

## Telecommunications Master Training

# Masters in Telecommunications Technology

Telecommunications is the most critical infrastructure of the 21st century. Explosive growth in telecoms has resulted in a severe lack of trained professionals. There's a huge skill gap between industry requirements and the professionals and stakeholders entering the sector. This intensive Masters in Telecommunications Technology has been designed to help bridge this gap.

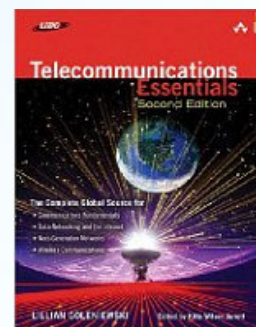
The training is tailored specifically to the telecommunications industry that deals with a wide range of technical issues. Delegates will gain a full understanding of the telecommunications technology and jargon in plain language:

- ☑ What are the key technologies and how do they work?
- ☑ What do these networks, infrastructures, applications do, what value do they offer and what are their shortcomings?
- ☑ How do all the different pieces of the puzzle fit
- ☑ Get a review on the latest developments in telecommunications technology and best practices.
- ☑ Be fully versed in fixed, mobile and convergent network technology and the reasons behind its adoption, its strengths, weaknesses and failings
- ☑ Have a solid platform on which to make strategic, technical and management decisions

### Key areas and skill sets covered

- Telecom industry trends and forecasts
- Industry structure and services
- Next Generation Networks and convergence
- Examine the impact of converged and next-generation networks
- The new Internet/Advanced Internet Protocols
- IP Telephony and VOIP
- Virtual Private Networks
- Optical Networking
- Understanding broadband evolution
- Broadband access alternatives
- Broadband communications
- Understanding the new wireless Broadband eco-system, technologies, devices and applications
- Broadband Wireless Access
- Comparing & contrasting wireless broadband initiatives
- Where do technologies as WI-FI fit into the future wireless future
- Role for DSL FWA (Fixed Wireless Access) solutions
- The continuing evolution to higher data rates in digital cellular
- Mobile networks and radio and cellular principles

All participants will receive the best-selling **Telecommunications Essentials 2nd Edition**. The Complete Global Source for Communications Fundamentals, Data Networking and the Internet, Next-Generation Networks, and Wireless Communications. (Addison Wesley) Authored by the Lilian Goleniewski (Instructor of this Master Class)



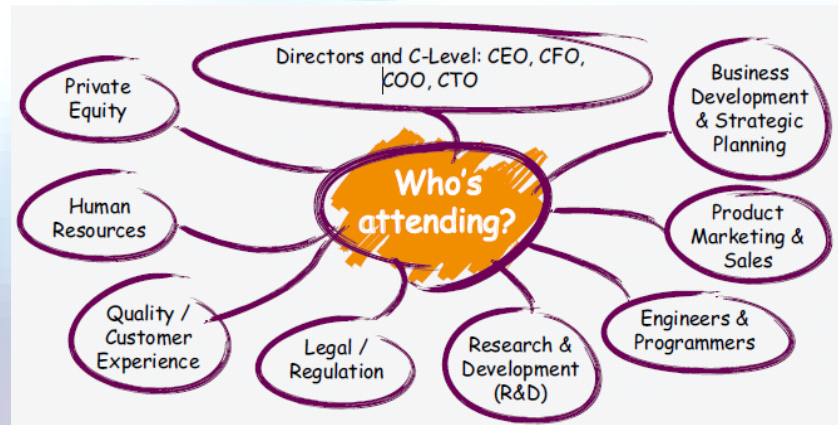


## Who Should Attend

CIOs, CTOs, Telecom Directors, IT/IS Directors, Telecom/IT Department Managers and Financial Directors & Managers will benefit from this Master Training.

