

TELECOMS & TECH TRAINING 2018

- School of Telecoms & Tech Business
- School of Advanced Communications Technologies
- Distance Learning & Online Academy
- Customised in-company training

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LEARNING FOR TELECOMS & TECHNOLOGY

WE BUILD BUSINESS & TECHNOLOGY COMPETENCIES FOR THE TELECOMS & CONNECTED INNOVATION ECOSYSTEM

With over 16 years' experience training the management and technical teams of organisations across the telecoms and connective innovation ecosystem ensures we are best placed to help build the skills and competencies your organisation needs to address the emerging market trends and achieve a real competitive advantage.

We have developed a diverse portfolio that develops the key competencies required to make the right choices, develop the right solutions, and maximise your organisation's position in the market.

Research & Analysis from Ovum

We benefit from the unrivalled analysis of the market provided by the Ovum research team, this vital research is used to enhance and inform our training programmes and ensure that our delegates benefit from the latest thinking.

OUR TRAINING PORTFOLIO

School of Telecoms & Tech Business

Covering the key topics vital to your organisation from driving commercial performance, regulation to customer centricity. With over 10,000+ past delegates, our business programmes are relied upon by today's business leaders and aspiring leaders to inform their business strategy.

School of Advanced Communications Technologies

Delivers a wide range of classroom programmes covering the key technologies across the modern telecoms network and connected world, including new topics such as 5G, IoT and Smart Cities.

Distance Learning & Online Academy

Designed to rapidly build your competence, knowledge and confidence over a range of different areas with our self-study programmes, including University Accredited Diploma programmes.

I hope you find these programmes of interest, please contact us to discuss how we can help build the skills you and your organisation needs to succeed in the rapidly evolving communications market.

Rosie Bernard
Managing Director
Telecoms & Tech Academy

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IN-COMPANY TRAINING SOLUTIONS

WE PROVIDE THE SKILLS AND COMPETENCIES TO EDUCATE TEAMS AND ENHANCE PERFORMANCE IN YOUR COMPANY

We'll take time to understand your requirements and deliver specialist training, from the experts, at your location anywhere in the world.

TAILORED SOLUTIONS

Off-the-Shelf

We can deliver an in-house version of any of our classroom courses included in this brochure.

Tailored

We can tailor an existing classroom course to your organisation's special requirements.

Bespoke

Tell us the problem you need solving and we will create a bespoke programme just for your organisation.

DELIVERY

Face-to-Face

We hand pick a leading practitioner to create a technical or commercially focused course, delivered in-house.

Digital

Not able to take time out of the office? We can develop a specialised programme for your team to learn on-demand.

Blend of Digital & Face-to-Face

Perfect for training a group of mixed abilities – our blended learning means pre- and /or post-learning on-demand, with onsite delivery focusing on practical application and more time for questions.

TRAINERS

Our team of versatile expert trainers can deliver training at all levels and can make complex technology issues accessible to non-technical staff as well as deliver in-depth engineering training. Our business trainers are specialists in their field, enabling them to address the key issues affecting the telecoms and technology industries today.

Clients include





DISTANCE LEARNING & ONLINE ACADEMY

DISTANCE LEARNING & ONLINE ACADEMY

WHY STUDY DISTANCE LEARNING?

Finding the time to attend courses of any kind can be very difficult and plans are often put aside indefinitely as we try to build the competencies needed to carry out our jobs in an ad-hoc and often inefficient way.

Assessing training and choosing the right course to attend in order to maximise training effectiveness can be difficult – often leading to wasted effort and a missed opportunity.

Our comprehensive 3 month and University Accredited 9 month Distance Learning programmes, as well as our short Online Academy programmes, provide the opportunity to rapidly build your knowledge, competencies and confidence in a range of different areas. Interactive resources and study support available to keep you engaged. You can also fit your studies around your current job role, deciding where and when you want to study.

- The courses are examined and qualifications awarded by the biggest global provider of research, intelligence, events and training to the telecoms and technology industry.
- Each course has been developed specifically by the Telecoms & Tech Academy with input from the Ovum Research Team to ensure the courseware is relevant, stimulating and engaging.
- You decide where and when to study and then set your own pace.
- Through our mix of learning delivery methods and online support, we keep you fully engaged and progressing to ensure you meet the required standard.
- You are assigned a dedicated course tutor to help and advise throughout your studies—all tutors have a wealth of real-life industry experience and are now dedicated training professionals.

Enhanced learning

We have put together a range of enhanced learning methods to ensure that you make the most of your programme. Enrol in one of these programmes and benefit from:



Managed learning system

This has been developed in order to offer convenient and flexible access to resources such as course material, frequently asked questions, practice examinations and tutor support.



Fully illustrated courseware

Courseware is a combination of solid courseware, delivered in context and full regard to current trends, data and analysis from the ovum research team. Self-assessment tests in preparation for exams are also included.



Tutorials and webinars in our virtual classroom

The virtual classroom is our tool for delivering online training to our students, providing you with a dynamic environment in which trainers and students can discuss and explore ideas, course work and exercises. Benefit from a wide range of enhanced interactive learning tools:

- Train together with an instructor online and in real time, through regular tutorials, live webinars and video lessons.
- Each tutorial will include trainer presentations, group discussions as well as question and answer sessions.
- Have your questions answered instantly
- Network with other students –interacting and sharing experiences and ideas – overseen and managed by the distance learning faculty.

9 MONTH DIPLOMA DISTANCE LEARNING PROGRAMMES



University accredited Distance Learning programmes – Enhance your career with an internationally recognised qualification.

Our Distance Learning programmes have been fully accredited by, and are offered in partnership with the University of Derby; a UK-based university highly acclaimed in the area of employer engagement.

What Accreditation means:

- **Fully aligned with UK University structure** – each course has been thoroughly audited and aligned with the UK University structure and credit system
- **Study towards a recognised university qualification** – successfully complete any accredited programme and you'll be able to qualify for a University qualification
- **Further your career** – have the confidence that your qualification will be recognised across the industry.

The modular structure of these programmes offers for a good degree of specialisation and allows you to tailor your programme to suit you and your organisation's individual learning needs.

1. Diploma in LTE & Advanced Communications

This programme would suit anyone who requires a detailed understanding of the LTE, the challenges in its deployment and an insight into the current market position. The programme is designed to give you a detailed understanding of LTE, and through its' modular structure allows for a good degree of specialisation and allows you to tailor your programme to suit you and your organisation's needs.

Core Modules

- Modern Telecoms
- Enabling Technologies
- Delivering Advanced Services
- Telecoms Business Models

Specialist Modules (select 5)

- Access Network Technologies
- Core Network Technologies
- ICT and Advanced Digital Services
- Connected TV—Internet Protocol for Television Transmission
- Managing Services, PCC & Billing
- Marketing Next-Generation Services
- Operating Effectively in Telecoms
- Advanced Radio
- Advanced IP
- Security and Fraud Prevention

2. Diploma in Telecoms Business

Designed for those who need a thorough grounding in telecoms business as part of their job function, or those who have specialist knowledge in a specific area of telecommunications (business or technology), and wish to contribute and communicate more fully and effectively with the wider business—giving them the confidence to better innovate and build value for the organisation.

