PRESENTED BY
LILLIAN GOLENIEWSKI

“Lili Goleniewski is a gifted communicator and educator”
Peter Leonard, Managing Partner, Gilbert & Tobin Lawyers

LIDO
TELECOMMUNICATIONS ESSENTIALS®
For Managers

A Comprehensive 3 day Seminar
A totally unmissable opportunity to learn from the most dynamic Guru in the Telecoms Industry
Let Lili put you on the fast track

“Very good course. The best telecoms course I have attended to date”
Nick Martin – Investigations Manager, Telewest Comms

“A very good overview of a very large technical area. A quick way to get up to date on the latest trends in the telecommunications field”
Heinz Hohbach – Technical Manager, Siemens Telecommunications

“Very good course. It gives technical basics in conjunction with a business perspective which is rare for most telecoms courses”
Tamara Pastuszynska – Deputy CIT Operations Manager, Polska Telefonica

DATES:
15 - 17 April 2003
Savanoriu ave. 28 - 157
Vilnius, Lithuania

DAY 1:
Communications Fundamentals

DAY 2:
Data Networking and the Internet

DAY 3:
Next Generation Broadband Networks

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T: +370 650 82650  F: +370 5 2783738  E: stepas.safranauskas@telecom.lt
FREE to all course attendees!!

**Telecommunications Essentials**

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

By Lillian Goleniewski


“Here is a book that demystifies a technical world. The book will be a permanent fixture on my ‘go to find an answer’ reference list.”

Kiron Chatterjee, CEO, Koshen Holdings and former CEO of Asia Online

“Whether you are new to telecoms or have years of experience, this well organized and detailed reference will help you learn what you need to know or remember what you have forgotten.”

David West, Executive Vice President, Equinox Information System

Because knowledge work today involves constant learning, LIDO provides learning resources that will enable you to access the appropriate information at the moment you need it, long after you attend the course. This includes the recently published Telecommunications Essentials textbook, providing you with additional depth about the topics covered at a high-level in the class.

Leading telecommunications trainer and consultant Lillian Goleniewski combines clear explanations of fundamental principles with in-depth, up-to-the minute coverage of networking and the Internet - both wired and wireless. More than competitive guides, Telecommunications Essentials combines the global breadth and technical depth readers need to truly master telecommunications. And it's FREE for all attendees at Lili's course on 15th April!

“I recommend Lili’s book to anyone seeking an informative, enjoyable ride through today’s telecommunications landscape.”

Steve Riley, Microsoft Telecommunications Consulting

“In Telecommunications Essentials, Goleniewski guides us through the ever-changing world of telecommunications with much sense and a great deal of style.”

Chris Barclay, Director, Strategy & Planning, Retail, Telstra

Why you should attend...

- Get a complete grounding in all of the key Telecommunications technologies, applications and business opportunities in just 3 days.
- Come away with over 1,000 pages of encyclopaedic documentation, including a comprehensive glossary.
- Demystify the language of Telecommunications - learn to recognise and understand the acronyms, buzzwords and key terminology.
- Cut months - if not years - off your learning curve.
- Understand the big picture, and put together the telecoms puzzle.
- Enjoy learning about the immensity and potential of telecommunications.

“...and anyone who is seeking a complete understanding of Telecommunications terms, definitions, and current and emerging technologies.

If you are new to the communications and information industry or simply need an understandable, yet comprehensive overview of telecommunications, then this seminar is for you. This three-day programme is designed to provide you with a thorough foundation for understanding telecommunications principles, technologies and business models. The course will teach you how to continue your learning – by showing you what resources to use on the web in order to access further information, when you need it.

This programme is ideal for:

- Sales and Marketing Professionals
- Product Managers and Directors
- Project Managers and Directors
- Financial Analysts & Investors in emerging Telecoms and Internet concerns
- New management within the Telecoms and Internet operators/manufacturers
- Professionals working for Telecoms regulatory, legal bodies and associations
- Financial Professionals in the Telecoms industry

Who should attend...

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- This three-day programme is designed to provide you with a thorough foundation for understanding telecommunications principles, technologies and business models.

