



Name: Monish Kumar Siripurapu

Age: 31

Nationality: Indian

Category: Energy

Project: Cooling buildings using nature's designs

What is the problem you are trying to solve?

The building sector in India consumes about 40% of generated electricity, a proportion that is expected to increase to 76% by 2040. Use of refrigeration and air conditioning systems is a major part of this energy demand. And not only do these systems consume high amounts of energy, they also use powerful greenhouse gases: hydrofluorocarbons. The demand

for air conditioners in India is expected to grow from 3.8 million to 6.2 million annually by 2020-21. We need to find a way to cool interiors that is cheap and ecofriendly.

How does your idea help solve the problem?

We have designed a cooling system that offers a low tech, eco-friendly and inexpensive alternative to air conditioners, using little energy and no refrigerants. The device passes water through earthen cones that facilitate evaporative cooling. The system is inspired by the design of a beehive, but has been customized through advanced computational analysis and modern calibration techniques.

We want people to have access to a locally made, sustainable cooling system. It could also help generate employment for potters and support a fading traditional craft.

What inspired you to do this?

We came across the problem while designing for a factory. Existing methods like using evaporative cooling pads and hay failed to cool down hot air coming from diesel generators. As architects, we wanted to come up with something both aesthetically pleasing and functional that could solve the problem.

Bio

Monish Siripurapu is the founder principal of Ant Studio based out of New Delhi. He graduated from the School of Planning and Architecture (SPA), Delhi in 2009. He received the prestigious JN Tata scholarship in 2015 for his PG Diploma in Robotic Fabrication from Institute for Advanced Architecture of Catalonia (IAAC), Spain. In collaboration with his colleagues, he has won many national and international architectural competitions and has been published in renowned architectural journals.

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