

Scalable and Smart Building Energy Management Systems

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In this project, we will develop a novel computationally efficient, scalable air distribution scheduling/control approach inspired by Computer Science methods, associated with relevant enabling information infrastructure and sensor technologies. We expect that our strategy will realize Singapore's aggressive targets for energy efficiency in variable air volume (VAV) ACMV systems, while respecting human comfort and air quality constraints. Most critically, we will argue that our solution enables rapid and cost-effective deployment both in new buildings and for retrofits. It is adaptive to occupancy and environment changes and robust by supporting fault detection and isolation.