

# Establishment of National Level Ubiquitous Computing Research Resource Centre

C-DAC, Bangalore

# Agenda

- Objective
- Development of Wireless sensor node
- Expected product outcomes

# Objective

- To build wireless sensor nodes based on IEEE 802.15.4 and zigbee protocol stack that caters to various market segments and adapting to the market trends by continuously updating the features of the node.
- Estimating the requirements of the multiple communications standards to be incorporated for use it in various application areas and enhancing the node features accordingly
- Exploring processor requirements for these applications

# Development of wireless sensor node

- Fully compliant with 802.15.4 MAC and physical layer specifications
- USB connectivity for easy configuration and application development
- Loaded with Industry standard zigbee stack
- Three expansion connectors for communicating with external processes
- RS232 connection for configuration and data transfer
- Supports up to 256 kbps data rate
- Multi year battery life
- All nodes can function as routers
- In built temperature and humidity sensor
- Location engine for location identification with respect to a fixed node
- Dimensions : 80 mm X 45 mm

# Expected product outcomes

- Multiple versions of wireless sensor node
- Zigbee PAN coordinator
- VHDL IP core for IEEE 802.15.4 MAC
- VHDL IP core for ECMA UWB MAC
- SOC IP core with ARM processor core and IEEE 802.15.4 MAC IP core.

**Thank You**