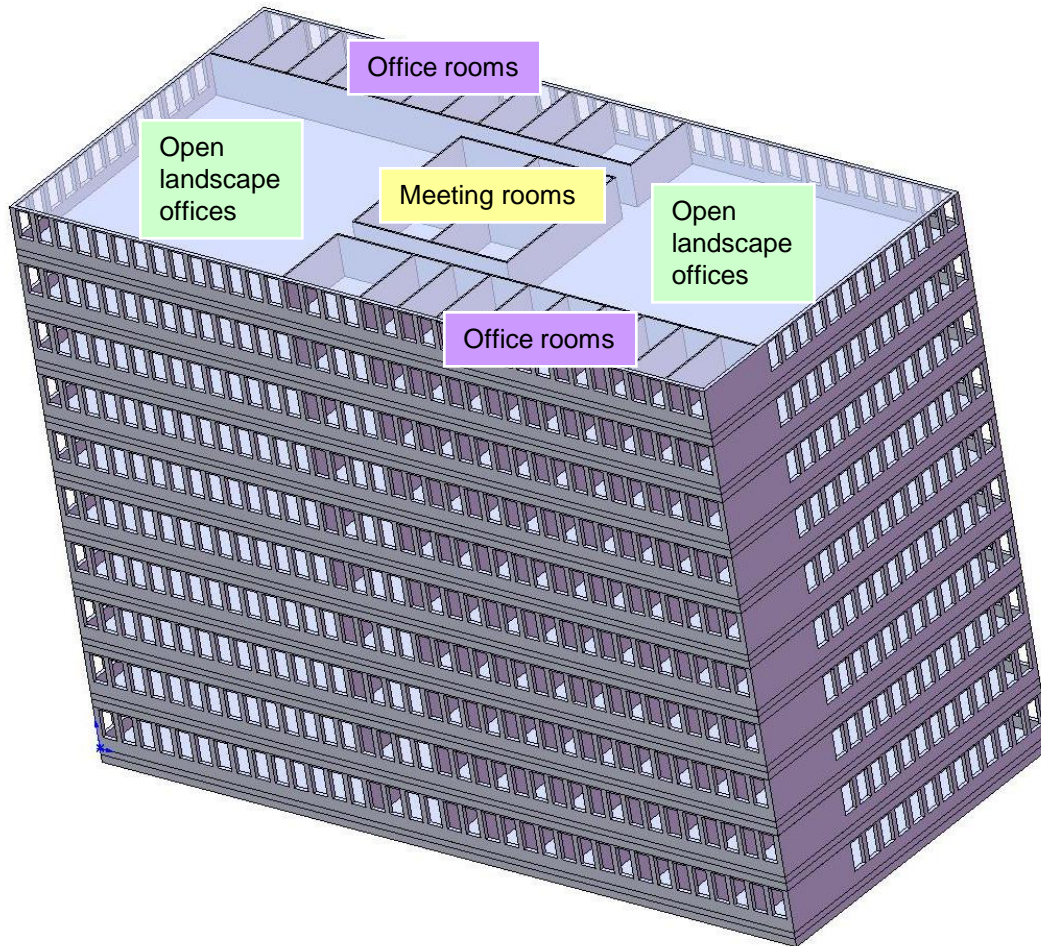
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# Hotel solution



