



Institute for Development and Research in Banking Technology

(Established by Reserve Bank of India)

Castle Hills, Road No. 1, Masab Tank, Hyderabad-57, India.

e-Programme on

5G AND INTERNET OF THINGS (IOT) FOR BANKS

November 15 – 18, 2021

Introduction

Wireless connectivity is driving major societal changes. Post demonetization and during COVID-19, digital payment, mobile banking and online transactions have doubled. During 1980 to 2000, millions of subscribers have used 1G and 2G Mobile Communication services mainly voice. During 2000 to 2020, Billions of users have used 3G and 4G mobile services. It is expected that during 2020 to 2040, people worldwide would use 5G and 6G mobility services with trillions of smart connected things and intelligent devices. In India, total wireless subscriber base has crossed 115 Crores (Urban: 64 Crores and Rural: 51 Crores) in 2020. So, it has become necessary to understand the trends and developments in the emerging 5G and IoT Technologies for their deployment in Banks and integrate with existing branch, ATM, PoS, data centre and office devices.

Banks and Financial Institutions are looking at how the regular gadgets, wearable devices, embedded objects, WIFI, Wireless LAN, Drones, used by the customer, banking touch points and monitoring devices can be made intelligent to aid in faster and seamless decision making in the form of Internet of Things (IoT). 5G Use cases, Wireless Sensor Networks and IoT Networks are emerging as convenient solutions for access, feedback and regular use from anywhere and anytime. In this programme, the basics of, wireless communication technologies, Mobile Communication trends, 5G, IoT, Sensor Networks, Wearable devices, access points, and standards would be discussed. The application of 5G and IoT in smart banking, smart branch, smart data centre etc would be discussed. How the BFSI can prepare for implementation and management of 5G services and IoT Networks would be presented. The associated risks, challenges, 5G Security, IoT security, Open source APIs for IoT based financial services would be discussed.

Objectives

- To learn the wireless communication technologies, 5G trends, standards and use cases.
- To learn the fundamentals and developments of the Internet of Things (IoT).
- To understand the benefits, challenges, risks, applications and strategies to leverage 5G and IoT as a means for smart banking and financial services.

Contents

- Wireless and mobile communication technologies
 - 1G,2G,3G,4G and 5G
 - Wi-Fi, BT, NFC, BLE, IR, Beacons
- Wireless sensors networks
 - Types of Sensors
 - BAN, PAN, LAN
- 5G Use cases for Banks and Financial Institutions

- IoT: Basics, Applications, Standards and Smart Banking
- Embedded Systems, Wearable Devices, Internet Technologies
- IoT based Smart Financial Services, Mobile Banking and Payments
- IoT Challenges – Privacy, Big data, Energy Optimization, Mobility, APIs, User Interfaces, Multi-lingual and location based services
- 5G and IoT Security

Mode of Teaching

Online teaching plus learning inputs through reading material, videos, webinars, assignments, quizzes, online interactions and clarifications. The e-Programme is of 4 days. Each day there would be 2 live webinar sessions of 1-hour duration. Course material will be made available in advance for study.

Who Can Participate?

Officers handling or teaching any of the digital services, mobile banking, social media, internet banking, emerging technologies, networks, automation technologies, IT, IT enabled services, innovation technologies, security etc. can attend.

End Use:

- Learning fundamentals and recent developments in 5G and IoT would help one to look for innovative solutions to implement in Banks and integrate with backend networks and services.
- Banks planning for 5G and IoT based automation services in Branch offices, Main offices, Datacentre, ATM booths, Kiosk Centres etc., can understand the process of how to do it.
- Awareness on 5G and IoT Security, Risks and Sensor Networks can help to use the data generated effectively and provide tech savvy solutions to customers.

