



# **LIDO Telecommunications Essentials®**

## **e-Learning Series**

***THINK TELECOM !***

## **LIDO Telecommunications Essentials® e-Learning**

Learn how to *think telecom* with LIDO Telecommunications Essentials, the world's leading e-Learning series for anyone requiring a working knowledge of the telecommunications industry.

### **Your Blueprint to the Telecommunications Industry**

LIDO Telecommunications Essentials is a comprehensive and easy-to-understand program that provides timely and necessary information about telecommunications principles, technologies, infrastructures, and applications. Presented in four parts, LIDO Telecommunications Essentials provides a basic understanding of the telecommunications industry in a dynamic and effective presentation by internationally renowned telecommunications expert and author, Lillian Goleniewski.

LIDO Telecommunications Essentials demystifies telecom concepts and terminology, providing a solid foundation for building your knowledge of the industry. Topics covered include communications fundamentals, transmission media, public switched telephone networks, wireless infrastructures, cable TV networks, the Internet, WAN, MAN, LAN and PAN networking alternatives, broadband architectures, IP networks and services, next generation networks, optical networking, broadband wireless communications, broadband access alternatives, home area networks, and mobility. LIDO Telecommunications Essentials' concise and complete overview gives you the framework you need to *think telecom*.

### **Dynamically Presented for Professional Success**

LIDO Telecommunications Essentials is presented in an engaging rich media format that imparts information while conveying excitement about the evolving world of telecom. Ms. Goleniewski is an effective presenter whose sense of humor and dynamic speaking style complement her telecommunications expertise in this smart and well-paced presentation. You will not only gain knowledge but inspiration for the amazing potential of the telecom industry.

LIDO Telecommunications Essentials is software delivered. The program includes dynamic multimedia lectures, simultaneous word-for-word transcript, accompanying slide show and clickable links to supporting educational resources. The rich media presentation creates a multi-dimensional learning experience, which helps individuals absorb lesson information.

## **Who Needs LIDO Telecommunications Essentials?**

You will benefit from LIDO Telecommunications Essentials if you are a professional who needs to master telecommunications language and principles or wish to update your knowledge. Students using Telecommunications Essentials in their curriculums will also benefit from the on-demand learning environment, reinforcing their classroom experience. Following are representative titles of professionals and academics who have benefited from LIDO Telecommunications Essentials:

- Telecom, IT, Internet and content organizations and professionals
  - Executives
  - Strategy and Business Development
  - Marketing and Sales
  - Corporate Communications
  - Product Development
  - IT Professionals
  - Software Engineering/Applications Development
  - Finance
  - Legal and Regulatory Affairs
  - Human Resources
- Organizations and professional serving the IT&T industry
  - Legal Counsel
  - Regulators
  - Venture Capitalists
  - Investment Bankers
  - Stock Analysts
  - Equity Researchers
  - Insurance Companies (Risk Policies)
  - System Integrators/Consultants
  - PR & Advertising
- Education
  - e-Learning Architects
  - University & College Professors and Instructors
  - Undergraduate, Graduate and High School Students
  - K-12 Teachers
- Planners, Architects and Managers of ICT infrastructures for
  - Power Utilities, Healthcare, Entertainment, Government, Transportation, Military, Finance, Retail

## **Economical and Effective e-Learning Format**

LIDO Telecommunications Essentials is a dynamic and effective e-Learning product, meaning the lessons are delivered to your computer rather than in a live seminar. The e-Learning format saves time and money by cutting down on the costs and business interruptions associated with a live seminar format. What's more, the e-Learning format makes it possible to learn at your own pace and on your own schedule, thereby optimizing the time and effort you and your company spend on continuing education.

