



TELECOM

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CAREERS IN TELECOM

10 DAYS WORKSHOP

WORKSHOP OVERVIEW

The nature of the telecom industry has changed, and will continue to evolve. There are numerous opportunities for people who understand the new types of Technology – Business – Soft Skills, they must target the telecom industry with the right mix of skills. This creates the need for strong management skills to accompany the technical engineering skills for the industry.

The growth of telecom industry & internet explosion has resulted in convergence of IT, Media, Telecom & Entertainment industries. Also, Telecom has become the backbone of other industries enabling ebusiness such as Aviation, Health Care, Corporate Supply Chains, Transportation, Banking & Finance. The above scenario has created job opportunities in all sectors for students & professionals having knowledge of various Telecom Technologies and also they are expected to demonstrate business management skills combined with IT & Soft Skills.

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The focus of this workshop is to provide you with a foundation of telecom skills that will help young engineering graduates and management students in understanding various telecom careers & will help telecom professionals in the operation and management of your company's telecommunications infrastructure.

Additionally, this telecom workshop is excellent for those who work with telecom professionals and would benefit from a better understanding the industry

WORKSHOP OBJECTIVES

- Broadband Telecom Networks - trends, directions & technologies
- Developments in Telecom and impact on daily lives
- The scope of telecom developments for a country and its infrastructure sectors.
- Covers the concepts of the broadband technologies required to understand career opportunities for engineering, business and management graduates.
- The major focus is on Information and Communication Technologies (ICT) for various sectors and precise understanding of all components of broadband technologies.
- Understand telematics applications based on a broadband telecommunications infrastructure for reduced transaction times & costs associated with trade & customer services.

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- Understand business to consumer (B2C) applications, deployment of business to government (B2G), government to government (G2G), government to citizens (G2C) services.
- Understand modernization of our infrastructure sectors like ports, airports, railways & surface transport, public utilities, citizens access to government services, emerging supply chains for corporate & Small & Medium Enterprises.
- What is the Outlook of the Telecom Market in India?
- Who are the Key players in the Telecom Market in India
- What are the job opportunities and challenges for the Engineers and Business Graduates
- Understand the Telecom Skill Development
- How to get the placement response from the Telecom Companies & Placement Agencies

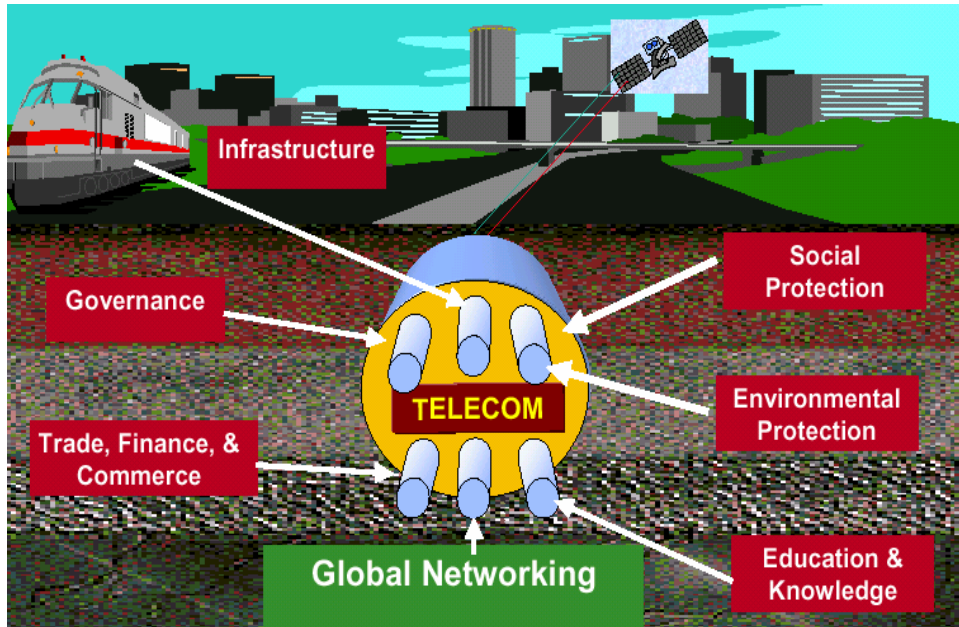
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WHO SHOULD ATTEND

