



# Variable Refrigerant Flow Radiant Ceiling Cooling System

Keeping occupants cool and comfortable within a commercial building in a tropical climate entails running air-conditioning systems that guzzle some 40-60% of the total energy consumption of the building.

To help developers provide a greener system to keep a building's tenants comfortably cool, EWTCOI researchers have innovatively integrated Variable Refrigerant Flow (VRF) air-conditioning with radiant ceiling cooling technology. As the ultimate comfort of a person essentially involves removing heat radiated from the person himself and his surrounding heat loads, the EWTCOI prototype **VRF Radiant Ceiling Cooling System** only cools the actual amount of heat radiated in any given space, not a fixed amount of air. This makes the system both energy-efficient and space-saving.

EWTCOI can help you produce innovations that put you ahead of the competition.

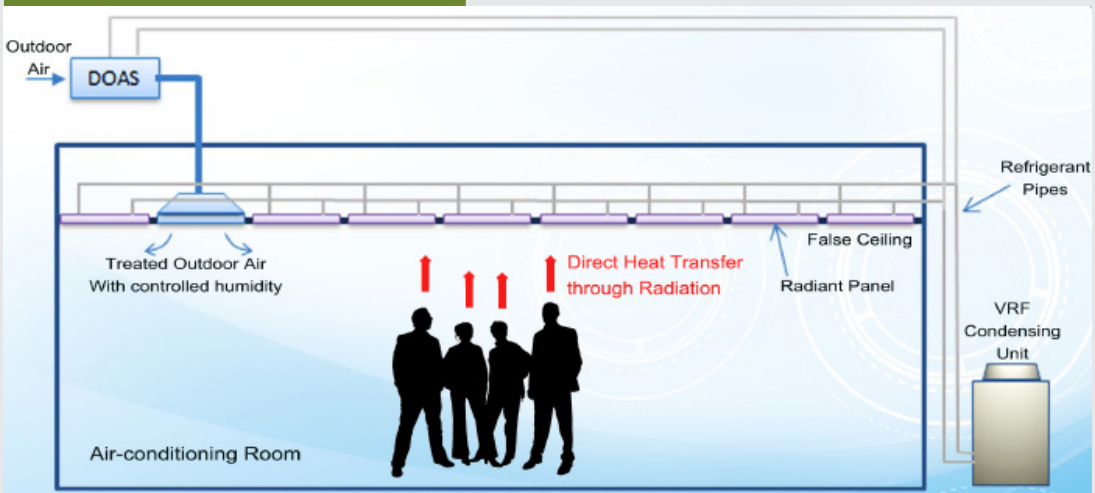
## Key Features & Benefits

- Low fan power
- Variable speed control compressor
- Reduced energy for room air cooling
- Reduced electricity cost
- Better comfort and quieter environment
- Space-saving
  - No chiller plant room
  - No AHU room
  - No large air ducts

## Applications

- Integration of VRF controls with radiant cooling system and Dedicated Outdoor Air System (DOAS)
- Air-conditioning a building for ultimate human comfort

### Radiant ceiling cooling system layout



### Thermal image of the cooled ceiling