Programme Coordinator:

Dr. V. N. Sastry, Professor, IDRBT; e-mail: vnsastry@idrbt.ac.in

Fees:

For Indian Participants

- RRBs & Coop Banks: Rs. 8,850/-(Rs. 7,500/- + 18% GST)
- All Other Banks & FI's: Rs. 11,800/-(Rs. 10,000/- + 18% GST)

For International participants

- US \$ 175 (per participant, All inclusive)

Bank Account Details for Remittance of Fees

The fees for this e-programme can be remitted to the following accounts:

For Indian Participants

Account Name : IDRBT
Bank & Branch : Axis Bank Limited, Humayun Nagar, Mehdiapatnam, Hyderabad
Account No. : 426010100018823
MICR Code : 500211012
IFSC Code : UTIB0000426

For International participants

Receiver's Correspondent Bank : JP Morgan Chase, New York, USA
Swift Code : CHASUS33XXX
Fed Wire Routing Number : ABA 021000021

Beneficiary Bank & Branch : Axis Bank Ltd., Mumbai, India
 Account Number : 0011407376
 Beneficiary Bank Swift Code : AXISINBB

Ultimate Beneficiary

Account Name : IDRBT
 Customer ID : 030021632
 Account No. : 426010100018823
 Bank & Branch : Axis Bank Ltd., Jubilee Hills, Hyderabad, India. (AXISINBB030)

Nominations

Banks may nominate any number of participants to these e-Programmes, which may be accepted on a first-cum-first-served basis. While nominating, please provide the details of the participants (Name, Designation, Bank, Mobile No/Phone No, email address, fees billing address, GST No. of the Bank).

Apart from nominations by banks, staff members of banks can self-nominate themselves for these e-Programmes by providing their employee credentials and paying the programme fee latest by **November 12, 2021**.

How to Register

The nominations for these e-Programmes, and queries if any, may please be sent to eprogram@idrbt.ac.in. Please visit <https://www.idrbt.ac.in/eprogrammes> for more details about these programmes.

e-Programmes in November 2021

S. No.	Name of the e-Programme	Date	e-Programme Coordinator	Last Date for Nomination
1	Blockchain and Distributed Ledger Technology	08 – 11	Dr. N. V. Narendra Kumar	Nov 05, 2021
2	Introduction to Authentication Techniques	09 – 12	Dr. M.V.N.K. Prasad & Dr. N.P. Dhavale	Nov 08, 2021
3	Secure Financial Infrastructure	09 – 12	Dr. Susmita Mandal	Nov 08, 2021
4	5G & Internet of Things (IoT) for Banks	15 – 18	Dr. V. N. Sastry	Nov 12, 2021
5	Introduction to Technologies for Customer Lifecycle Management	15 – 18	Dr. V. Ravi	Nov 12, 2021
6	Proactive Cyber Defence Strategies	16 – 19	Dr. Dipanjan Roy	Nov 15, 2021
7	Data Centre Management	22 – 25	Dr. P. Syam Kumar	Nov 19, 2021
8	Cyber Security for Remote Working Scenario	23 – 26	Dr. Rajarshi Pal	Nov 22, 2021
9	Dark Web Monitoring for Threat Intelligence	23 – 26	Dr. B. M. Mehtre	Nov 22, 2021
10	Emerging AI/ML Technologies	Nov 30 – Dec 03	Dr. Mridula Verma	Nov 29, 2021
11	Security Operations Centre	Nov 30 – Dec 03	Dr. V. Radha	Nov 29, 2021

e-Programmes in December 2021

S. No.	Name of the e-Programme	Date	e-Programme Coordinator	Last Date for Nomination
1	Re-imagining Customer Engagement with Conversational Chatbots	06 – 09	Dr. Mridula Verma	Dec 03, 2021
2	Awareness on Payment Systems Vision 2021	06 – 09	Dr. N.V.Narendra Kumar	Dec 03, 2021
3	Explainable AI/ML for Banking	06 – 09	Dr. V. Ravi	Dec 03, 2021
4	Introduction to Hardware Security for Banks	07 – 10	Dr. Dipanjan Roy	Dec 06, 2021
5	Technologies for Financial Inclusion	14 – 17	Dr. M. V. N. K. Prasad	Dec 13, 2021
6	Security in Cloud Computing	14 – 17	Dr. P. Syam Kumar	Dec 13, 2021
7	Workshop on Registration Authority Operations	20 – 23	Dr. N. P. Dhavale	Dec 17, 2021
8	Privacy and Security Risks in Machine Learning	21 – 24	Dr. Rajarshi Pal	Dec 20, 2021
9	Targeted Attacks - Detecting in early stages	21 – 24	Dr. B. M. Mehtre	Dec 20, 2021
10	API Development	27 – 30	Dr. V. Radha	Dec 24, 2021
11	Basics of IT Vendor Management	28 – 31	Dr. Abhishek Thakur	Dec 27, 2021