Diploma & Degree Holders in Engineering

MCA's & MBA's

Students of IETE & IEEE

Business Management Graduates

IT & Telecom Consultants

HR Managers

Placement Consultants

**Professors & HOD's of Computer Science, Electrical, Electronics & Telecommunications
in College Departments**

IT & Telecom Professionals

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WORKSHOP AGENDA – 10 DAYS

PART I – TELECOM AWARENESS

- Brief History of Telecom – From NTP 94 till Today
- Emerging Telecom Service Providers
- Process of IT – Telecom – Media Convergence & Competition in the Market
- End to End Telecom Infrastructure Model
- What are Triple play, Quad play Services, Quality of Services (QoS)

PART II – CORE TELECOM TECHNOLOGIES

Internet Governance & Next Generation internet (NGi)

- IETF, ISOC, IAB, IRTF, ICANN, IANA, RIRs, NRO, ARIN, APNIC, LACNIC, AfriNIC, ASO, TLDS, ccTLD
- Internet Composition, IPv4 & IPv6
- POP Architecture, National, Regional & Retail ISPs, IXPs,

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Broadband Access Networks

- DSL Technology – HDSL, SDSL, G.SHDSL, ADSL, ADSL2, ADSL2+, RADSL, VDSL, VDSL2
- Cable TV Networks, HFC Architecture, Cable Modem Standards
- FTTx – FTTN, FTTH / FTTP, PONs – APON, EPON, GPON
- Broadband Power Line Telecommunications (PLT)
- Intelligent Home Networks

CCITT SS7 Signaling

- What is Out-of-Band Signaling?
- Signaling Network Architecture
- SS7 Link Types
- Basic Call- Setup Example
- Database Query Example
- Layer of the SS7 Protocol
- What Goes Over the Signaling Link?
- Addressing in the SS7 Network
- Signal Unit Structure
- What are the Functions of the Different Signaling Units?
- SS7 Network Architecture
- Service Switching Points
- Signaling Transfer Points
- Service Control Points

SDH TELECOMMUNICATIONS (G.707)

- Synchronization of Digital Signals
- PDH vs SDH
- SDH Frame Structure (Virtual Container)
- SDH Overhead
- SDH Network Management
- Alarms, Defects & Anomalies & Performance Monitoring
- SDH Pointers
- SDH Multiplexing Process (container, virtual container, TU, TUG, AU, AUG, STM-N)
- SDH Tributary Multiplexing
- Automatic Protection Switching (APS)

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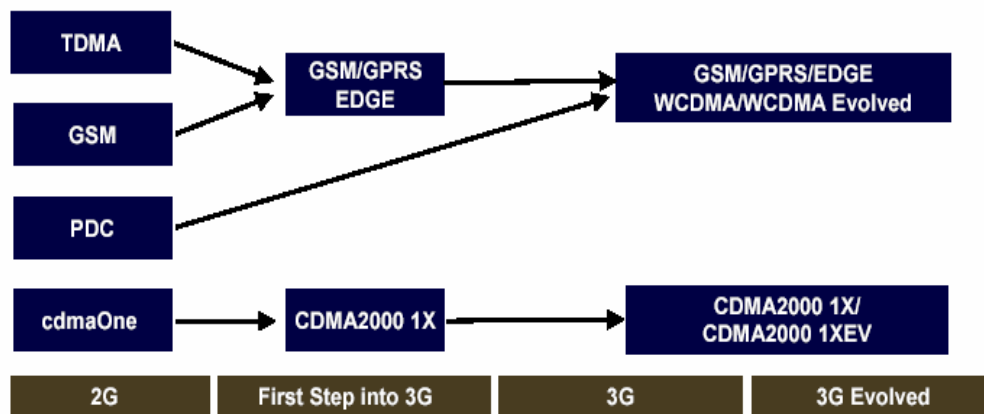
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SDH Network Elements

