Media Release
October 12, 2018

Inaugurating an All India event of Artificial Intelligence (AI), Cyber Security and Internet of Things (IOT) related technologies and Hackathon at Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, MD, HMRL Mr.NVS Reddy called upon the selected engineering students from 15 states to come up with innovative solutions   in the National Hackathon.

Emphasising on the importance of Artificial Intelligence, Machine Learning, Data Science, Internet of Things etc., he informed the young engineering students that unless India invests enough resources and master these cutting edge technologies, it will loose it's advantage in the IT field to countries like USA, China, South Korea and Singapore, which are racing ahead in these technologies.   Explaining the importance of innovation, efficiency and cost effective solutions in business, he explained to them that most of the ordinary coding and programming jobs will disappear but there are enormous employment opportunities for these new technologies in various business fields like retail, construction, transportation, energy, financial services, health care, etc.

Dwelling at length on the innumerable challenges that the Hyderabad Metro Rail project faced which were successfully overcome with determination and innovative strategies, he said that the Hyderabad Metro was constructed in PPP mode without spending much of taxpayers' money and that it has become a case study and a role model for many upcoming metros across the globe.

Stating that Hyderabad Metro Rail is a unique project with a lot of foresight and innovation, Mr.NVS Reddy has highlighted some of the major digital solutions/cutting edge technologies that were used in the project:

- Bringing more than 100 vendors/suppliers spread across the globe on to a common digital platform to integrate different components   of the project and to execute it efficiently.
- Usage of "Primavera" software for interfacing protocols to exchange technical information and review designs.
- 3D simulation of all types of engineering structures and their behaviour before implementing them on the ground.
- Usage of global coordinates and DGPS for making perfect alignment of the Metro project and to avoid religious and other sensitive structures.
- Introduction of Communication Based Train Control (CBTC) technology which is an Internet of Things (IOT) technology to make the trains

intelligent and communicate their position constantly with each other and with the Operation Control Centre in Uppal, which permits running of trains every 90 seconds and finally in a driverless mode.

- High safety standards of Automatic Train Control (ATC), Automatic Train Protection (ATP), Automatic Train Supervision, etc., for running all Metro trains in a very safe manner.
- Usage of "Track Master" machine and simulation techniques for optimal track alignment solutions and for riding comfort.
- Adoption of a number of energy efficiency measures including natural ventilation and regenerative braking system which saves upto 35% of energy and which can be reused.
- Usage of "Maximo" software for maintenance of all Metro Rail assets which enables only need based maintenance depending on the condition of each of the components, rather than routine scheduled maintenance.
- Usage of sophisticated data analytics to predict passenger mobility patterns and requirements at different stations.
- Development of "T-Savaari" app and "smart cards" for smart and convenient travel and intermodal integration.
- Development of smart parking for achieving space efficiency at Metro stations.

With such advanced software solutions and cutting edge technologies, Hyderabad Metro is winning several global awards and is taking the city to the next level of development, he added.

Dr.Jandhyala N.Murthy, Director, GRIET and Dr.J.Praveen, Principal, GRIET also spoke at the event and praised Hyderabad Metro Rail for bringing world class technologies and travel facilities to Hyderabad.

Chief Public Relations Officer
Hyderabad Metro Rail Ltd

HMRL MD Mr.NVS Reddy addressing students at "Challenge ACI" Nationwide Hackathon on Artificial Intelligence, Machine Learning, Cyber Security & IoT at Gokaraju Rangaraju Institute of Engineering and Technology on Friday (12.10.2018)

HMRL MD Mr.NVS Reddy explaining the students about uniqueness, innovation and cutting edge technologies used in Hyderabad Metro Rail project at "Challenge ACI" Nationwide Hackathon at Gokaraju Rangaraju Institute of Engineering and Technology on Friday (12.10.2018)

Dr.Jandhyala N.Muthy, Director, GRIET and Dr.J.Praveen, Principal, GRIET felicitating HMRL MD Mr.NVS Reddy at Gokaraju Rangaraju Institute of Engineering and Technology (GRIET) on Friday (12.10.2018)