### **Benefits of the e-Learning format include:**

- **Learning-on-demand:** Busy professionals are able to structure their study time around work schedules. Without doubt, one of the most powerful benefits of elearning is the ability to customize and manage your learning experience, by controlling when and what you choose to learn. The modular structure of the series facilitates customized learning plans, with cross-references to related modules and resources encouraging greater exploration of topic areas.
- **Distributed Learning:** Individuals are able to extend the learning process over time, which aids in increased information retention. Distributed team members can still learn together despite time and distance!
- **Dynamic Rich Media Presentation:** Simultaneous audio, word-for-word transcript, synchronized visuals and selected links to helpful resources enhances the learning experience.
- **Learning Styles:** Whether you are an auditory, visual or kinesthetic learner, this series supports your learning style. With streaming audio, word-by-word transcript, synchronized slides, animated network diagrams, and links to related educational resources, you select the media type and presentation that assures your attention to learning. Listen, read, visualize, draw, highlight – work with the information in the manner that best enables you to assimilate and retain!
- **Interactive Quizzes:** Quizzes at the end of each module segment allow for reinforcement of the lesson content.
- **Searchable Glossary:** The comprehensive glossary contains more than 1,500 terms you'll encounter most frequently. Using the search function within the glossary allows rapid location of definitions, while also cross-referencing related terms.
- **Search Functionality:** Allows individuals to quickly find the information they need.
- **Learning Center Resources:** This eLearning series includes access to many valuable learning resources, including a comprehensive searchable glossary, interactive quizzes, links to over 1,500 related websites, and links to hundreds of recommended reading and educational resources.
- **Reduced Training Costs:** e-Learning format saves money by avoiding the costs of employee travel, conference fees and time away from the office.

## **LIDO Telecommunications Essentials Part 1: Communications Fundamentals**

LIDO Telecommunications Essentials Part 1: Communications Fundamentals provides the foundation for a solid, practical understanding of the telecommunications industry. If you are a professional requiring a working knowledge of telecommunications, LIDO Telecommunications Essentials Part 1 will provide you the information you need to start *thinking telecom*.

**Running Time: ~ 8 hours**

### **Topics Covered:**

#### **MODULE 01 - Understanding the Broadband Evolution – 98 minutes**

- Introduction
- Measurements of the Digital Era
- Adapting to New Traffic Patterns
- Embedded Devices
- Intelligent Wearables
- Human-Machine Interactions
- Grid Computing and Real-time Communications
- The New Generation of Networks

#### **MODULE 02 - Telecommunications Technology Fundamentals – 91 minutes**

- Intro & Transmission Fundamentals
- Electromagnetic Spectrum
- Analog & Digital Transmission
- Multiplexing
- Political and Regulatory Forces in Telecom

#### **MODULE 03 - Traditional Transmission Media – 124 minutes**

- Intro & Media Characteristics
- Twisted-Pair Copper Cable
- Coaxial Cable
- Microwave
- Satellite
- Fiber Optics

#### **MODULE 04 - Establishing Communications Channels – 58 minutes**

- Intro & Establishing Communications Channels
- Switching and Routing
- Circuit Switching
- Packet Switching
- The PSTN and the Internet

**LIDO Telecommunications Essentials Part 1:  
Communications Fundamentals**

**MODULE 05 - The Public Switched Telephone Network (PSTN)  
Infrastructure – 107 minutes**

- Intro & the PSTN Infrastructure
- The PDF Infrastructure
- The SDH/SONET Infrastructure
- Signaling Systems
- Intelligent Networks
- SS7 & Next Generation Networks

## **LIDO Telecommunications Essentials Part 2: Data Networking and the Internet**

Data is the fastest growing traffic stream. The changing dynamics of bandwidth and processing power are shifting network economics and computer architecture. With these seismic changes in the technology industry, no telecom or IT-related professional should be without a basic understanding of Data Communications Basics, Local Area Networking, Wide Area Networking, and The Internet and IP Infrastructures. Telecommunications Essentials Part 2: Data Networking and the Internet provides a complete and concise overview of the fundamental concepts to help you *think telecom*.