- Terminal Multiplexer
- Regenerator
- Add / Drop Multiplexer
- Digital Cross Connects (DCS)

WDM & DWDM Optical Infrastructure

Wireless Infrastructures



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2G - Global System for Mobile Communications (GSM)

- GSM Network Architecture & Structure
- GSM Protocol Architecture
- GSM Air Interface
- Logical, Traffic & Network Channels
- GSM Access Network
- BTS, BSC & TRAU
- Interfaces MS - BTS - BSC
- GSM Core Network
- Core Network Entities (MSC & Registers)

2.5 G - GPRS Network Architecture

3G UMTS Network

Universal Mobile Telecommunications Service (UMTS)

- The WCDMA Air Interface
- UTRA & RNS
- The WCDMA Air Interface Protocol Architecture
- WCDMA Channel Types
- The UTRAN Architecture
- Functional Roles of the RNC
- UTRAN Interfaces & Protocols
- UMTS Call & Mobility Management (MM)

3.5G UMTS Network

IP MULTIMEDIA SUBSYSTEM (IMS) SIGNALING

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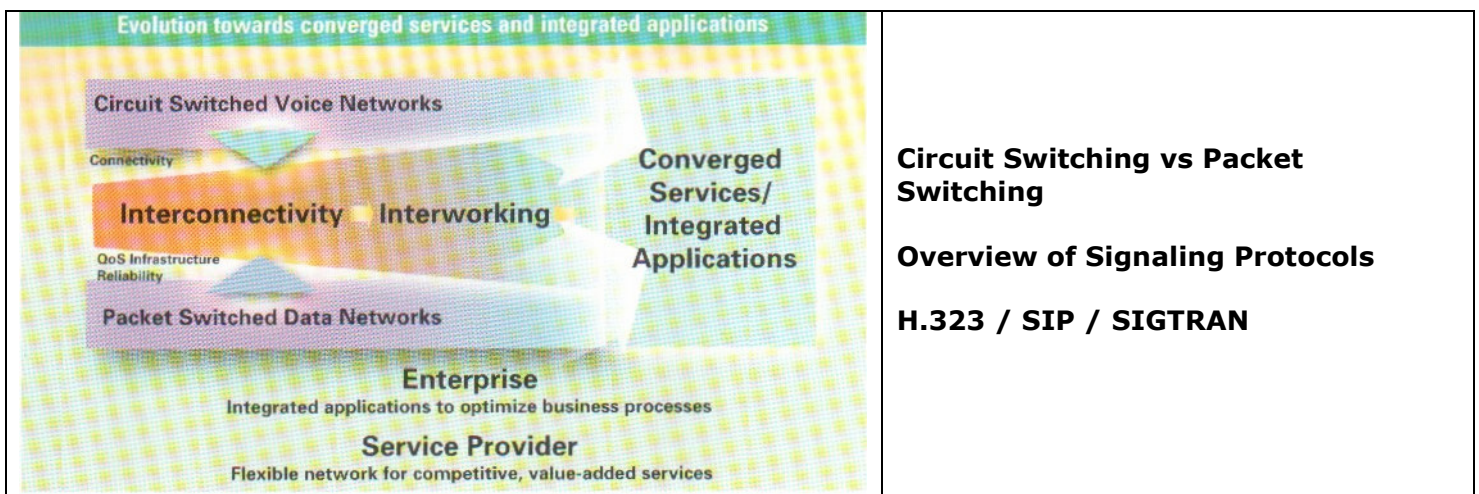