Core Modules

- Telecoms Business Environment
- Finance for Telecoms Professionals
- Marketing Communications Services
- Operating Effectively in Telecoms

Specialist Modules (select 5)

- Telecoms Technologies
- Project Management in Telecoms
- Customer Engagement & Branding in Telecoms
- Future Business Models for ICT Players
- Customer Relationship Management in Telecoms
- Sales and Value Chain Management
- Budgeting and Forecasting in Telecoms
- Access Network Technologies
- Digital Television and IPTV
- OSS, BSS and Billing

3. Diploma in Digital Connectivity & Communication Systems

This nine-Month blended learning programme brings together outstanding content that reflects the current industry need for talented professionals with the competencies and knowledge to make a real difference, and a range of learning formats that are structured to maximise learning and keep you fully engaged and progressing.

Introductory Module

- Communications & Connectivity — Supporting Fast Changing Societies

Core Modules

- Access Network Technologies
- Core Network Technologies
- ICE, Unified Communications & Advanced Digital Services
- Technology Transformation — Virtualisation, Cloud & Convergence

Specialist Modules (Select up to 4)

- Mobile Broadband Technologies
- Managing Services, PPC & Billing
- IP Network & Systems
- Traffics, Engineering, QoS & MPLS in IP Networks
- Connected TV & Multimedia
- Security and Fraud Prevention
- Radio Principles
- Radio Network Planning

Specialist Modules (at least 1)

- Project Management
- Telecoms Business Models
- Finance for Telecoms Professional

3 MONTH DISTANCE LEARNING PROGRAMMES

Advance your career with our short intensive 3 Month Distance Learning programmes.

Our fully supported, 3 Month Distance Learning programmes provide an in-depth understanding of key communication industry topics. These assessed courses consists of 3 highly focussed modules, each lasting 4 weeks and incorporating comprehensive courseware, exercises, self-test assessments and live tutor led webinars to help you gain a thorough understanding of the subject matter.

“

I really enjoyed the interactive approach employed by the trainer

UI, ETISALAT

“

The programme was well structured and the instructional method was excellent

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1. 4G/LTE Radio Planning and Optimisation Professional

This programme significantly improves your understanding of the issues and techniques used to effectively plan an efficient and advanced 4G cellular network. This assessed course incorporates exercises, self-test assessments, and hands-on planning simulations using an industry leading radio planning tool—Mentum Planet from InfoVista.

Modules

- The Radio Environment & LTE/4G LTE Radio Planning Techniques
- LTE Planning in a Multi-RAT Environment
- Small Cells, Hetnets & LTE Advanced

2. Foundation in Telecoms

This introductory programme is ideal for those new to the industry needing a good grounding in the modern communications industry. The programme covers the evolving telecoms business environment, technology issues and the telecoms customer proposition. It will benefit those looking to start a career in the telecoms industry, or those looking to consolidate their existing knowledge.

Modules

- Telecoms Industry & Business Environment
- Telecoms Technologies
- Telecoms Customer Proposition (Services, Marketing, Branding)

3. Finance in Telecoms

This programme looks at the financial aspects of running a successful telecoms business. The main financial concepts and accounting documents are explained with examples. Effective financial control is explored, where budgeting, financial processes, and forecasting techniques are presented and evaluated. Financial data and reports are used to analyse and make sense of the business, using appropriate financial KPIs to evaluate performance and to underpin key strategic decisions.

Modules

- Finance for Telecoms Professionals
- Budgeting & Forecasting in Telecoms
- KPIs & Financial Analysis

4. Digital Services and Technology Transformation

This programme looks at the changing role of Telecommunication Operators—and how they are responding to changing market conditions and customer expectations by repositioning as Communications Service Providers; adopting a range of digital services and undergoing major transformation initiatives.

Modules

- ICT, Unified Communications & Advanced Digital Services
- Technology Transformation—Virtualisation, Cloud & Convergence
- Managing Services, PCC and Billing

5. Evolving the Core Network — EPC, PCC, IMS and VoLTE

Designed for those looking to develop an in-depth working knowledge of the core network and its likely evolutionary path. It looks at the core network technologies and architectures currently being adopted and existing core network requirements and architectures before looking at a range of service delivery techniques. It examines how best practice techniques are developed through the Evolved Packet Core and a range of advanced systems such as PCC, IMS, & VoLTE.

Modules

- Core Network Technologies
- Delivering Advanced Services
- The LTE Core Network (Evolved Packet Core)

6. Telecoms Marketing and Developing the Customer Proposition

Focusing on the role, techniques and implementation of marketing practices within Telcos/CSPs. We examine the changing telecoms marketplace and evolving business models; evaluate the developing customer propositions; and discuss how effective segmentation and customer engagement allow operators to maximise both B2C and B2B opportunities.

Modules

- The Telecoms Business Environment
- Marketing Telecoms & Digital Services
- Customer Engagement & Branding

ONLINE ACADEMY

Online Academy is a new online, interactive and engaging education tool designed to maximise learning for professionals with busy schedules and/or small training budgets.

The Online Academy brings alike professionals together and gives you the opportunity to share ideas and questions via the discussion forum creating your own professional community. Our on-demand feature means the content is available as and when you need it allowing greater flexibility to your professional development and learning.

1. An introduction to Big Data

This workshop looks at the fundamentals of Big Data, taking a step-back and building a foundation which can be leveraged across the business.

Programme Content

- What is Big Data & interesting versus actionable data
- Big Data & Business Intelligence
- Big Data Landscape
- Identification and moving between the phases of analytics in the context of Big Data
- Barriers and Challenges
- Framework

2. An introduction to 5G

This Introduction to 5G course will help you to understand and define 5G, identify market drivers as well as cover the main 5G technologies and network concepts.

Programme Content

- Defining 5G, Market Drivers & Use Cases
- 5G Technologies & Network Concepts
- 5G Radio Access Networks & Technologies

3. Internet of Things 101

Internet of Things is the next big thing for both operators and associated industries. This programme will focus on current and future business activities and standards activity in the realm of radio access and will provide an overview of the existing and proposed technologies, from Wi-Fi based radio access to 3GPP Release 13 proposals.

Programme Content

- IoT Overview
- IoT Standardisation
- IoT Enabling Technologies
- Existing & Proposed Technologies
- Spectrum for IoT
- IoT Technologies
- IoT Market Trends & Business Cases
- IoT Business
- IoT Strategy
- IoT Privacy & Security

4. Smart Cities 101

This programme looks at the systems, frameworks, control mechanisms, and technologies behind Smart City initiatives, as well as the opportunities, ecosystems, and the global community behind much of the progress.

