

## **Application for 5G use case lab in higher education Institutions**

Malla Reddy Engineering College

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Autonomous Vehicles

5G can be incorporated with UAV to improve the visual mechanism near the borders to minimize cross border terrorism and smuggling.

Smart Cities, Healthcare, Education and Industrial IoT

Smart cities focus on accelerating associated, interactive and data driven solutions in sophisticated and dynamic manner, so as to address needs in urban areas

201-250

Yes available. 10500 sq.feet Air Conditioned Lab

Yes available. 20kVA of Uninterrupted power backup and 3 generators with 250kVA, 125kVA and 90kVA

1000 Mbps

180 UG Students, 18 PG Students and 20 Faculty members will be using the Lab. The lab can be used to test optimization of channel between transmitter and receiver. The lab can also be helping to avoid the contamination by simulating various number of techniques in 5G environment. Experiments can also be carried out to improve the directivity in case of massive MIMO system.

Yes.

The Institute is working on 5G and the communication network consists of UAV with transceiver and an antenna system to communicate with base station.

The system has high definition cameras to take pictures and different types of sensors are used to process these pictures and send it to central unit of the UAV to take rapid action with respect to time.

Yes.

The Institute has 10,500 sq.feet Business Incubation Center by MSME, New Delhi through which the startup activities are carried by the institute.

1. Mr. Ch. Sai Akshar, Digi clog, 91 of 2022
2. Mr. R. Shiva Sai Rama Krishna, Olive Drones and Agriculture Technologies Pvt. Ltd,  
U29100TG2019PTC130266
3. Mr. Kommula Rakesh, Oakspro Software Solutions, 36AAGFO4081K1ZZ
4. Mr. Nishanth Raj Palle, Nestaer Private Limited, U31909TG2018PTC122388

Jagadeesh Chandra Prasad Matta, Channel Estimation of massive MIMO Using Code Shift Keying Pilot Symbols, I.J. Image, Graphics and Signal Processing, Volume 14, No.3, PP.23 31, June 2022.

Jagadeesh Chandra Prasad Matta, A Modified OMP Algorithm with Reduced Feedback Overhead for Massive MIMO System, Indian Journal of Science And Technology, 14, 33, PP.2663 2670.

Syed Jalal Ahmad, Signal Processing for OFDM Spectrum Sensing Approaches in Cognitive Networks, Dec. 2021.

Syed Jalal Ahmad, Enhanced security to MANETs using digital codes, Journal of Information Security and Applications, Volume 66, 2022, 103147

N.Manikanda Devarajan, Challenges in internet of things towards the security using deep learning techniques, Measurement Sensors, Volume 24, Dec 2022, 100473.

N.Manikanda Devarajan, Performance Analysis of Low Power Interference Cancellation Architecture for OFDM System, Intelligent Automation and Soft Computing, Volume 32, Issue 2, Pages 1167 1178, 2022.