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One of the biggest challenges facing professionals in the information technologies and telecommunications (IT&T) sector is conquering the dense, seemingly endless, yet absolutely essential language of telecommunications. During Day One, telecommunications fundamentals are presented in layman's terms, laying the foundation for understanding the basic principles of telecommunications transmission and networking. The focus is on developing an understanding of the forces driving the revolutionary change in infrastructures worldwide, on providing clear explanations of communications fundamentals, the differences between circuit and packet switching, and the nature of transmission media. The architecture of the public switched telephone network (PSTN) is explored, including the switching hierarchy, the PDH, SDH/Sonet, and SS7. The basics of wireless communications are covered, as well as 1st and 2nd Generation cellular networks. Day One will result in an appreciation and understanding of the fundamental principles of telecommunications and the supporting traditional infrastructures.

**DAY 1**

**Communications Fundamentals**

- Measurements of the Digital World
- Processor Power, Storage, Bandwidth
- The Age of Intelligence
- Changing User Profile, Traffic Trends, Applications Evolution
- New Public Networks
- Convergence – What & Why

“Extensive content”
Andrea Masnata – Telecom Manager, PW C

**TECHNOLOGY BASICS**

- Introduction
- Transmission Fundamentals
  - Circuits, Channels, Trunks, Virtual Circuits
  - 2-Wire vs 4-Wire Circuits
  - Switched, Leased Line and Dedicated Networks
- Bandwidth & the Electromagnetic Spectrum
  - Principles and properties
  - Telecommunications spectrum
- Bandwidth definitions
- Analogue vs. Digital Transmission
- Multiplexing
  - FDM, TDM, Statistical Mux, Inverse Mux, Wavelength Division Mux
- Standards Organizations

**DAY 2**

**Data Networking and the Internet**

Day Two begins with an explanation of data communications fundamentals – establishing a framework for understanding data networking and its applications. Data network alternatives for the local and wide area are explained, demystifying protocols and architectures and their relationship to the OSI reference model. LANs (local area networks) and LAN internetworking are summarized, providing a high level overview of enterprise infrastructures today. WAN (wide area networking) alternatives are reviewed, providing descriptions of their applications, associated network elements, and general tradeoffs. Day Two also provides an examination of the Internet and IP infrastructures, the services supported and planned, the challenges it faces, and how it is likely to evolve in the future. VPNs, VoIP and emerging streaming applications are explored, providing a glimpse into the dramatically shifting nature of business processes, customer relations and revenue generation.

**DATA COMMUNICATIONS BASICS**

- Data Communications
  - Definitions, Architectures, Traffic Types
- DTE/Transmission Channel/DCCE
- Modems & Modulation
- Data Transmission & Measurement
- Transmission Codes
- Transmission Modes
- Error Control
- Protocols & Protocol Stacks
- OSI Reference Model

**WIDE AREA NETWORKING**

- Wide Area Networks (WANs)
  - Definitions, WAN categories
  - Leased Lines
  - Circuit-Switched Alternatives
    - Switched Digital Access, N-ISDN
  - Packet Switched Alternatives
    - X.25, Frame Relay, ATM

**INTERNET INFRASTRUCTURE**

- Internet Infrastructure
  - Clients and servers, networks, components
  - TCP/IP, Internet addressing, IPv4, IPv6, domain name system
  - Point of Presence (POP) infrastructure
- Internet Organization
  - Research backbones, N SPs, ISPs
  - CDN s, ASPs, MSPPs, OSPPs, VISP s, W ISPs
  - NAPs, peering agreements, private NAPs, overnet
DAY 3
Next-Generation Networks

Building on the foundation laid in Day One and Day Two, Day Three addresses broadband technologies and next-generation networks. The evolution of broadband capabilities in the PSTN, Internet, Cable TV and Wireless infrastructures are discussed, with a focus on the applications scenarios driving the requirement for new classes of networks as well as technologies for enabling interactive service platforms. These new next-gen services include VPNs, IP Telephony, and streaming media applications.

Broadband networking discussions include the emerging three-tiered broadband architecture (access, edge and core), the role of IP, ATM, and MPLS at the edge and in the core, along with the nature and importance of quality of service definitions and techniques. The full realm of broadband access alternatives are explored, including twisted-pair, coax, fiber, and wireless alternatives. And of course, the critical developments and deployments of optical technology are fully discussed. The fundamental conflict between mobility and broadband communications is being addressed on many fronts, and exciting new technologies and implementation techniques are making anytime/anywhere computing and communicating a reality in many different and conventional forms. We will look at the emerging area of broadband wireless, including fixed wireless alternatives for voice, data, and multimedia, as well as what may be the most important driver of wireless of all - wireless access to the Internet.