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TELECOM OSS - BSS

Next Generation Networks (NGN)



Overview of WiMAX

- Fixed broadband wireless access
- Capabilities of WiMAX
- IEEE 802.16 standards
- WiMAX Forum and WiMAX standards
- WiMAX trials and deployments
- WiMAX mobility, 802.16e

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4G Network Infrastructure

- LTE – Long Term Evaluation Infrastructure

PART III – INDIAN TELECOM INDUSTRY ANALYSIS & CASE STUDIES



Indian Telecom Equipment Market

- Enterprise Equipments
- Broadband Equipments
- Wireless Equipments
- Transmission Equipments
- Telecom Software & Telecom Turnkey Solutions

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Telecom Equipment Providers in India Indian Telecom Services Market

- Fixed Service
 - Cellular Service
 - National Long Distance
 - International Long Distance
 - Internet & Broadband Services
 - VSAT Services
 - Broadcast Services
 - Radio Trunking Services
 - Value Added Services (VAS)
- Indian Telecom Service Providers
- Defining a Telecom Manager – Roles & Responsibilities
 - Career in Telecom – What needs to be understood first
 - Trends in Network Integration
 - Trends in Network Management Services
 - Trends in Storage
 - Trends in Wireless LAN
 - Trends in Connectivity Services
 - Trends in Mobile Applications
 - Trends in Wire line Infrastructure
 - Trends in Wireless Infrastructure
 - Trends in Test & Measurement (T&M)
 - Trends in Fixed Mobile Convergence
 - Trends in Broadcasting
 - Trends in Global Service Delivery
 - Trends in Outsourcing
 - Trends in Call Centers
 - Trends in Managed Services
 - Trends in Network Security
 - Trends in e – governance
- Global Telecom Career Profiles & Examples
 - Interview Techniques & Industry Expectations
 - Case Study of a Telecom Network Service Provider

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PART IV – UPCOMING TECHNOLOGY TRENDS

- Introduction to Virtualization
- Cloud Computing Infrastructures
- IP Multimedia Subsystems (IMS)
- Mobile Satellite Services (MSS)
- Pervasive & Ubiquitous Computing
- Internet of Things (IoT)

PART V – TELECOM TECHNOLOGIES AS BACKBONE TO INDUSTRIES

EXAMPLES OF TELECOM IN INDUSTRIES

- ✓ Telecom in Aviation (Communication Navigation Surveillance – Air Traffic Management – CNS ATM)
- ✓ Telecom in Healthcare (Telemedicine)
- ✓ Telecom in Governance (E-Governance, E-Government)
- ✓ Telecom in Supply Chains
- ✓ Telecom in Road Transport (Intelligent Transportation System – ITS)
- ✓ Telecom in Security
- ✓ Telecom in Public Utilities

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- ✓ Telecom in Banking & Finance
- ✓ Telecom in Ports
- ✓ Telecom in Education
- ✓ Telecom in Smart Cities

PART VI – UNDERSTANDING TELECOM SKILLS DEVELOPMENT

CAREER PATH MODEL

Telecom Industry expects the candidates to have project management skills with the domains as shown.

A candidate building up the above knowledge base will have an edge in the interview for any job profile. And then, he / she can fix the job responsibility in one of the specific functional categories as defined by the OSI Model.

The ability to handle & move up & down as in the OSI Model is what I see as the successful telecom career in the 21st century. According to the CEO of a company in mobile services – “Since both telecom & software were my interests, I targeted myself towards this sector. At my entire job, I took extra initiative in creating new business opportunities although I was in the software development arena & not in sales & marketing. I looked towards opportunities where I would constantly be customer or market facing.”

Telecom sector will not be the only one to provide job opportunities. Aviation, transportation, biotech, automotives, governance, construction enterprises deploying e-business solution will also be adding to the job opportunities as a whole.

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For conducting this Workshop in your Engineering College / Business School / Corporates , Please contact

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