**Running Time: ~ 7 hours**

### **Topics Covered:**

#### **MODULE 6 - Data Communications Basics – 69 minutes**

- Intro & Data Communications Architectures
- Data Communication Traffic
- Data Transmission
- The OSI and TCP/IP Reference Models

#### **MODULE 7 - Local Area Networking Basics – 59 minutes**

- Intro & LAN Basics
- LAN Transport Techniques and Standards
- LAN Access Techniques and Topologies
- LAN Switches, VLANs and Bridges
- Routers and IP Switches

#### **MODULE 8 - Wide Area Networking – 107 minutes**

- Intro & Wide Area Networking
- Circuit Switched and Leased Line Networks
- ISDN Networks
- Packet Switched Networks
- X.25
- Frame Relay
- Asynchronous Transfer Mode (ATM)

## **LIDO Telecommunications Essentials Part 2: Data Networking and the Internet**

### **MODULE 9 - The Internet Infrastructure – 169 minutes**

- Intro & Internet Basics
- Internet Protocols
- Routing Protocols
- Internet Network Architecture
- Internet Addressing and Address Resolution
- IPv6 Addressing
- Domain Name System (DNS)
- The Internet Infrastructure
- Service Providers and Interconnection
- IP Quality of Service
- What's Next on the Internet

## **LIDO Telecommunications Essentials Part 3: Next Generation Networks**

LIDO Telecommunications Essentials Part 3 provides a complete guide to broadband technologies and next generation networks. Driven by the forces of innovation, the telecom industry is on the brink of huge leaps in broadband communications. These changes will have repercussions throughout the industry, impacting everything from architecture to products, business models and technical standards. What are the next generation technologies and which are likely to survive? LIDO Telecommunications Essentials Part 3 answers these questions with in-depth coverage of IP Services, next-generation network infrastructures, broadband applications, optical networking, and broadband access alternatives.

**Running Time: ~ 11 hours**

### **Topics Covered:**

#### **MODULE 10 - IP Services – 180 minutes**

- Intro and The Evolution to IP Services
- IP Telephony
- IPT Network Architecture
- Digital Voice Technologies
- IPT Quality of Service
- VoIP Call Signaling Protocols
- ENUM
- Virtual Private Networks
- Applications of VPNs
- IPsec and GRE VPNs
- Layer 3 VPNs
- Layer 2 VPNs
- VPN Security
- IPTV

#### **MODULE 11 - Next-Generation Networks – 193 minutes**

- Intro & The Broadband Evolution
- Multimedia Networking Requirements
- Digital Television
- The Broadband Infrastructure
- Next-Generation Networks and Convergence
- The IP Multimedia Subsystem
- The Multiservice Intelligent Edge
- Quality of Service
- The MPLS Architecture

## **LIDO Telecommunications Essentials Part 3: Next Generation Networks**

### **MODULE 12 - Optical Networking – 92 minutes**

- Intro & Optical Networking Drivers
- Optical Networking Elements
- Optical Switches
- The Optical Edge
- The Optical Core
- The IP+Optical Control Plane

### **MODULE 13 - Broadband Access Alternatives – 184 minutes**

- Intro & Broadband Access Drivers
- DSL Technology
- Cable TV Networks
- Fiber Solutions
- Wireless Broadband
- Broadband Powerline Telecommunications
- Home Area Networks

## **LIDO Telecommunications Essentials Part 4: Wireless Communications**

LIDO Telecommunications Essentials Part 4 addresses how wireless technologies are making anytime/anywhere computing and communicating a reality. Part 4 provides a comprehensive survey of the wireless networking landscape, from laying a foundation for the understanding of radio transmission fundamentals to the latest and greatest in mobile applications. We will look at the emerging area of broadband wireless, including fixed and mobile wireless alternatives for voice, data, video and multimedia, as well as what may be the most important driver of wireless - wireless access to the Internet and the entertainment universe. Part 4 will examine the impressive range of emerging wireless technologies, systems and services, delving into the realm of next-generation wireless networks, covering the full scope of WANs, MANs, LANs, PANs and even FANs and BANs. You'll learn how wireless communications is driving innovation in the industry, and changing the fabric of both commerce and lifestyle – bringing benefits to industry, and more importantly to the growing population of humans and machines alike.

