<u>Webinar on Energy Efficiency in Smart Buildings through IoT sensors integration</u>

An international webinar was conducted by IEEE PES MSIT, and sponsored by IEEE PES IAS Delhi Chapter on 'Energy Efficiency in Smart Buildings through IoT sensors integration' on 20th June, 2020. Prof. Saifur Rahman, Director Virginia Tech Advanced Research Institute, USA; President IEEE PES 2018 & 2019 and Candidate for IEEE President Election 2021 was the speaker. The webinar was hosted on Cisco Webex Meetings with 150+ attendees from various backgrounds- students, faculties and researchers. The webinar witnessed enthusiastic discussion on recent trends and developments in Smart Buildings and Sensors deployment in building sustainable architectures.

The webinar started with an overwhelming welcome note and a brief introduction to the webinar topic by Prof. KP Chaudhary, Director MSIT, followed by the introduction of the speaker, Prof. Saifur Rahman. The webinar was concentrated to the substantial power reduction, shifting the dependence from the grid to the renewable energy resource (solar) and integration of the home systems with the grid via open source, low cost, low power consumption platforms that monitors and controls of various loads and demands in a general commercial building. Various scenarios were discussed with a view to demarcate the different cases of loads like HVAC, lighting load, plugging load etc. from its timings and demand perspective. Along with this, the integration of the sensors and the system in more efficient and inclusive way along with the override mode for the user comfort were also included. The speaker also spread lights on recent contributions of various research groups and industrial associations such as Building Automation Systems (BYOBAS), WiseBldg and OpenADR with emphasis on various protocols and ICT technologies. Services and platforms incorporated with Machine Learning, Web application and analytics techniques in order to make the system more desirable and convenient were talked about. It was clearly stated that for the efficient system, compromises were to be made between the system inputs through various and actual result that is to be achieved in order to make system more desirable and power efficient. The system needs to be constant updates depending on the ways the individual interacts with the system and use Artificial Intelligence was the suggested way to achieve this goal. Moving with basic real- life examples like the room temperature control or required luminance of the room itself helped to relate the topic along with focusing on the significance of the energy efficient architectures for sustainable development. The importance of the integration of the home systems with the renewable energy source for the basic requirement, switching between them when necessary and not only decrease the dependency on the supply grid but to reduce the cost itself which is charged by the power distributor were the points that seek the most responses.

The webinar doesn't only buoy up the audience with the new and innovative ideas which can help them develop new products but also help them to get an insight of the research activities going round in the related domain. At the end of the talk, a Question and Answer Session was held where audience get a chance to interact with the speaker and ask relevant queries. The webinar concluded with a token of Thanks and appreciating the collaborative efforts of various stakeholders.