You should attend if you wish to certify your skills in telecom management and are responsible for any of the following telecom elements:

- Organizing telecom staff
- Evaluating financial management options and plans
- Creating operating budgets
- Negotiating service provider and vendor contracts
- Evaluating technology to meet organizational objectives



## Organizations who attend:

- Fixed-line & Mobile Operators
- Equipment & service providers to telcos
- Major telecom / IT end-users
- Telecom Regulatory Authorities
- Bankers & Lawyers
- Academics & Consultants

## What all delegates will receive:

Bestselling Book: *Telecommunications Essentials:*

*The Complete Global Source for Communications Fundamentals, Data Networking and the Internet, Next-Generation Networks, and Wireless Communications*

- e-Learning & Accreditation: Three-month subscription to Telecommunications Essentials®
- Comprehensive Courseware: The entire PowerPoint library
- Life Membership Access to the: Telecommunications Essentials Learning Center



# Masters in Telecommunications Technology

## Layout Training

### DAY 1

#### Understand the whole “Zettacosm”

- Key measurements of the digital world – Processing, Storage, Bandwidth
- Shifting user profiles, traffic trends & statistics
- Ubiquitous computing, intelligent wearables
- Man-machine interaction, innovative user interfaces
- Cloud Computing & CDN (Content Delivery Networks)
- Social networks and operating systems

#### Telecom technology basics

- Transmission Fundamentals
- The Electromagnetic Spectrum and Bandwidth
- Analog vs. Digital Transmission
- Data Transmission Basics; Modems & Modulation
- Understanding Multiplexing; Protocol Stacks
- Open Systems Interconnection - OSI Reference Model
- Regulation & Standards

#### Transmission Media

- Transmission media measurements
- Twisted pair copper cable and coaxial cable
- Microwave, satellite and fiber optics

#### Understand networking and switching modes

- Networking modes vs Switching modes
- What is Circuit vs Packet Switching?
- WAN (Wide Area Network) transport alternatives
- The PSTN (Public Switched Telephone Network) vs the Internet or IP (Internet Protocol) Networks

#### Public switched telephone network (PSTN)

- PSTN Infrastructure
- Transport Infrastructure, T/E/J-Carrier, SDH / Sonet
- Signaling System #7 (SS7); Intelligent Network
- SS7 and Next-Generation Networks
- IMS and Network Transformation

### DAY 2

#### Convergence, Transformation and 21st Century Infrastructure

You'll develop a blueprint of convergence and transformation, from IP infrastructures and services, to next generation networks, to the role of the 2.0 ecosystem and business models.

#### Internet Protocol (IP) Infrastructure

- Internet Basics & TCP/IP Essentials
- Internet Addressing - IPv4 and IPv6
- The Organization of the Internet
- IP QoS; Web 2.0, Web 3.0

#### Multi-service convergence and IP services

- The Evolution to IP Telephony and VoIP – Voice over Internet Protocol
- Unified Communications
- Virtual Private Networks (VPNs)
- Security Principles and IPTV

#### Transformation: new rules in the 2.0 ecosystem

- Telecom Transformation defined: the Telecom 2.0 Ecosystem Framework
- New rules for the Converged Era: 2.0 Business Models
- Unlocking the value of intangible assets, business model innovations
- Transformation and the wireless world
- How to maximise revenues
- The role of Video, P2P, Mobile Data, Television, Sensor Networks

#### The visual metaphorphisis

- Communications, media, and entertainment
- Multimedia networking requirements
- Digital Video Basics & TV Standards
- Digital TV Principles & Digital Broadcasting Standards
- IPTV & Mobile TV

#### Next-Generation Networks

- Multi-service Convergence
- IP Multimedia Subsystem (IMS)
- OSA/Parlay and Parlay X
- Fixed Mobile Convergence; NGN Architecture; The Multiservice Edge
- MPLS Networks & New Gen Networks

#### Optical Networking

- The optical edge & the optical core
- Optical Networking models and Ethernet architectures
- The IP + Optical Control Plane
- Migration to Optical Networking

### DAY 3

#### Network access and the future of mobility!

The importance of customer experience in the new media environment, from wired broadband access to **broadband mobility**. Quizzes and case studies will help seal in your new found knowledge.

