

September 25, 2016

TO WHO SO EVER IT MAY CONCERN

A Novel and Innovative Photonics System, capable of remotely monitoring Air Flow, Temperature and Humidity simultaneously in real time, at different spatial locations inside a Network Data Centre was designed and developed by Prof. Rao Tatavarti based on his R&D at Visakhapatnam, India. The Photonic System is called as *AUM - IAQ<sub>DC</sub>* and is being launched into the market by M/S CATS ECOSYSTEMS PVT. LTD, NASHIK, INDIA.

As it was learnt that the single photonic system (*AUM - IAQ<sub>DC</sub>*) is capable of accurately monitoring spatial (*i.e., pertaining to different spatial locations*) data pertaining to air flow, temperature and humidity, inside the data centre from a remote location; a Proof of Concept Trials were planned at our NETMAGIC Data Centre located in the Bombay Stock Exchange Building in Mumbai on May 25, 2016.

The Proof of Concept Trials involved demonstration of the photonic system to monitor in real time the air flow, temperature and humidity parameters at different spatially separated locations inside the NETMAGIC Data Centre simultaneously. During the trials air parameter data were also monitored separately by different standardly used thermal sensors (as part of the existing Building Management System at NETMAGIC Data Centre) and additionally Industry Standard KESTREL (USA Make) Systems located at various locations inside the Data Centre. The purpose of these standard sensors was to validate and compare the data from the Photonics System.

This is to state that M/S CATS ECOSYSTEMS PVT. LTD had successfully demonstrated the remote monitoring of Air Flow (*m/s*), Air Temperature (*° C*) and Relative Humidity (%) parameters in real time, simultaneously at different spatial locations inside the NETMAGIC Data Centre, BSE, Mumbai using their Single Photonic System called as *AUM - IAQ<sub>DC</sub>*.


The successful demonstration and completion of Proof of Concept Trials at NETMAGIC DATA CENTRE, BSE, Mumbai was witnessed and monitored by the technical team of NETMAGIC, which had also validated the results displayed live by *AUM-IAQ<sub>DC</sub>* system, with Industry Standard Sensor as part of the existing Building Management System and additionally with Industry Standard KESTREL System (Make USA).

This is to confirm that results of the photonic system *AUM- IAQ<sub>DC</sub>* were in sync with independent observations made by standard sensors.

We therefore realized, that the current industry challenges for monitoring monitor real time air flow (CFM) at any location (in horizontal or vertical directions, measured in CFM of air flow) can be successfully answered by this Remote Monitoring Photonic System, *AUM- IAQ<sub>DC</sub>*. The POC trails also demonstrated the unique capability of the system in obtaining the three-dimensional information related to air flow, temperature and humidity from a single system (across the length and height of an aisle, along with information at different angles).

We understand from Dr. Tatavarti, that the data obtained from each of the *AUM - IAQ<sub>DC</sub>* Photonic System can be integrated and networked (smart systems with data residing on a dedicated server in house as well as connected to a cloud for easy accessibility across the world) to enable CFD simulations, even for complex and challenging Data Centre geometries for futuristic diagnostic purposes.

The *AUM- IAQ<sub>DC</sub>* Photonic System demonstrated during POC and is being proposed now for our Data Centres would also facilitate a more scientific, economical and effective way for controlling the air flow as desired by different customers. The efforts made by Dr. Tatavarti in inventing this state of art technology are highly commendable. We wish him and M/S CATS ECOSYSTEMS PVT LTD. all the best for their future endeavours.

  
Sharad Sanghi  
Managing Director & CEO