Programme Content

- Defining the Smart City—as a living entity
- Problems to be solved & issues to be addressed
- Technology, Data & Infrastructure
- Strategy, Governance & Industry Support
- Safeguards, Risk & Mitigation

5. Telecoms 101

This programme provides an excellent grounding in Modern Telecommunications, with the basics presented in a clear and easy to understand format. This short training course is aimed at those who are new to telecoms or those non-technical specialists who need refresher training.

Programme Content

- Introducing the basics: Services, Applications & Transmission Systems
- Switching, Signalling & Supporting Systems
- Techniques used in Fixed Networks
- Techniques used in Mobile Networks
- Datacoms & Internet
- Industry Outlook

6. Telecoms Masterclass

This masterclass is a mirror of our face-to-face Telecoms Mini MBA course, and focuses on real business, technology and industry issues. It is designed to give participants a critical understanding of the key competency areas required for organisational and individual success within the modern telecommunications industry.

Programme Content

- Strategy/Business Environment
- Technology
- Finance
- Leadership & Change Management
- Marketing & Customer Centricity
- Business Simulation



**SCHOOL OF TELECOMS
& TECH BUSINESS**

MANAGEMENT, INNOVATION & STRATEGY

1. Driving Commercial Performance in Telecoms & Tech (5 DAY)

This executive development programme is designed for those who may be struggling to achieve targets and project deadlines and who need an effective plan to cut through the chaos and deliver shareholder results within the financial year. The fully participative programme contains highly interactive facilitation, discussions, case study methodology used by top international business schools and many practical exercises including an opportunity to study your own companies systems and processes. Organizational alignment, accountability, and a results orientation are stressed in each session and are hands-on practical sessions designed to create not theory, but practical, business building plans and skills. The course is ideal for team leads, managers and senior managers who need to add value to the business, achieve targets and deliver results fast.

Course Contents

- Building Strategic Aptitude
- ICT & Digital Media Business Environment
- Lean B2B
- In Depth Financial And Critical Analysis
- Aligning KPI's To Strategy
- Cross-Functional Alignment & Agile Innovation Management
- Building Collaboration, Partnerships
- External Acumen & Shareholder Management

2. 5G Mini MBA (5 DAY)

This programme has been designed to provide a solid foundation for executives and mid-senior managers as they meet the challenges and develop the opportunities that 5G, Connected Innovation, and Smart Technology brings to the organisation. We develop ideas, evaluate best practice, and explore ways to maximise those opportunities from the business point of view, with a full appreciation of how 5G technology will support the opportunities and value creation going forward.

Course Contents

- The 5G and Connected Innovation Business Environment
- 5G Technologies
- Financial Analysis
- Positioning for the Digital Age
- Developing the Customer and Value Proposition
- A Shared View & Best Practice

3. Effective Telecoms Strategies (5 DAY)

This programme to develop effective telecom business strategies—equipping them to steer their organisations more effectively through a high risk environment. This comprehensive programme gives participants the tools to undertake a solid strategic analysis and critical appraisal of the wider communications industry.

Course Contents

- Strategic thinking
- The market reality
- Implementing the strategy
- Making it sustainable
- Communicating the strategy

4. Developing Customer Centricity in the Transforming Telco (5 DAY)

Designed for managers who need to develop a thorough understanding of how to address changing customer requirements profitably in the context of communications industry shifts. It uses case studies and best practice examples throughout and provides tools to help organisations and their partners to assess where, when and how to become more customer-centric, using customer focus as the basis for improving overall organisational efficiency and effectiveness.

Course Contents

- Advanced Marketing
- Changing Customer Requirements
- CRM & CEM
- Branding & Marketing Communications • Customer Focus & ROMI

5. Building the Roadmap for Digital Transformation (5 DAY)

This Executive Workshop develops best practice ideas on the transformed telco - and in particular examines what needs to be done in terms of the business models, the customer proposition, partnerships, technology and business enablers, people, and culture in order to maximise future performance and become an effective Communications Service Provider.

Course Contents

- Where are we now?
- Digital leadership & redefining the customer
- Maximising success—innovation, transformation & enablement
- Best practice digital leadership

6. Leadership for Telecoms & Tech Innovations

This programme develops individual leadership competences, and provides a framework to develop their professional relationships, enhance communication, and refine leadership skills. Using examples and case studies, it builds greater awareness of both people and commercial issues, enabling individuals to contribute much more effectively in terms of innovation and creating value within their organisation.

Course Contents

- Our Business and My Place In It
- My Team and I
- Managing Change
- Maximising My Contribution
- Maximising My Team's Contribution

7. Telecoms Mini MBA (5 DAY)

Highly participative, focusing on real business, technology and industry issues. It is designed to give participants a critical understanding of the key competency areas required for organisational and individual success within the modern telecoms industry. It enables participants to make more informed and commercially viable strategic decisions, or to contribute more effectively to value creation within their own organisation. The programme features a comprehensive business simulation.

Course Contents

- Strategy and business environment
- Technology
- Finance
- Leadership and people management
- Marketing and customer focus

8. Telecoms Innovation Bootcamp (5 DAY)

As well as providing an excellent foundation in modern business practices, the programme is focused squarely on developing strategies, procedures and environments that maximise innovation and creativity in order to build value and develop competitive advantage.

Course Contents

- Maximising Success
- Innovation, Business Environment & Strategy
- Value & Innovation
- Realising the Potential of People
- Getting Things Done

MARKETING/CUSTOMER FOCUS IN TELECOMS

1. Customer-Centric Pricing Strategies for Telcos (2 DAY)

This is designed to enable delegates to design and implement an effective pricing strategy that focuses on customer value and to optimise revenues and profitability over the long term. This course helps delegates to establish a pricing strategy that is based on true value to consumers of telecoms services in their broadest sense. The course uses cases studies and benchmarks from the telecoms sector along with examples from other leading sectors that make the maximum use of pricing, to demonstrate best practice.

Course Contents

- Market trends and the implications for pricing
- The pricing manager's toolbox
- Competitive analysis
- Pricing in the marketing mix
- Pricing "Touch points"
- Pricing tactics
- The product life cycle
- Customer lifetime value/profitability

2. Marketing Digital Services (2 DAY)

This interactive and hands-on programme examines the major trends and developments within the global digital services market, describes in detail the different digital services ecosystems and relative positions of the various players, explores segmentation and positioning options for different categories of digital services, and applies the advanced marketing mix to enable marketers to adapt their traditional skills to this demanding new environment.

Course Contents

- The business of telco-enabled content and entertainment
- The content and entertainment ecosystem
- Bringing innovative digital services to market
- Implementation factors

3. Marketing Strategies in Telecoms (2 DAY)

This course is designed to enable delegates to develop specific and sustainable customer-centric strategies for telecoms products and services. It is targeted at both general business practitioners and functional marketing specialists in national and international fixed and mobile telecoms providers, who need to build a strategic marketing plan to steer their business profitably through the fast-moving world of convergence and integration.