1
Next-Generation Network Services

- Traditional services and emerging applications
  - Email, FTP, Internet, W W W
- VPNs (virtual private networks)
  - Definitions and categories
  - VPN applications
  - VPN security
- Security
  - Firewalls, Authentication, Encryption, Key Exchange, PKI
- IP Telephony
  - Definitions and trends
  - Applications - IP Telephony, Internet telephony, Voice over IP (VoIP)
  - Network elements, media gateways, softswitches
  - Call control signaling standards - H.323, SIP
- Intelligent Networks and IP Telephony
  - IP-based PBXs
- Multimedia on the Internet
  - Streaming media definitions
  - Streaming media applications
  - Streaming media technology

“Excellent delivery from the presenter”
Kevin Barrins - Market Operations Manager, ODTR

2
Optical Next-Generation Networks

- Driving Forces
  - Communications trends in traffic, bandwidth and applications
- Broadband Infrastructure
  - Emerging networks, converging public infrastructures
- Broadband service requirements
- Next-Generation Network characteristics
  - IP and ATM
  - IP characteristics, IP routers, IP switching
  - ATM characteristics and applications
- Broadband Architecture
  - Broadband access tier, intelligent edge, high-speed core
- The Intelligent Edge
  - Protocol and data service integration
- Next-Generation Telephony
  - Programmable networks, media gateways
  - Softswitches, Evolving signaling standards
- Quality of Service
  - Definitions and categories, ATM, Int Serv (RSVP), DiffServ (TO S), MPLS

3
Broadband Access Alternatives

- The xDSLs
  - HDSL, IDSL, SDLS, RADSL, ADSL, VDSL
- Hybrid Fiber Coax (HFC)
  - Cable TV networks, HFC architectures
  - Cable modems and set-tops, cable telephony, VoIP over cable
- Fiber
  - Fiber to the Curb (FTTC), Fiber to the Home (FTTH)
  - Passive Optical Networks (PONs)
- Wireless Broadband Access Alternatives
  - DBS, MMDS, LMD/S/MVDS, Free Space
  - Powerline Telecommunications (PLT)
  - Ethernet in the access network

4
Optical Networking

- Fiber Backbones and Optical Networks
  - Optical Networking Revolution
- Optical Elements
  - Erbium Doped Fiber Amplifiers (EDFAs)
  - Wavelength Division Multiplexing (WDM/DWDM)
  - Optical Add/Drop Multiplexers and Optical Cross-connects
- Optical Edge
  - NGDLC, POPs, MSPP
- Managing Optical Networks
  - Optical Switches
  - End-to-end networking, optical switching fabrics
  - MEMS, LCD, Fluidics, thermal-optical, tunable lasers
- Integrated Photonic Circuits
  - Optical Networking Models
  - Optical Transport Network (OTN), Automatic Switched Transport Network (ASTN)
  - GigE and 10GigE
- IP over Optical Standards
  - GMPLS, Optical UNI, Optical Transport Network (ASON)

5
Broadband Wireless

- 2.5G: GPRS, HSCSD, EDGE
- Mobile Internet
- Third Generation (3G) Mobile Systems
  - IMT2000, 3G Objectives, Applications
  - 3G standards: WCDMA (UMTS), cdma2000, TD-SCDMA, UWC-136, DECT
  - 3G deployment issues
- Wireless Local Area Networks
  - 802.11b, 802.11a, 802.11g, Wi-Fi, security
  - Bluetooth
  - HomeRF
- 4G and 5G
  - Orthogonal Frequency Division Multiplexing (OFDM)
- Ultra-Wideband (UWB)
- Mobile Trends
  - Applications
  - Location-based services
  - M-commerce
  - WAP, i-mode

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Lillian Goleniewski is Founder and President of the LIDO Organization, Inc., the leading provider of education, information, and advisory services in the area of telecommunications technologies, services and networks.

Ms. Goleniewski lectures extensively on various telecommunications technology and management topics throughout the world. She is the author and creator of LIDO Telecommunications Essentials® seminars and e-Learning, www.telecomessentials.com. The series have been conducted on an international basis since 1984, and are currently offered in Asia, Australia, Europe, the Middle East, New Zealand, North America and South America. Over 25,000 people worldwide have attended LIDO’s Telecommunications Essentials® seminar series. Ms. Goleniewski is also the author of Telecommunications Essentials: The Complete Global Source on Communications Fundamentals, Data Networking and the Internet and Next-Generation Networks. (Published by Addison Wesley, copyright 2002, ISBN: 0201760320).

Ms. Goleniewski continues to be active in the design, development and program participation of several major industry conferences, serving as advisor since 1991. She is an Industry Advisory Board member of the Key3Media Comdex Forums & Conferences, IDG’s ComNet & W ashington D C and E J Krause Expocomm conferences worldwide.