**Running Time: ~ 7 hours**

### **Topics Covered:**

#### **MODULE 14 - Wireless Communications Basics – 83 minutes**

- Intro & A Brief History of Wireless
- Wireless Communications Regulation Issues
- Wireless Impairments
- Antennas
- Wireless Bandwidth
- Wireless Signal Modulation
- Spectrum Utilization

#### **MODULE 15 - Wireless Wide Area Networks (WWANs) – 106 minutes**

- Intro
- Analog Transmission
- 2G Digital Cellular Radio
- 2.5G Enhanced Data Services
- 3G: Moving Toward Broadband Wireless
- Beyond 3G
- 4G: Wireless Broadband
- 5G: Intelligent Technologies

## **LIDO Telecommunications Essentials Part 4: Wireless Communications**

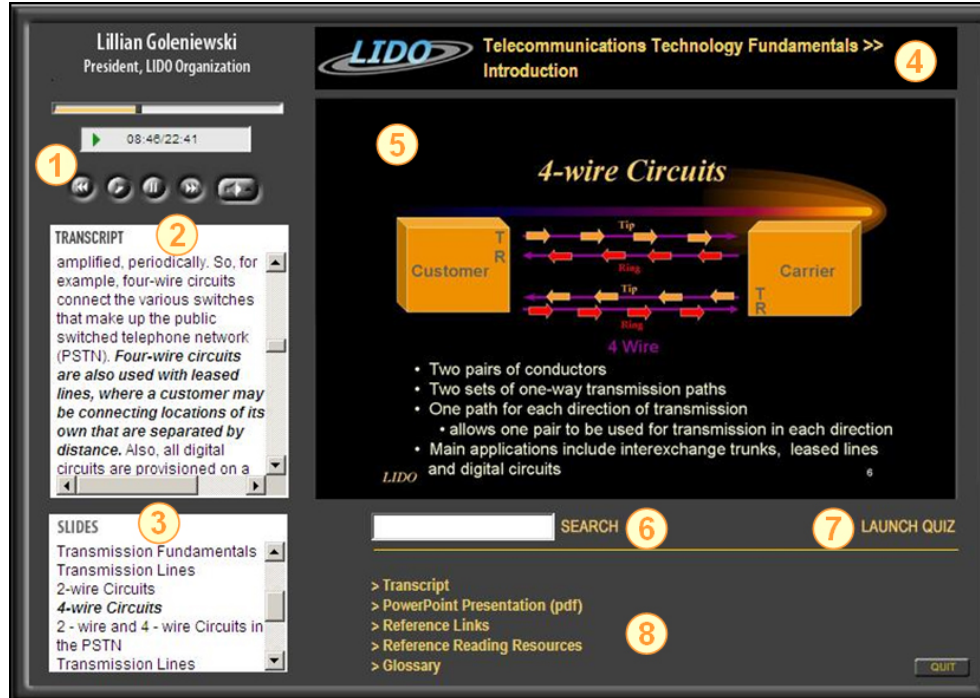
### **MODULE 16 - Wireless MANs, LANs and PANs – 180 minutes**

- Intro and Broadband Fixed Wireless Access (BFWA)
- WMANs – 802.16, WiBro, 802.20
- WMANs – iBurst, Flash-OFDM, DMB, VF
- WLANs and Wi-Fi
- IEEE 802.11x standards
- WLAN Security
- Voice over WLAN
- Integration of WLANs and Cellular Networks
- Mesh Networks
- IEEE 802.15 standards
- Ultra-wide Band (UWB)
- Radio Frequency Identification (RFID)
- Near-Field Communications (NFC)

### **MODULE 17 - Emerging Wireless Applications – 75 minutes**

- The Handset Revolution
- Mobile IP
- IP Multimedia Subsystem
- Mobile Gaming
- Mobile Video
- Mobile TV
- Mobile Content

## eLearning Player Features



1. The **Status Bar** displays the status of the media (playing, paused, buffering, etc.) and the current time code of the media as well as the duration of the entire presentation. This feature saves time by providing an indication of how long the overall presentation is and how much has been viewed.
2. **Transcript** highlighting focuses on the current text tract being spoken. This feature provides you with a quick and easy point of reference in the text tract. By clicking on any portion of the text, you will automatically switch to the proper audio segment and slide as well.
3. The **Slide Index** follows along with the audio, enabling you to always know which section is being heard and viewed. This feature provides a quick point of reference in the presentation relative to the audio, thus eliminating "guess work". When navigating topics via the slide index, the audio files and transcript change accordingly.
4. The **Module and Segment Title** quickly identify the module and segment you are listening to and viewing.
5. The **Slide Window** displays the supporting materials for your presentation.
6. The **Search Function** searches the transcript for key words or phrases. This feature searches both the transcript and the presentation slides.
7. The **Launch Quiz** button opens a window that presents you with an interactive quiz for the segment. Answer the questions, submit your answers, and receive your total score, along with a response indicating correct answers, identifying wrong answers and providing the correct response.
8. The **Learning Resources** window provides you with a host of resources to enhance and reinforce your learning experience. Features include printable transcript and slide presentations, reading resource links, reference links, glossary, and document related to module content.