Course Contents

- Industry context: convergence, content and competition
- Customer context: choice, customer lifetime value
- Setting and managing customer expectations
- Sustainable competitive advantage
- Customer needs: consumer vs enterprise and wholesale vs retail
- Profitable partnerships
- Product mix: branding, pricing, bundling, channels
- Promotional mix: advertising, PR, viral marketing

4. Customer Experience Management in Telecoms (2 DAY)

With mobile telecoms markets nearing or above 100% penetration and competition rife, managing churn and building life-long loyalty is now a matter of survival. Now is the time for you to begin developing customers as true assets to your company. This will involve a total re-think of your current customer relationship strategy and realignment of your organisation with your customers' expectations, delivering total satisfaction at all times.

Building true loyalty by developing a proactive, holistic, ecosystem wide approach to total Customer Experience Management so that your customers become advocates for your products and services. Your customers are your assets: understanding their value drivers and delivering on those, nurturing their experience and delivering on your brand promises at every touchpoint will build their trust, loyalty and ultimately deliver a return on investment by reducing churn and increasing customer lifetime value and profitability.

Course Contents

- Can CSP's earn their customers' love?
- Defining end-to-end CEM
- Mapping the customer experience
- Implementing end-to-end CEM

5. Customer Value Management (2 DAY)

Most telecoms markets around the world have been categorised as 'mature', with over 100% subscriber penetration. Along with market maturity, operators and service providers are experiencing stagnating revenues and falling profitability.

A huge opportunity to grow is by maximising the value of their existing customer base. This does not necessarily just mean selling more products or services to the same customers to prevent them from leaving the network, or engaging in short term churn management activities. A more holistic approach to managing the value of customers as long-term assets to the service provider is required if their full lifetime potential is to be realised. Service providers that do not fully master the techniques of customer value management will lose out to competitors that better understand the underlying growth potential of their customer base in a more holistic manner.

Course Contents

- Defining customer value management
- Calculating customer value
- Improving the quality of the customer base
- Using customer big data to generate value
- Influencing customer value
- Managing customer costs
- The role of third parties

BUSINESS ANALYTICS & DATA

1. Big Data for Telecoms (2 DAY)

This two-day workshop is aimed to empower the participants to understand how to fish out insights from an ocean of data. The workshop will cover the fundamentals of Big Data and its intersection with the development and execution of strategy: What is data? What is Big Data? The difference between Big Data and Business Intelligence; identification, and the difference between interesting and actionable data; the Big Data technological landscape; the different phases of analytics used in Big Data analytics and how to move seamlessly between the phases; barriers and challenges in value extraction from Big Data; framework for the building of the business case for Big Data; and the application of data thinking to a case scenario.

The course is premised on the application of Big Data and analytics concepts as it relates directly to business. Ultimately, participants will have a deeper appreciation of data, how this can be leveraged for innovation, programme design, problem-

Course Contents

- What is Data & Interesting vs. Actionable Data
- Big Data & Business Intelligence
- Big Data Landscape
- Identification & Moving Between the Phases of Analytics in the Context of Big Data
- Diagnostics, Barriers & Challenges
- Framework to Build the Business Case
- Leveraging Big Data for Strategy

2. Advanced Big Data for Telecoms (3DAY)

The three-day advanced workshop is aimed at providing an understanding of the concept of big data and its potential power in combination with the “right” analytic methods and tools; how organizations need to collect and organize the big data; the importance of creating an agile organizational environment to allow for maximum value extraction from predictive analytics; how to use evidence in the form of structured and unstructured data to change industry landscapes; how to meet consumer needs on a 1-to-1 basis (as opposed to in a group); and how to adopt a philosophy and practice of big data analytics in strategy development throughout the organization.

Course Contents

- Leveraging Big Data for strategy
- What is Big Data? An analysis of interesting versus actionable data
- Big Data and Business Intelligence
- Big Data Landscape
- Identification and moving between the phases of analytics in the context of Big Data
- Diagnostic and barriers and challenges
- Framework to build the Business Case (Use Case)
- Practical Business Simulation

3. Predictive Analytics Masterclass (1 DAY)

Predictive analytics is the use of data, statistical algorithms and machine learning techniques to identify the likelihood of future outcomes based on historical data. The objective is to go beyond knowing what has happened in order to provide the best predictions of what will happen in the future.

Whether you are in marketing, risk and compliance, customer service, operations or any other business unit, your data can show where you are and predict where you may need to go. The use of predictive analytics will impact how your company makes strategic decisions, and drive the bottom-line.

Course Contents

- Understanding the big data landscape: Where are we? Why predictive analytics matters?
- Distinguishing between descriptive, predictive and prescriptive analytics
- How to move between the phases
- Understanding the barriers and challenges to implementation of predictive analytics in the organisational setting
- How to leverage internal data: Tools and techniques
- How to lower costs and increase profits
- How to build the case internally: Getting buy-in



COMMERCIAL ASPECTS IN TELECOMS

1. Regulation for the Digital Age (4 DAY)

This intensive four-day course is intended for those working in regulation, both those who are highly specialised or relatively new to it; additionally, those working in the telecommunications industry that need to understand the importance and power of regulation in the industry and to respond flexibly to the challenges that it presents. The course concentrates the economics of regulation and the challenges posed by next generation technologies. It examines the political, economic and technical principles that lie behind regulation and draws upon the varying needs and experiences of actual regulatory environments around the world. Regulatory strategy and its commercial impact will be considered by examining the development of example national regulatory organisations, along with a regulatory road map.

Course Contents

- Why regulate?
- Regulatory institutions and the process of regulation
- Managing competition
- Abuse of a dominant position
- The regulatory function
- Compliance: Cost or opportunity
- Developing a regulatory strategy
- Price regulation
- Cost models
- Regulation of next generation networks
- Regulating radio spectrum

2. Finance for Telecoms Professionals (2 DAY)

Straight forward and no-nonsense, participants will learn the practical financial skills that will help them make better management decisions and enable them to get straight to the heart of financial issues, demystify financial information and give them complete confidence and control when making financial decisions including the importance of EBITDA, cash and profit, and the links to the businesses strategies and tactics and understand the most relevant financial ratios in the telecoms industry and benchmark yourself against the top 40 operators to generate options for improving financial performance. You'll learn to champion the cause of cost cutting and improving profits and how to establish clear goals, quickly and consistently implement and effectively measure and understand your financial results and those of your competitors.

Course Contents

- Critically examine and interpret key financial information including the importance of measuring the impact of marketing activities and establishing the ROI of business decisions
- Confidently assess ROI for potential capital and operational expenditures and understand the differences between cash flow, revenue and capital budgets to optimise your use of working capital
- Be able to appreciate cash-flow, sunken costs and profit and how they are managed and be able to develop forecasts and monitor and control costs and improve revenue and ROI
- Prepare break-even analyses for business plans, new projects and boardroom presentations and prepare, perform and present confidently in a financial environment

3. Financial Modelling for the Telecoms Professional (2 DAY)

This intensive and highly practical workshop will teach delegates how to design and construct and then effectively use robust financial models, including:

- Identifying the Drivers of the intrinsic value of the company
- Model the Financial Statements - Balance Sheet, Income Statement and Cash Flow
- Model the Sensitivity of the intrinsic value of the company by flexing the Drivers
- Simulate the possible variability of the intrinsic value of the company using Monte Carlo Simulation.