Ms. Goleniewski’s diverse industry participation includes serving as a judge for the Global Information Infrastructure Awards (GII Awards) from 1995-1999, as well as being a Founding Member for the Standard for Internet Commerce. The LIDO Organization is a member of and contributor to AN CARA, the Advanced N etworked C ities and Regions Association. Ms. Goleniewski has served as a member of the M IN (Michigan Information N etwork) technical committee, as well as an instructor with the San Francisco State University College of Extended Learning. She is a member of TEN (www.techempower.net), the Technology Empowerment N etwork (TEN), a global initiative by the Technology Pioneers, W orld Economic Forum Community, as well as a reviewer for the CommerceNet/State of California N ext Generation Internet grant program. She is also a member of 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 W ayne 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 N SF 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 programs and building telecommunications knowledge. Since its inception in 1984, LIDO’s focus has been on the development and delivery of high-quality education and effective knowledge transfer. Recognizing that learning is lifelong, LIDO’s educational programs are web-powered via LIDO Telecom WebCentral®, www.telecomwebcentral.com, a globally recognized telecom knowledge portal offering over 6,000 resources to help enforce and build telecom knowledge.


AB "Lietuvos telekomas" Competence Development Centre (further as CDC) is among largest and most advanced competence development providers in the Baltic states. CDC is providing advanced management and IT&T competence development services which are facilitated by experienced professionals from abroad and Lithuania. CDC offers complex theory and hands-on training solutions and, by means of high expertise, flexibility and quality pretension, aim at becoming the number one consultants in the area of trainings and future IT business market requirements in Baltic’s region.

Hi-Tech trainings which CDC is providing are certified by IT market leaders such as Cisco, Microsoft and etc. CDC holds also certified test center certificates issued by Prometric and ECDL.

Utilising widely developed network of Lithuanian and foreign partners CDC is providing wide scope courses and seminars for managers.

CDC is actively participating in projects implemented inside Lietuvos Telekomas Group as well as in projects co-financed by various EU programmes.

All courses are given in modern classrooms and labs, specially equipped for computerized or theoretical classes. CDC training premises are available in largest Lithuania cities as well as in Vilnius.

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**REGISTRATION FORM**

Please register me on: LIDO TELECOMMUNICATIONS ESSENTIALS® for Managers

<table>
<thead>
<tr>
<th>Course Date (tick)</th>
<th>Code</th>
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<td>□ 15 - 17 April 2003</td>
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**Course Fee:** 1180 EUR  
**VAT:** 18%  
**Inv. Cost:** 1392.4 EUR

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**Your Registration**

1. **Attendee Name Mr/Mrs/Ms:**
   - Position: Department:

2. **Attendee's Manager:**
   - Position: Department:

3. **Attendee Name Mr/Mrs/Ms:**
   - Position: Department:

4. **Attendee's Manager:**
   - Position: Department:

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**Your Organisation**

- **Company Name:**
- **Address:**
- **City:**
- **Postcode:**
- **Country:**
- **Attendee's Tel:**
- **Attendee's Fax:**
- **Attendee's Email:**
- **Nature of business:**
- **Number of employees at site:**

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**Payment Details**

An invoice will automatically be sent out to you by post upon receipt of your booking.

Bank Transfer - should be made to: Bank: AB "Vilnius bankas", Bank account: 57080231 for EUR, 2345805 for LTL, Swift code: CBVILTTX, Company code: 2121543, Address: Savanoriuave.28, LT - 2600 Vilnius, Lithuania.

Company name: AB "Lietuvos telekomas", Please include the delegate’s name, course name in the transmission details.

N.B. Payment must be RECEIVED BEFORE the seminar date in order to guarantee your place.

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**Bank Details**

- **Swift code:** CBVILT2X
- **Company code:** 2121543
- **Address:** Savanoriuave.28, LT-2600 Vilnius, Lithuania

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**Non-site Training**

CDC solutions that meet the unique requirements of your business. Adapt an existing course for a small team to run on-site or develop a complete range of programmes to meet your business objectives. CDC works in partnership with you to create programmes based upon your needs. For more information ring Donatas Sedis on +370 650 82626.

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**Incorrect Mailings**: If you are receiving multiple mailings or you would like us to change any details or remove your name from our database, please contact kuc@telecom.lt.

**Programme Changes**: It may be necessary for reasons beyond the control of CDC to change the venue and date.