



## Danish universities to develop cooling systems for megacities

*Researchers from Danish universities are participating in an international project to develop water-based cooling systems for megacities in Asia and Africa.*

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Researchers from Aalborg University (AAU) and Aarhus University (AU) are collaborating with colleagues from Nanyang Technological University (NTU) in Singapore on a large international research project to develop intelligent, water-based cooling systems for megacities in Asia and Africa.

This is what AAU writes in a press release.

The project, which has received 60 million kroner from the Grundfos Foundation, aims to reduce the enormous energy costs for air conditioning in cities, where rising temperatures create a vicious spiral of higher electricity consumption and increased CO2 emissions. The goal is to reduce energy consumption by up to a third.

– It is extremely important that the systems we develop are autonomous and can be installed and operated without requiring top-level experts, says Professor Rafael Wisniewski, Department of Electronic Systems, Aalborg University.

– The large-scale initiative is a starting point for something bigger, paving the way for concrete solutions that will apply theory and methods in practice over the next five years.

The project combines artificial intelligence, surveillance and new urban planning tools and could pave the way for future sustainable cooling solutions in some of the world's largest cities.

The research will take place both here and in Singapore. The theories will be tested in real life in buildings in Singapore.

While in Denmark we use district heating to heat homes, Singapore has developed district cooling, where cold water is used to cool buildings.

Marina Bay is home to the world's largest underground cooling network, which reduces CO2 emissions by 20,000 tonnes annually. The new research project will now develop large-scale water-based cooling systems for megacities.

Systems must be robust to failures, cyberattacks and changing urban environments. Artificial intelligence must monitor and prevent problems, and new planning tools must help manage future cooling needs.

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