

# Theme B: Smart Technologies for Agile, Intelligent, Efficient and Resilient Buildings



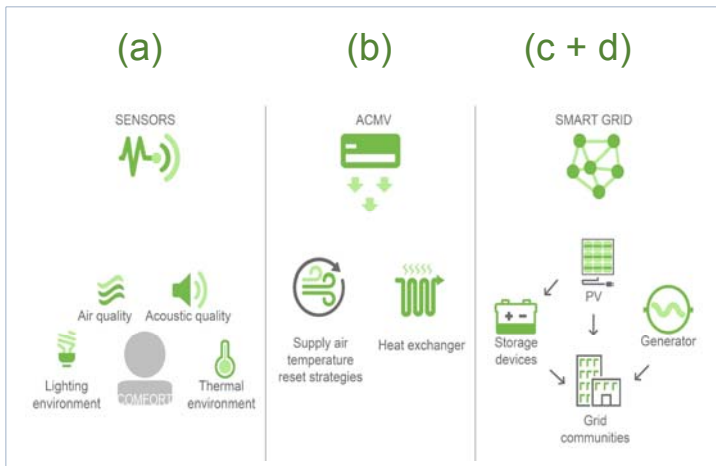
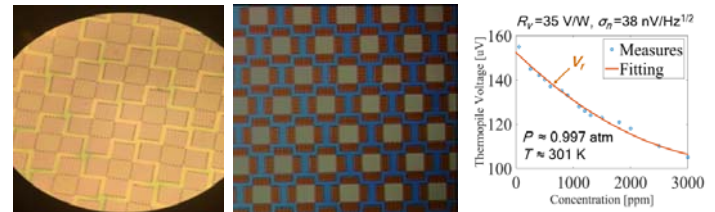
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This theme aims to develop and integrate smart technologies to realize our vision of intelligent, adaptive and agile buildings. The research focuses on: (a) support the diverse and uncertain demands of occupants while minimizing energy usage, (b) enable intelligent and energy efficient control of the air-conditioning and mechanical ventilation (ACMV) and lighting systems, (c) adaptively manage the distributed

energy resources such as energy storage, renewables, back-up generators and flexible load demand to assure resilience, and (d) interface with the utility grid to provide value-added ancillary services from communities of buildings.

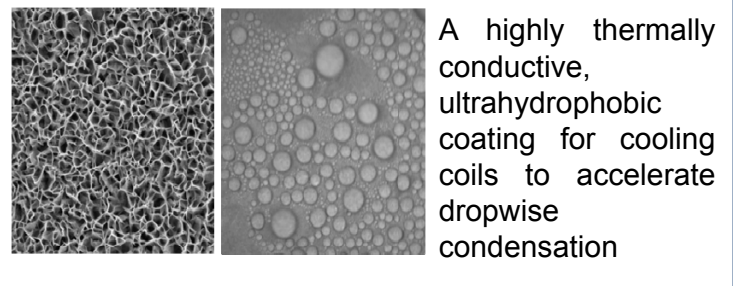
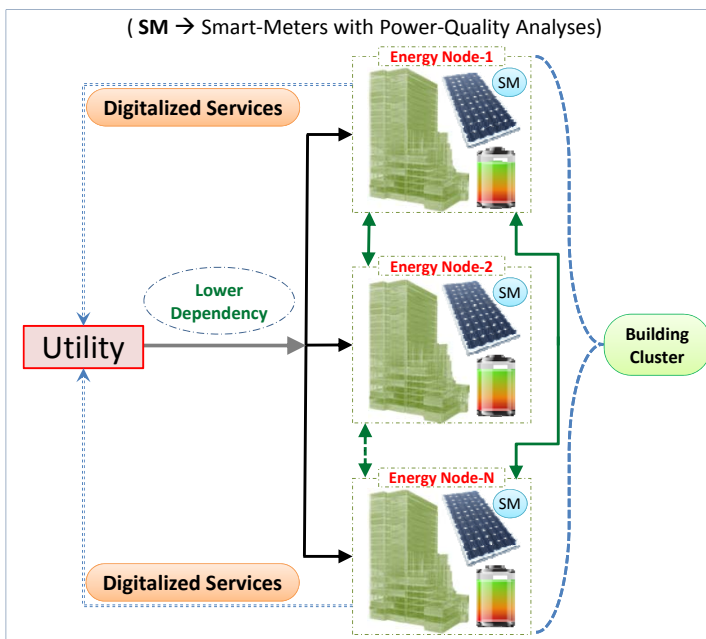
## Project-2: Intelligent Self-Learning Sensors with Online Real Time Calibration

- *low-cost environmental monitoring*
- *novel sensor node architecture*
- *non-intrusive self calibration*



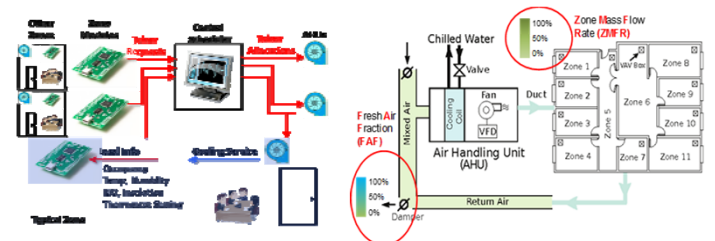
## Project-1: Intelligent Grid Interface System for Utility-Customer Power Quality Control

## Project-3: Novel Air Handler for Energy-Efficient ACMV Operation in Tropical Environments



## Project-4: Holistic Building Energy Management with Adaptive Cooling Control

- *advanced enabling technologies and active participation of occupants*



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