New omni-directional wind turbine can capture wind energy on building rooftops

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Image: Katru Eco-Energy

(PhysOrg.com) -- Katru Eco-Energy, headed by founder and inventor, Varan Sureshan, has developed a new kind of wind turbine meant to capture the winds that fly in all directions atop big buildings, and unlike conventional devices, the IMPLUX, as it's called, can capture wind from any direction as it stands; meaning without having to be repositioned or

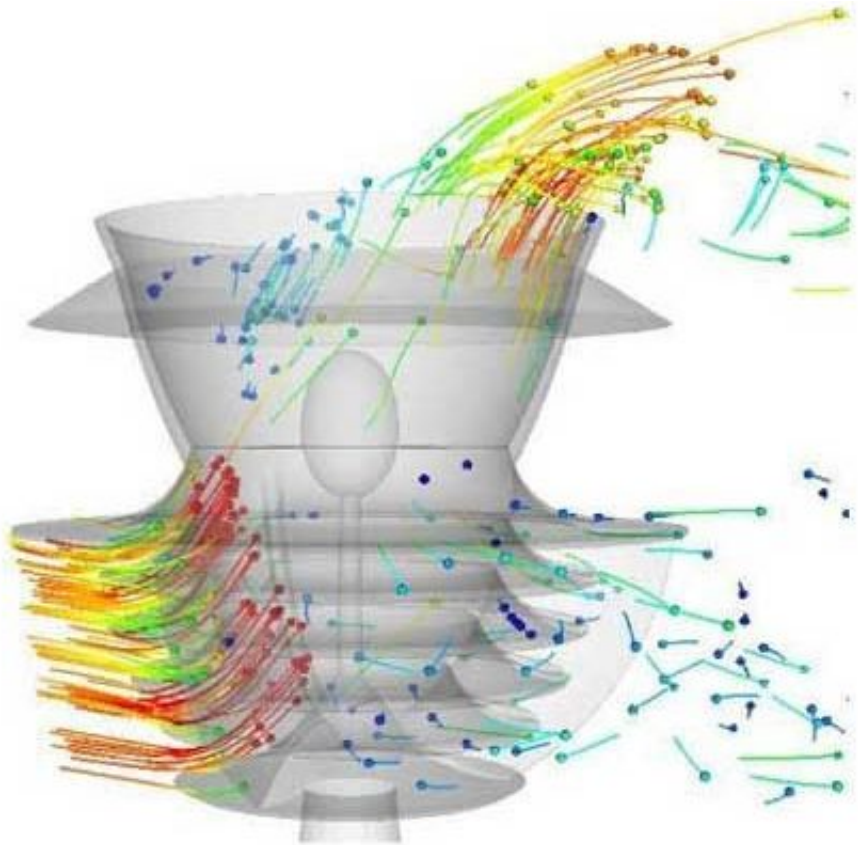
pointed. The IMPLUX achieves this feat by means of horizontal turbine blades that sit atop a vertical axis and are turned by wind that is pushed up through what Sureshan calls a "fluid dynamic gate."

The IMPLUX, under development for several years, and recently field tested in Singapore, relies on a central chamber that has been specially designed to capture wind as it comes from any direction and then to propel it upwards towards the turbine, accelerating it, without allowing any of it to escape. It is considered to be a vertical wind generator, as its main rotor shaft is arranged vertically, and while it's not the first to incorporate such technology it is unique in that it has horizontal blades, and because it's likely the first to have been tested by Honda Formula 1's racing team to validate its unique ability to capture wind and hold onto it, rather than letting any escape out the opposite side.

Sureshan, who has been in the business of designing mechanical systems (such as the first hybrid rooftop solar air-conditioning unit to go up on a commercial building in Queensland, Australia), for over 25 years, says

he began working on the design after spending a lot of time working on building rooftops and noting how there was a lot of very nearly constant wind flying around, and thought there ought to be a way to capture it and put it to good use.

After studying then current ideas for capturing wind, Sureshan hit on the idea of building an enclosure of sorts, or shroud, with airfoil blades for “walls” that allowed air to travel inside the chamber, but because of the angle, would force it to flow upwards inside the chamber, rather than allow it to pass through and out the opposite side; all that wind (or at least 87% of it) would then flow upwards towards the horizontal blades connected to the turbine, which would spin, producing electricity. The result is a wind turbine that has just one moving part, is much quieter than most other turbines and doesn’t harm birds because they are too large to fit through the sidewall blades. It looks pretty cool as well.



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The Katru Eco-Energy website indicates the IMPLUX wind turbines should be ready for sale by mid 2012.

More information: via New Inventors (video)