## **System Requirements for LIDO Telecommunications Essentials eLearning**

### **Application Viewing Requirements**

- P3 400 MHz Pentium Processor
- 128 MB of RAM (256 MB Recommended)
- Monitor and video card that support 64K color
- 16-bit Windows compatible sound card with speakers
- Windows® 98 Second Edition, NT, 2000, XP
- Internet Explorer ver. 6.01, 5.5, 6.0 or 7.0
- Windows Media® Player ver. 6.4 – 11
- 56 K modem
- Broadband access will provide the best performance!

### **All Audience Members**

- **Media Player**

Windows Media Player ver. 6.4, 7, 8, 9, 10 or 11 is needed to view the webcast.

- [Download Windows Media Player](#)

Click on a link above to download a player for installation.

- **Internet Browser**

One of the following Internet browsers is necessary to view the webcast:

- [Microsoft Internet Explorer 5.0 or higher](#)

Click on a link above to download and install a new browser, if your current browser is not a supported version. To determine the version of your current browser, open your browser and click Help ->About Internet Explorer Communicator from the top menu bar.

## **Pricing Information for LIDO Telecommunications Essentials**

LIDO Telecommunications Essentials e-Learning is provided on two convenient platforms, web-based and CDs - and can be provided on the basis of single or multi-user license. Individuals can subscribe to a single-user-license and choose to have the elearning delivered over the web or provided on CDs. For enterprises, an annual multi-user license provides maximum flexibility, and is also delivered over the web or provided on CDs. Enterprises can also request customization of the elearning series, ranging from the incorporation of company logos and visual philosophy to the addition of company specific content.

Pricing for LIDO Telecommunications Essentials is on a per-license basis with volume discounts to suit your company's training and education budget. For further information pricing information regarding multi-user licenses or enterprise customization, please contact Ms. Lili Goleniewski at the LIDO Organization at +1-415-457-1800 or send an email to [lili@lidoorg.com](mailto:lili@lidoorg.com). For single user pricing, please visit the elearning store at [www.telecomessentials.com](http://www.telecomessentials.com).

### **Start Thinking Telecom Today, Order Now**

To buy a LIDO Telecommunications Essentials eLearning single-user license, please visit our elearning store at [www.telecomessentials.com](http://www.telecomessentials.com). To order multi-user licenses or discuss enterprise customization, please contact Ms. Lili Goleniewski at email [lili@lidoorg.com](mailto:lili@lidoorg.com) or call +1-415-457-1800.

## **Telecommunications Essentials 2<sup>nd</sup> Edition – A Sampling of Reviews**

This new edition of LIDO Telecommunications Essentials eLearning series is based on Lili Goleniewski's best-selling book Telecommunications Essentials – 2<sup>nd</sup> Edition. Here is what industry leaders have to say about her content and presentation style.....

“Lillian makes telecoms fun.”

- **Ni Quiaque Lai**, CFO, Hong Kong Broadband Network Ltd.

"Telecom Essentials describes the most technical elements of the subject in lay person's terms, while remaining engaging for those with greater understanding. In providing the link between the most complex of telecoms technology and its most simple applications, both now and in the future, Telecom Essentials is the most readable book on the subject both for newcomers and for the "old hands". Lili exudes enthusiasm throughout, providing a vision for the future that draws the reader in."