Course Contents

- Creating practical forecasts and projections for the model
- Building a financial model from scratch
- Calculating the intrinsic value of the company
- Analysing key financial data and solving "what if" problems to optimise your model
- Sensitivity analysis using SensIt
- Monte Carlo Simulation
- Create your own model

SELLING & BUSINESS DEVELOPMENT

1. Strategic Account Planning (2 DAY)

This intensive workshop covers the essential knowledge needed to best enhance the profitability of the accounts you manage. You will leave the training with the skills to build long-lasting relationships to improve client retention rates and develop cross and upselling opportunities within new and existing key accounts.

Course Contents

- Financial performance: How to research and determine likely future business objectives
- Environmental analysis: How to evaluate a client's business environment
- Competitor matrix: Developing a competitor matrix to understand your client's objectives
- Working out a relationship and communications plan for each of your account
- Relationship levels: Migrating from a tactical to a strategic relationship
- How to create a multi-level influencing strategy for all areas of the clients' business
- Assessing your client's organisational culture and adapting to it
- Safeguarding your Account - Building barriers to attack

2. Retail Sales Techniques for the Telecoms Industry (2 DAY)

Retail Selling in a telecoms environment has long been one of the most competitive sales environments and the competition only continues to increase. It is vital that telecoms operators make the most of all marketing spend and every customer by giving retail sales staff the skills and confidence to professionally manage, control and close sales including complex digital and ICT products and ensure repeat business.

Course Contents

- Ask effective questions to better understand client needs
- Learn to control the sale and lead a customer to becoming a buyer
- Learn effective techniques for minimising and negating the need to discount
- Understand master and implement sales psychology techniques
- Learn cross selling and upselling
- Master effective techniques for closing and ensure repeat business and referrals

3. Advanced Selling Techniques for Complex Digital and Enterprise Solutions (2 DAY)

This advanced sales curriculum course rapidly builds the key competencies that enable sales professionals and business development specialists to develop a systematic approach to selling technical, digital and ICT solutions; and excel at designing and finding solutions for customers' complex business needs. Participants will learn practical methods to create a powerful business case that will motivate both technical and non-technical decision-makers.

Course Contents

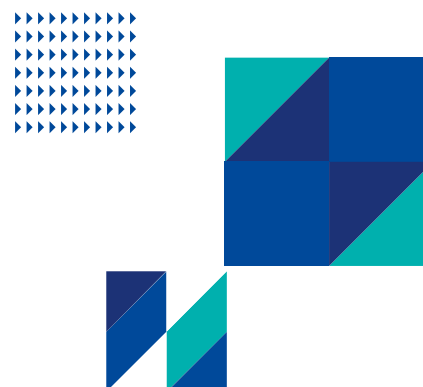
- Explain and apply concepts of customer focused selling for complex technology solutions
- Ask effective questions to better understand client needs and sell technical and enterprise solutions and lead a customer to becoming a buyer using return on investment
- Understand the motivations of the customer to deliver a solution-orientated product/service
- Implement methods of up-selling and cross-selling your product/service
- Review your competition and develop a comprehensive strategy to overcome these
- Develop a systemised and consistent follow-up and support process to develop more customers, repeat and referral business

4. Selling at the CXO Level in a Digital Economy (2 DAY)

This advanced workshop is aimed at providing key tactics and strategies from securing meetings to presenting and engaging with CxOs and more. You will walk away from the programme feeling confident that you have the ability to match the goals of your client with your product or service offering. This workshop delves into applied case studies and practical assessments and presentations to ensure the delegates have mastered the art of selling at CxO level.

Course Contents

- Engaging with the C-Suite
- Dynamics of the C-Suite
- Decision Making in the Digital Age
- Why Companies Invest and Why They Don't
- Beyond Payback—Why financial Metrics Only Tell Half the Story
- Application Relevance
- Bringing it All Together





SCHOOL OF ADVANCED COMMUNICATIONS TECHNOLOGIES

5G, CONNECTED INNOVATION & APPLICATIONS

“

Perfect, the learning materials are very useful

AP, ESU

“

Good experience, it was instructive

MA, CFAO Technologies

1. Smart Cities (2 DAY)

This workshop looks at the systems, frameworks, control mechanisms, and technologies behind Smart City initiatives, as well as the opportunities, ecosystems, and the global community behind much of the progress. Case studies are used extensively to illustrate and analyse the requirements, as well as the dangers (and associated safeguarding mechanisms). Standardisation, benchmarking and the role of the different players within the various ecosystems are explored, including the role and opportunities for leading and coordinating specific elements of the overall system.

Course Contents

- Defining the Smart City – As a Living Entity
- Problems to be solved and issues to be addressed
- Technology, data and infrastructure
- Strategy, governance and industry support
- Safeguards, risk and mitigation

2. Internet of Things – Business & Technology (2 DAY)

This 2-day training programme will focus on current and future business activities and standards activity in the realm of radio access. There are already a number of competing technologies that may be suitable for the many and various IoT applications, however they will need to meet the low power/low cost/short and long range requirements of a typical IoT service. This training will provide an over view of the existing and proposed technologies, from WiFi-based radio access to 3GPP Release 13 proposals.

Course Contents

- Internet of Things Overview
- IOT Market Trends and Business Cases
- IOT Enabling Technologies
- IOT Standardisation
- Existing and Proposed Technologies
- Cellular Networks 2G/3G/4G
- IEEE—Proposed Technology
- Proprietary—Proposed Technology
- Spectrum for IOT
- IOT Security

3. NFV & SDN for Telecoms (2 DAY)

This programme focuses squarely on the technical aspects of this network transformation and how it can support wider transformation within the business. Specifically, we look at the underlying concepts facilitated through the use of SDNs, NFV, and Cloud techniques. Conceptual models, architectures, best practice, operation, and deployment issues are explored in detail.

Course Contents

- SDN and NFV Concepts
- SDN Architecture and Application
- NFV Architecture and Application
- Industry Activity
- Industry Trends and Analyst Predictions
- Costs and Benefits of SDN/NFV

4. Cloud for Telecoms (2 DAY)

This programme provides a comprehensive overview of cloud services and technology and explains in detail what it means for both cloud services providers (including established telecoms operators) and customers.

We start with the concepts and features of cloud services before looking at the underlying technology and architecture that underpins the cloud, as well as the business drivers and issues facing businesses and consumers when migrating to the cloud.

