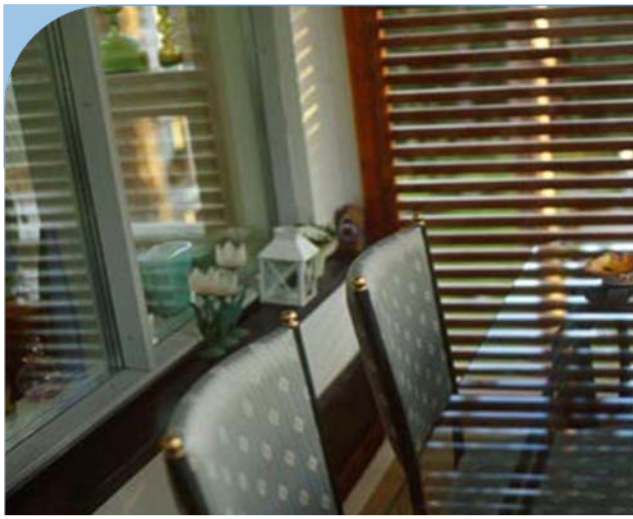
Business from technology

New concept for improving **indoor air quality**



Current situation

Poor indoor air quality caused by high particle concentration is a common problem in urban areas. Normally, the indoor air quality is maintained by air conditioning system based on efficient particle filtration and high supply air flow rate. Main disadvantages of this approach are high energy consumption and large space required for air handling units and ductwork.

Health problems caused by fine particles and climate change are driving forces which affect the development of future technologies to air conditioning markets. It's there-fore obvious that innovations which aim at better indoor air quality without increasing energy consumption are required.

Invention

VTT has developed a new concept for cleaning indoor air from fine particles. The concept is based on the cleaning of the secondary air flow induced by the supply air flow (Patent pending). In principle, the concept can be utilized in any supply air device or diffuser, but VTT has identified active chilled beams as the most promising application.

Solution benefits

Air conditioning systems based on the use of chilled beams have many advantages such as energy and space efficiency, and high cooling capacity. By integrating air cleaning into the chilled beams, the particle concentration in indoor air can be reduced by approximately 70%. Energy consumption of the new air cleaning solution is negligible.

Application areas

The new air cleaning concept can be used in almost any kind of building (e.g. hotels, offices etc.). A significant advantage of this technique is that the indoor air quality can be improved in existing buildings without major changes in the ventilation system and without increasing air flow rates. Besides the air conditioning systems of buildings, the new concept can also be used to improve air quality in cruisers, trains and buses.

Why partner with VTT?

10 reasons for technology partnering with VTT

1. Key factor in Finland's success story with a track record to prove it
2. Licensing and co-venturing opportunities
3. Portfolio of more than 1,000 patents and inventions
4. New business and product concepts based on strong IP and world class research
5. Combined experience of more than 2,000 motivated researchers in eight focused areas of technology
6. Active member in hundreds of scientific & business communities
7. Excellent track record as coordinator and partner in EU projects
8. Collaboration with TOP 50 R&D companies in Finland
9. Global R&D partnership with 50 Fortune 500 companies
10. Market driven multi-disciplinary solutions

Additional information

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