- **Neil Juggins**, Head of Research, Evolution Securities China

"One of the great challenges facing those responsible for setting public policy or regulation associated with the converging technologies of telecommunications, IT, and media is that before the 'ink is dry' on their pronouncements, advancements in the underlying science and technology has often made the "new" policy, laws and regulation out-of-date or irrelevant. While Lili does not claim to predict the future in her 2nd Edition of Telecommunications Essentials, she does take what is to many "Rocket Science" and delivers it up in ways that those responsible for protecting the "public good" and maintaining more competitive communications market places, can easily understand. Lili is one of the few telecommunications educators out there, catering to a diverse a reader base, who has been keeping up with Moore's Law and what it really means in the real world of telecommunications." She continues to maintain her technological neutrality, never attempting to "sell" a particular flavor of the year as regards who is the "best" at delivering "what" to "whom", nor falling into a mumbo-jumbo-mantra of which national regulatory authority has invented the best-of-the-best new legal regime, something sorely needed by those needing a bias free technology primer."

- **Thom Ramsey**, Partner, Squire, Sanders & Dempsey (Brussels & Washington, D.C.) and former Deputy United States Coordinator for International Communications and Information Policy, U.S. Department of State

## About Lillian Goleniewski, Author and Creator of the Program

**Lillian Goleniewski , President  
The LIDO Organization, Inc.**



**Lillian Goleniewski** is Founder and President of the **LIDO Organization, Inc.** Founded in 1984, LIDO is an internationally acclaimed provider of education, information, and advisory services in the area of telecommunications technologies, services and networks

**Ms. Goleniewski** lectures extensively on telecommunications technology and management topics throughout the world. She is the author and creator of **LIDO Telecommunications Essentials** ® [www.telecomwebcentral.com](http://www.telecomwebcentral.com). Ms. Goleniewski's seminars have been conducted on an international basis and are offered throughout Asia, Australia/New Zealand, Africa, Europe, the Middle East, North America and South America. The eLearning series was first introduced in 1999, and the current 3<sup>rd</sup> edition contains over 33 hours of multimedia content providing a flexible, multi-dimensional, on-demand learning experience. Ms. Goleniewski is also the author of **Telecommunications Essentials: 2<sup>nd</sup> Edition - The Complete Global Source for Communications Fundamentals, Data Networking and the Internet, Next-Generation Networks and Wireless Communications**. (Published by Addison Wesley, October 2006, ISBN: 0321427610).

**Ms. Goleniewski's** diverse industry participation has included serving as an Industry Advisory Board Member for numerous conferences and awards programs, including Comdex, ComNet, and EJ Krause Expocomm. She has served as a judge for the Global Information Infrastructure Awards (GII Awards), as well as being a Founding Member for the Standard for Internet Commerce. Ms. Goleniewski has served as a member of the MIN (Michigan Information

Network) technical committee, as well as a reviewer for the CommerceNet/State of California Next Generation Internet grant program. She has also served as an instructor for the San Francisco State University College of Extended Learning. She is currently serving as a judge for the Baltic Challenge Awards program. She is a member of the Technology Empowerment Network (TEN), the IEEE and the IEEE Computer Society.

Prior to forming the LIDO Organization, **Ms. Goleniewski** held the position of Telecommunications Operations Manager at the Electric Power Research Institute (EPRI), the research and development arm of the U.S. utility industry. Before joining EPRI, Ms. Goleniewski was Vice-President of Operations of a San Francisco-based telecommunications consulting firm.

**Ms. Goleniewski** graduated Phi Beta Kappa and Summa Cum Laude from Wayne State University in Detroit, Michigan. She holds a B.A. in Psychology and has completed numerous post-graduate studies in information technologies as well as psychology. Ms. Goleniewski was the recipient of a NSF Award to conduct research in the area of human perception and information processing.

**Ms. Goleniewski** is fluent in Polish and has conversational skills in both Russian and French.

**About the LIDO Organization:**

The LIDO Organization is internationally recognized for providing expert educational and advisory services. Since its inception in 1984, LIDO's focus has been on the development and delivery of high-quality telecommunications education, LIDO's educational programs include seminars offered on a global basis, over 33 hours of dynamic multimedia e-Learning curriculum, and the best-selling Telecommunications Essentials textbooks utilized by universities and enterprises worldwide. Recognizing that learning is life-long, LIDO's educational programs are web-powered via the **LIDO Telecom Essentials Learning Center**, [www.telecomessentials.com](http://www.telecomessentials.com) and **LIDO Telecom WebCentral®** a globally recognized telecom knowledge portal offering thousands resources to help enforce and build telecom knowledge.