#### Broadband Access Alternatives

- The 'New Media' Environment
- The xDSLs; Hybrid Fiber Coax (HFC)
- Fiber Solutions (FTTx, PONs)
- Broadband Wireless Access Alternatives



# Masters in Telecommunications Technology

## Layout Training (c'td)

### DAY 3 (C'td)

- Powerline Telecommunications (PLT)
- Home Area Networking

#### Radio Transmission basics

- The Radio Spectrum
- Regulatory Issues
- Radio Performance Issues; Antennas
- Radio Channel Limits; Spectrum Utilization

#### Wireless Wide Area Networks (WWANs) – understand all the alphabet soup

- Cellular radio basics
- Enhanced data services (2.5G)
- 3G principles and standards
- UMTS TDD / TD-CDMA; HSDPA, HSUPA, HSPA+
- Long Term Evolution (LTE)
- CDMA 2000, 1xEV-DO, 1xEV-DV, Ultra Mobile Broadband (UMB)
- CDMA 450, IM450; TD-SCDMA
- **Beyond 3G, 3.5G**
- OFDM, MIMO; 4G, IMT; 5G Visions

#### Wireless Metropolitan Area Networks (WMANs) – in come the numbers

- Broadband Fixed Wireless Access (BFWA)
- **WiMax**, Mobile WiMax (IEEE 802.16x standards)
- WiBro, iBurst, Flash-OFDM ; Mobile-Fi (IEEE802.20x, MBWA)
- **Wi-TV** (IEEE 802.22 standards)

#### Wireless LANS (WLANs)

- IEEE 802.11x standards, Wi-Fi
- WLAN Security; VoWLANs
- Wireless and Cellular Unite & Mesh Networking

#### Wireless Personal Area Networks (WPANs)

- Ultra WideBand (UWB) **WiGig**
- IEEE 802.15.3 (WiMedia); IEEE 802.15.4 (Zigbee)
- Radio Frequency Identification (RFID); Near Field

#### Communications (NFC)

- Sensor-based Networks

#### Mobile and internet convergence apps

- The Device Revolution
- Mobile IP; IP Multimedia Subsystem (IMS)
- Push-to-Talk (IP Radio)
- Mobile Content and Applications
- Mobile Music, Gaming, Entertainment and Mobile 2.0



Ms. **Lillian Goleniewski**

**Internationally renowned telecom educator**

#### About your Trainer:

Ms. **Lillian Goleniewski** is Founder and President of the **LIDO Organization** Inc. Founded in 1984, LIDO is a leading provider of telecommunications education, information, and advisory services. Lili lectures extensively on telecommunications technology and management issues throughout the world. LIDO's globally acclaimed **Telecommunications Essentials®** seminar series has served over 50,000 professionals worldwide.

Lili is also the CEO of LIDO Telecom Pvt.Ltd dedicate d to developing e-learning in the field of teleomunication serving India's vast needs for telecoms education.

Lili is the author of the bestselling **Telecommunications Essentials 2nd Edition: The Complete Global Source for Communications Fundamentals, Data Networking and the Internet, Next-Generation Networks, and Wireless Communications** (Addison Wesley).

Lili has served as Advisory Board Member for numerous industry conferences, technical committees and awards programs, in the US and internationally and has also been an instructor at **San Francisco State University**.

She holds a B.A. in Psychology and has completed numerous post-graduate studies in information technologies as well as psychology.



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### REGISTRATION FORM

Fax or e-mail completed registration form to e-Solutions Caribbean (see info below) or register on line: [www.e-solutionscaribbean.com](http://www.e-solutionscaribbean.com)

*e-Solutions Caribbean*

Engelandstraat 2  
Unit 3  
Oranjestad – Aruba  
Phone: + 297- 588 7296, Fax: + 297- 588 7295  
E-mail: [training@e-solutionscaribbean.com](mailto:training@e-solutionscaribbean.com)

#### Fee: US\$ 3120

- Includes instructor led training, training material and documentation, certification exam as well as refreshment breaks and lunch
- A group discount of **5%** for each member will be applied when a **2 or 3** people from the same company register for this Master Training.
- A group discount of **10%** for each member will be applied when a group of **four or more** people from the same company registers for this Master Training.
- The fee does not include cost for travel, hotel accommodation

**Note:** Seats are guaranteed by **FULL Payment** within 7 days after registration for the training

**Company:**

**Address:**

**City:**

**State/Province:**

**Zip/Postal Code:**

**Country:**

**Phone:**

**Fax:**

**Attendee-1: Mr/Mrs/Ms:**

**Position:**

**Ext.:**

**E-mail:**

**Attendee-2: Mr/Mrs/Ms:**

**Position:**

**Ext.:**

**E-mail:**

**Attendee-3: Mr/Mrs/Ms:**

**Position:**

**Ext.:**

**E-mail:**

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