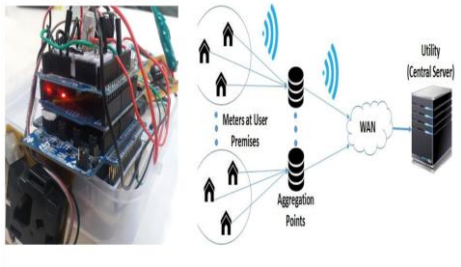
PLANNED TEST BED at IITD

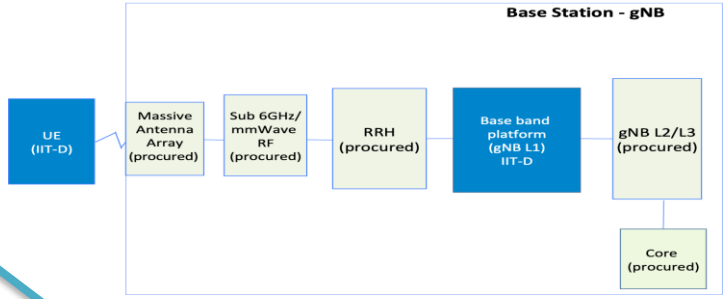
5G TestBed IIT Delhi

Energy Harvesting

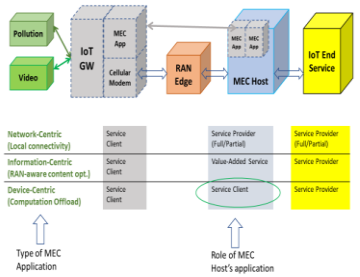
- IoT data processing for low-power and low-bandwidth cloud communication
- Node-level optimizations via deep cross-lay
- Novel powering techniques – Terrestrial & air to ground (UAV assisted)



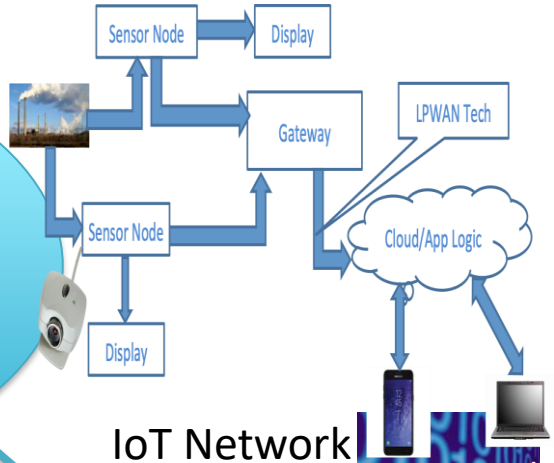
Massive MIMO Test Bed Setup



Multi Access Edge Computing

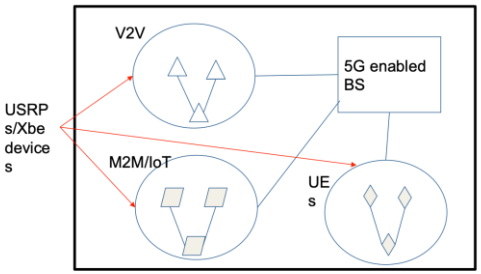


IoT Network

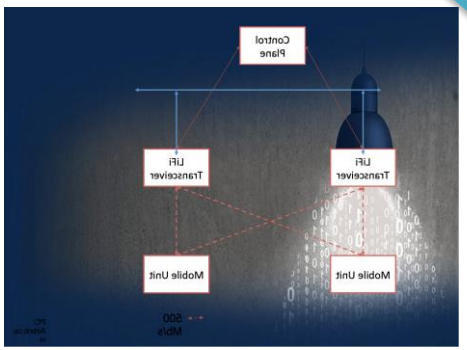


Statistical analysis

Security of Connected Devices in 5G: Test Bed Setup



LIFi testBed setup



5G TestBed IITD Project

Massive MIMO & mmWave

Conformance testing for 5G BS or UE, PHY layer

Manufacturers can design and test their application without having to purchase 5G BS & UE hardware.

IoT

Setting up IoT network, Statistical Analysis and Prediction

IoT apps like Air pollution monitoring, health care (being explored with AIIMS) on network setup within IITD and will be made available to developers and manufacturers.

Additionally in IoT, the concept of Multi-Access Edge Computing will be implemented for NFV-based orchestration demonstration, Application life-cycle management, Plug-n-play application demonstration and make the IoT system ready for third-party app.

LiFi

Setting up integrated LiFi network for demo with in-house designing of Transmitter/ Receiver, Application layer, Control plane and uplink design.

Security

Vulnerability assessment on 5G security. Software solutions on Physical layer security, Key management and Provenance, Integration with MIMO nodes.

Energy harvesting

Integration of node-level intelligence with the IoT devices and field testing

Incorporation of application specific node-level intelligence for resource efficiency, terrestrial and aerial mobility, Integration with BS communication.