Course Contents

- Introduction to the Cloud
- Service Models
- Migration to the Cloud
- The Role of the Telecoms Operator
- The Telecoms Cloud Marketplace

DIGITAL SERVICES

1. Developing the Digital Service Opportunity (2 DAY)

To capture new digital service opportunities, operators need to develop strategies in a range of areas, including but not limited to: Over the Top (OTT) Services, Machine to Machine (M2M) and Industry Verticals, Cloud Services, Content and Entertainment, Premium Video, Payments and e-Money and Advertising. This programme examines the major trends and developments within the digital services arena, highlighting the opportunities for telecommunications operators and their customers. We set out the role of the telco as well as the key enablers for success—including the technologies, platforms and partnerships that need to be adopted.

Course Contents

- Defining Digital Services
- Dealing with OTT
- Machine to Machine and Industry Verticals
- The Cloud for Operators
- Content and Entertainment
- Payments, e-Money, Financial Services and Advertising
- Business Support Systems for Digital Services
- Developing Digital Services Business Models
- Operator Case Studies

2. ICT, Unified Communications and Digital Services (2 DAY)

Implementing the next wave of opportunities within the telecoms sector, requires a deeper understanding of ICT and how those concepts are used as the foundation to offer Unified Communication and a range of Digital Services—including cloud-based services, enterprise, M2M, wholesale, content and entertainment, advertising and payments. We examine the major developments within unified communications and digital services, highlighting the opportunities for CSPs and their customers. Key enablers, including technologies, platforms and partnerships are explored as well as deployment issues and implementation options are discussed.

Course Contents

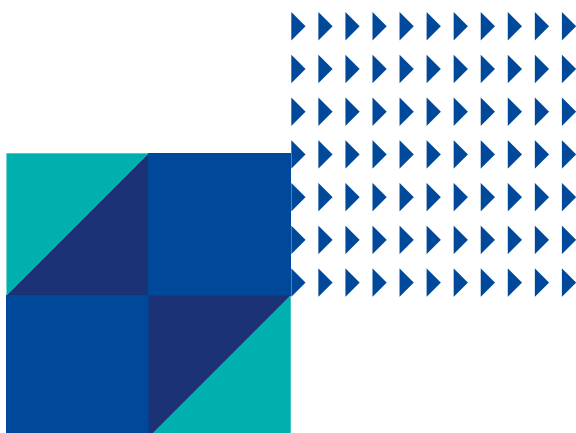
- ICT—Concepts
- Unified communications—services, systems and architectures
- Digital services—opportunities, platforms and requirements
- Partnerships and wholesale
- Implementation options and deployment

3. Digital Services—Executive Briefing (1 DAY)

This programme examines the major trends and developments from a non-technical business functional perspective within the digital services arena. We will examine and discuss the opportunities for telcos and their customers, setting out the new role of the Telco as well as the key enablers for success - including the technologies, platforms and partnerships that need to be adopted. Real time current Data and statistics from the Ovum Research Team will be used throughout to support and confirm ideas and to place concrete evidence into the equations and discussions.

Course Contents

- Defining Digital Services
- Dealing with OTT Players
- Machine to Machine and Industry Verticals
- The Cloud for Operators
- Content and Entertainment
- Digital Services Operator Profiles



MODERN TELECOMMUNICATIONS

“

The program was well structured and the instructional method was excellent...

DS, Cable & Wireless

“

It really has broadened my knowledge of current technologies used in the mobile telecom industry

IAS, M-TEL

1. Introduction to Modern Telecoms (3 DAY)

This course provides an excellent grounding in Modern Telecommunications. Current and evolving services, applications, technologies and networks, within the fixed, mobile and data/internet environments are examined giving a comprehensive overview of the Telecommunications Industry.

Course Contents

- Introducing the basics
- Services and applications
- Transmission, switching, and signalling systems
- Mobile networks including GSM, GPRS and UMTS
- Modern fixed networks
- Data communications
- The internet
- Radio systems
- The evolving telecommunications network

2. Mobile Networks Explained (2 DAY)

Focusing mainly on GSM/GPRS, but including UMTS, it gives a unique insight into modern networks, including messaging, voicemail, WAP and location services. OSS, BSS, NMC, the mobile market place, and the impact of WiFi and WiMAX complete the picture. This course leaves the delegate well equipped for the challenges ahead in mobile communications.

Course Contents

- Introducing mobile networks
- Radio and cellular principles
- User experience, services and applications
- 3G W-CDMA and HSPA
- GSM and GPRS network, procedures and operation
- Network building blocks and supporting systems
- A typical network

3. Telecoms Foundation – Technology & Business (2 DAY)

This programme provides an excellent grounding in Modern Communications and has been designed for those who want to expand their knowledge of both the technologies and the wider business, or those new to the industry. It covers the current state of the industry (including trends, forecasts, and adoption of digital services), existing and emerging technologies, and the overall business environment.

Course Contents

- Telecoms Business Environment
- Technology
- Telecoms Industry Outlook

4. The Communications Service Provider in 2018—Focus and Opportunities (3 DAY)

This programme looks at the major trends and developments within the industry, highlighting what they mean for a modern telecommunications operator and their customers. We set out the role of the telco in the new business environment and highlight the key enablers for success - including the technologies and partnerships that need to be adopted.

The interactive sessions look at fundamental concepts around customer proposition / experience, partnerships, and, key enablers such as technology and platforms. Data from the Informa Telecoms Research Team is used throughout to back-up the ideas and to put concrete evidence into the equations and discussions.

Course Contents

- A Digital World
- The Impact of Smartphones and Mobile Operating Systems
- Applications and Content
- Internet and the Cloud
- The New Telco Business
- Focus & Opportunities
- Connectivity and Mobility

LONG TERM EVOLUTION (LTE)

1. Voice over LTE (VoLTE) (2 DAY)

Voice and voice related services for next generation mobile broadband services such as LTE will be managed and delivered over IP based networks. This programme will cover all aspect of IMS and its capabilities in respect of delivering voice services via the LTE network.

Course Contents

- LTE and IMS, architecture and protocols
- VoLTE signalling
- VoLTE roaming
- VoLTE messaging
- IMS Centralised Services (ICS) and RCS
- VoLTE performance and capacity

2. LTE Technologies (2 DAY)

This course is designed for the delegate who requires a more technical insight into the operation of LTE, both the radio interface and system architecture are covered in detail. The physical layer sections includes topics such as OFDMA, SC-FDMA and advanced antenna techniques including MIMO. The functions of the eNB, MME, sGW and the standard interfaces X2 and S1 are explained and the overall operation of the SAE is demonstrated with example procedures.

Course Contents

- The LTE market
- LTE protocol stack
- Understanding OFDMA/SC-FDMA
- LTE interworking and roaming
- Capacity gains with MIMO techniques
- Standard architecture and interfaces
- LTE session and mobility procedures

3. LTE Technology Certification Boot Camp (5 DAY)

This course covers all aspects of LTE core network and radio interface technologies. Day one starts with an overview of LTE including an examination of the role that LTE plays in the future of mobile broadband and an overview of the LTE architecture. Day's two and three focus on the radio interface, the concepts of OFDMA covered followed by a thorough examination of the LTE physical layer. Day's four and five turn to the LTE network and examines the architecture of the E-UTRAN and Evolved Packet Core.