# Case study of Energy efficiency analyse



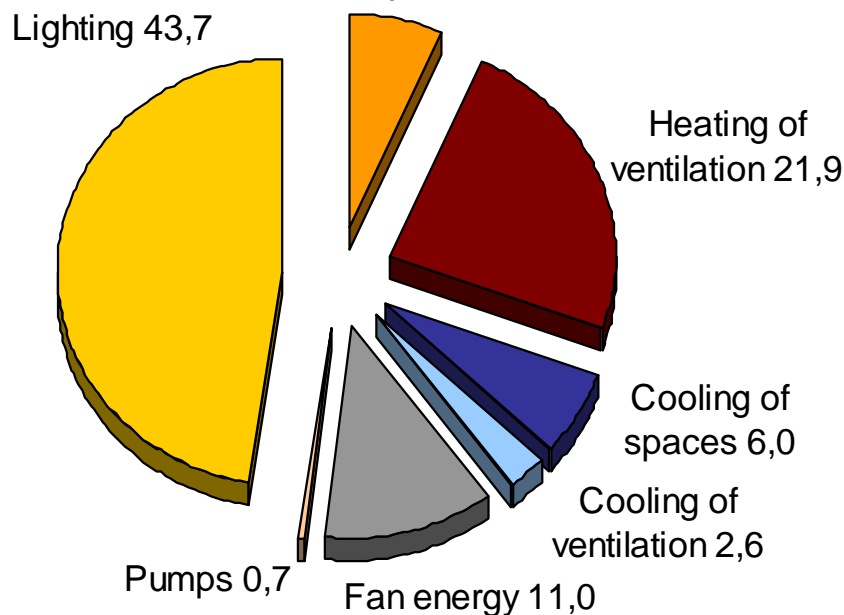
10 floors  
11.082 m<sup>2</sup> total area  
31.300 m<sup>3</sup> total volume

Landscape office 55 %  
Office rooms 22 %  
Meeting rooms 15 %  
Other 8 %

- Main facades north-west and south-east,
- Paris-Orly weather data,
- Windows: 1,8 m x 1,2 m, one window in each 1,35 m

# Results of energy simulations

92 kWh/m<sup>2</sup>,a



## Lighting:

- Efficiency 12 -> 9 -> 6 W/m<sup>2</sup>
- Control (occupancy, day light)
- Reduced need for cooling!!!

## Ventilation (heating, cooling & fan energy)

- Demand based ventilation
- Reduced primary air volume (very low polluting materials)
- Free cooling of air & water
- Improved heat-recovery
- Hybrid ventilation

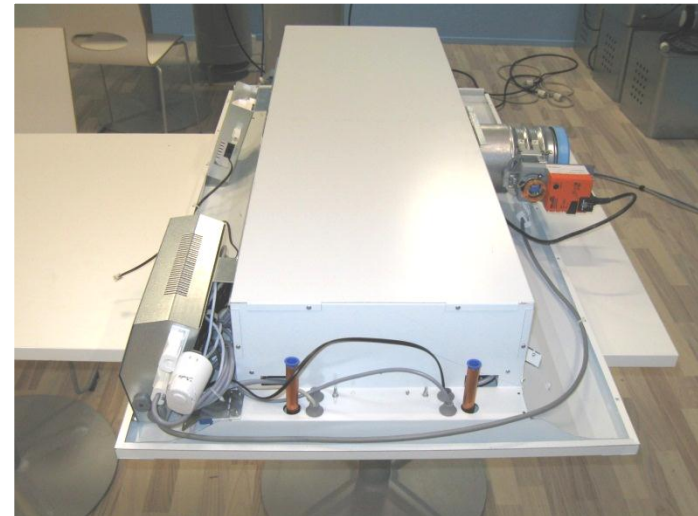
## Solar shading

- Lower transmittance
- External overhangs
- Double facade

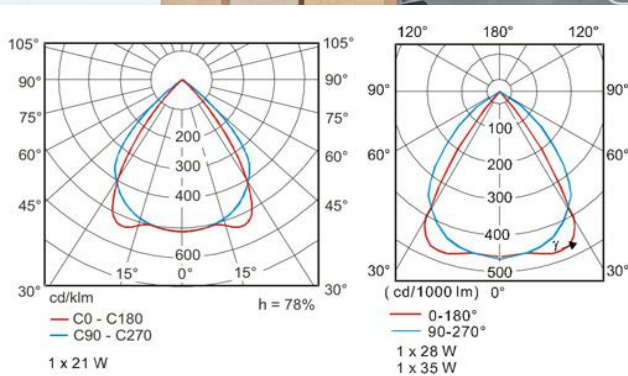
# Pilot project of integrated controls



- 4050 demand based operating beams
- Control
  - Ventilation and temperature
  - lights
  - blinds



# Verification of the system





# Integration makes sense

- Technical
  - Quality of lights
  - Demand based controlling
  - Utilization of natural light
- Energy efficiency
- All technical services in one unit
- Process
  - Manufactured and tested in factory conditions
  - Installation time
- Verification of the system
- Aesthetics
  - Full fill all Archtitectical demands