Course Contents

- Introduction to LTE technologies and market
- LTE radio interface
- E-UTRAN
- LTE core network

4. LTE for Commercial Professionals (1 DAY)

This programme focuses on the main requirements for broadband wireless networks and how LTE/LTE Advanced proposes to meet those requirements. The business of LTE and the evolution of mobile broadband are examined, and comparisons are made with alternative and complimentary technologies, including HSPA and WiFi.

Course Contents

- Roadmap for 4G and beyond
- Content and LTE services
- LTE service architecture
- LTE applications and ecosystem

5. LTE in Public Safety Networks (2 DAY)

Public Safety bodies around the world are looking to deploy networks using the LTE standard, to replace aging infrastructure based on TETRA, PMR, and P25. LTE has much to recommend it in this role, but "standard" LTE systems lack key functionality that is required to replace the legacy public safety networks. Despite those limitations, governments globally, are evaluating whether LTE can meet their public safety requirements. With world-wide interest, extended standardisation work has been undertaken to incorporate functionality that support requirements unique to public safety users. This course covers the features that make LTE suitable for public safety use, and the omissions which make it less than perfect, enabling delegates to intelligently enter the debate and identify the right technology for every situation.

Course Contents

- Long Term Evolution
- Spectrum Allocations
- Public Safety Networks
- Public Safety Applications & Use Cases
- LTE, IMS and Service Support
- Network Sharing
- LTE-Advanced Features for Public Safety
- Regional Deployment Examples

LONG TERM EVOLUTION (LTE) (CONTINUED)

6. LTE for Public Safety Networks Boot Camp (5 DAY)

In this 5 day programme the attendees will receive a full and comprehensive description of the LTE network and its operation including the evolution to LTE from public commercial systems to private, critical communication systems. Discussions will be held arguing for and against wholly owned and operated systems versus utilising privately owned and shared public networks. The IP based nature of LTE and the support of voice and voice based services will be presented.

Course Contents

- Evolution of LTE
- Service Architecture Evolution (SAE)
- IMS and LTE
- Voice over LTE (VoLTE)
- Multimedia Broadcast Multicast Service (MBMS)
- LTE Physical Layer
- LTE Air Interface Protocols MAC, RLC, PDCP and RRC
- S1 Interface and X2 Interface
- The network planning lifecycle
- eUTRAN Architecture, Identities and Mobility
- Public Safety Networks
- Group Communications over LTE
- Proximity Services (PROSE)

7. LTE Radio Planning & Optimisation (5 DAY)

This certification programme covers the principles and execution of LTE radio planning and optimisation. It begins with a discussion of the LTE physical layer explaining the time and frequency domain structures and covering those aspects of the LTE radio interface that will have an impact on coverage and capacity. A detailed examination of LTE link budgets is provided, identifying and calculating the typical link budget reference points and discussing elements of the budgeting process that are unique to LTE. Following the calculation of link budget pathloss, the course turns to propagation models and cell radius prediction. Typical models are discussed and compared and full link budget and radius predictions are carried out.

To support the link budget and modelling techniques, as well as apply the learning in an industry-leading software package, Mentum Planet will be used to demonstrate and analyse the LTE radio planning process.

Course Contents

- LTE architecture review
- LTE radio interface
- Link budgets for LTE
- Coverage planning
- eNB configuration
- IDLE mode parameters
- CONNECTED mode parameters
- Capacity planning for LTE
- Coverage planning for LTE
- Coverage optimisation

8. LTE Air Interface (2 DAY)

This course provides a comprehensive technical view of the LTE (Long Term Evolution) radio interface and radio aspects of the E-UTRAN (Evolved UTRAN). As well as the radio technology employed within LTE, the programme explores the UE–E-UTRAN interface (Layers 1-3) in detail, including capabilities, architecture, channels, Quality of Service aspects, operation, and coexistence with (and evolution from) 3G/HSPA.

Course Contents

- OFDM concepts
- Radio technology used in LTE
- Radio architecture
- Layers 1, 2 and 3—functions and operation
- LTE channels
- Quality of service and application support
- Co-existence with 3G/HSPA

9. LTE/SAE Evolved Packet Core (3 DAY)

A clear understanding of the end-to-end LTE (Long Term Evolution) system is provided by this technical programme. It includes an overall appreciation of system requirements (including support for key applications and Quality of Service implementation), followed by a detailed view of the architecture, functions (by node), protocols, and operation of the Evolved UTRAN (EUTRAN), and Evolved Packet Core (EPC). Signalling and control, intersystem operation, security, and implementation options are all explored to ensure a comprehensive and detailed end-to-end view is provided.

Course Contents

- Overall end-to-end requirements of LTE
- Application and QoS requirements
- Architecture and protocols
- E-UTRAN functions and operation
- EPS functions and operation
- Signalling and control
- Security
- Implementation options

SUPPORT SYSTEMS AND TECHNOLOGIES

1. Next Generation and Converged Billing (2 DAY)

The move to digital services and the adoption of more innovative and flexible business models and pricing schemes depend on advanced Business Support Systems in order to maximise opportunities. At the heart of the telco revolution is the billing system. This programme explores the requirements, techniques, architecture and operation of modern (and advanced) converged billing systems. Both real-time and non-real-time charging scenarios are considered. Participants will also explore how billing works with the associated systems, including Policy Control and Charging (PCC) to provide the flexibility and capability needed by the modern communications service provider.

Course Contents

- Converged billing requirements
- Advanced billing systems
- Real time and non-real-time billing scenarios
- Architectures and procedures
- Working with policy control and charging
- Revenue assurance and billing

2. OSS/BSS (1 DAY)

Exploring OSS and BSS solutions used in modern telecommunications, this course provides an overview of current and emerging systems as well as the enabling technologies. Procedures and organisational requirements are examined in both OSS and BSS areas, with due regard to the supporting infrastructure and IT requirements. The architecture and software platforms currently installed within networks are discussed and analysed, and a comparison made.

Course Contents

- OSS/BSS overview and requirements
- Focus on OSS
- Platforms and supporting networks
- Processes and procedures
- TMF and eTOM
- Focus on BSS
- Architecture and framework
- Integrating OSS and BSS

3. Security in Next Generation Telecoms (2 DAY)

Security is central to modern communications, but an understanding of that security is far from universal even within the industry. This course covers the most important aspects of security within modern communications networks, including GSM's security-through-obscurity, mechanisms used in modern data networks, internet security, ciphers and key-exchange systems, and the different protocols and algorithms that are employed. Delegates will understand the resilience, and limitations, of the infrastructure as it stands, and as it is being developed, including the political forces which still influence the deployment of security around the world.

Course Contents

- Security concepts and architectures
- Ciphering and authentication
- Keys and key infrastructure
- Security in 3gpp
- Security in data networks and the internet
- Resilience and limitations

4. Connected Television (2 DAY)

This course covers the increasingly important subject of delivering television and other content over IP-based networks, whether those networks are Telco-grade IPTV systems or Over The Top (OTT), Internet based connections. Commencing with a market snapshot and an analysis of the options, the course proceeds to investigate the formats and protocols used for TV and content delivery and also analysis the platforms and playback technologies currently deployed. IP network architecture and aspects of Quality of Service (QoS) are presented to demonstrate how Telcos can offer Television within multi-play packages for their customers. Finally the course considers the important topic of security and content protection, vital if content owners are to trust distribution partners and channels.

Course Contents

- Introduction to connected television
- The content
- TV delivery protocol stack
- Access and core network
- Internet engineering and QoS
- Key delivery networks
- Content protection and security

5. Signalling Systems No. 7 (SS7) in Modern Networks (4 DAY)

This course explains SS7 and associated signaling systems in depth, as well as the role they play in modern telecommunication networks. It also looks in detail at how SS7 is implemented in an IP environment using the SIGTRAN standards.

Course Contents

- Signalling Requirements and SS7
- SS7 Functions, Architecture and the Message Transfer Part
- Call Control and the ISDN User Part
- Non Circuit-Related Signalling—SCCP & TCAP
- SS7 in Use—GSM, MAP, INAP & CAP
- The Evolving Network—SS7 over IP
- SIGTRAN Network—Operation and Design
- BICC
- Diameter Protocol

6. IN and CAMEL (with Prepaid) (2 DAY)

This course explains the role that the IN (Intelligent Network) concept and CAMEL (Customised Applications for Mobile Networks Enhanced Logic) play in allowing effective control of services and features in modern telecommunication networks. Potential services and applications are discussed and used to illustrate the value that both IN and CAMEL can bring to both operators and users.

Course Contents

- Services in modern networks
- Call control and SS7
- Intelligent network architecture and protocols
- Basic GSM and UMTS operation (call control and service support)
- CAMEL—introducing IN into mobile networks
- CAMEL—the architecture and protocols
- The evolving mobile network

IP & DATACOMS

1. IP in Modern Networks (2 DAY)

This course provides a clear understanding of IP technology and its use in modern data/telecoms networks. The requirements for an effective IP Network are explored, followed by a detailed analysis of existing and emerging technologies and systems. The use of IP in both fixed and mobile networks (including GPRS and UMTS), IP applications, addressing, routing, Quality of Service, security, AAA and VoIP are all explored.

Course Contents

- IP Protocol suite overview
- IP and data networks
- VoIP and quality of service
- IP and GPRS
- IP version 6
- SIP and the evolution to all-IP Core
- Security and AAA
- Access technologies (including WLAN)

2. Voice over Internet Protocol (VoIP) – Technology and Applications (2 DAY)

This 2-Day training course will provide delegates with a good understanding of the market for Voice over Internet Protocol (VoIP) services and the technologies that will be used to realise these services. This course introduces the concepts of VoIP, explores the drivers for the introduction of this technology and examines some of the current VoIP services. An examination of the architecture, protocols and components of VoIP networks provides a detailed view of how VoIP will be supported and integrated with existing network architectures.

Course Contents

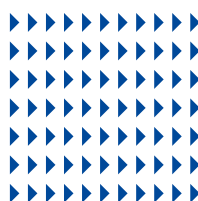
- Introduction to VoIP
- VoIP services and applications
- Architectures for VoIP services
- Protocols and technologies
- VoIP performance requirements
- VoIP in telecoms networks
- Security and AAA

3. Connected Television (2 DAY)

This course covers the increasingly important subject of delivering television and other content over IP-based networks, whether those networks are Telco-grade IPTV systems or Over The Top (OTT), Internet based connections. Commencing with a market snapshot and an analysis of the options, the course proceeds to investigate the formats and protocols used for TV and content delivery and also analysis the platforms and playback technologies currently deployed. IP network architecture and aspects of Quality of Service (QoS) are presented to demonstrate how Telcos can offer Television within multi-play packages for their customers. Finally the course considers the important topic of security and content protection, vital if content owners are to trust distribution partners and channels.

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- The content
- TV delivery protocol stack
- Access and core network
- Internet engineering and QoS
- Key delivery networks
- Content protection and security



NETWORK PLANNING

1. LTE Radio Planning & Optimisation (5 DAY)

This certification programme covers the principles and execution of LTE radio planning and optimisation. It begins with a discussion of the LTE physical layer explaining the time and frequency domain structures and covering those aspects of the LTE radio interface that will have an impact on coverage and capacity. A detailed examination of LTE link budgets is provided, identifying and calculating the typical link budget reference points and discussing elements of the budgeting process that are unique to LTE. Following the calculation of link budget pathloss, the course turns to propagation models and cell radius prediction. Typical models are discussed and compared and full link budget and radius predictions are carried out.

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Course Contents

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- LTE radio interface
- Link budgets for LTE
- Coverage planning
- eNB configuration
- IDLE mode parameters
- CONNECTED mode parameters
- Capacity planning for LTE
- Coverage planning for LTE
- Coverage optimisation

2. Radio Planning & Optimisation Engineers Boot Camp (5 DAY)

This programme develops the knowledge and competencies required for the efficient planning and optimisation of modern cellular radio networks in both single and complex multi-RAT environments. It covers topics ranging from the major principles and techniques that underpin cellular radio planning through to the latest radio technologies and the techniques required for the efficient planning and optimisation of advanced radio networks based on advanced modulation schemes and changing customer requirements.

The programme is designed specifically for those working as radio planning engineers or technical managers and delivers the knowledge and competencies needed to plan radio networks as effectively as possible.

Course Contents

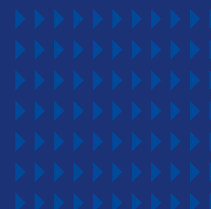
- Radio principles
- Spectrum usage, frequencies & planning implications
- Cellular planning techniques
- Coverage, capacity and quality for 2G, 3G and 4G networks
- Network planning and infrastructure sharing
- Femto-cells and WiFi offload
- Interference and mitigation
- Dimensioning the radio network for VoIP
- Optimisation
- Cost per megabyte

3. Core Network Engineers Boot Camp (5 DAY)

This programme is ideal for those engineers and technical managers focusing on the core network that need a deep understanding of the current core telecommunications network and a clear technical vision of the IP-based multimedia core network being specified and developed by the Industry. It is suitable for technical professionals working for large or small operators, or for those working with vendors developing technology. It focuses on the issues affecting professionals working with the core network and those in related job roles, and delivers the knowledge and competencies needed to be as effective as possible.

Course Contents

- Core Network Architecture and Protocols
- IP-Based Networks
- IP in the Next Generation Telecoms Core Network
- The Evolved Packet Core (EPC)
- Service Delivery in the Advanced Core Network and EPS
- Advanced Billing for Next Generation Networks
- Policy and Charging Control
- Core Network Traffic Planning Processes
- IP Capacity Planning and Node Dimensioning



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