Course 1: Roaming Essentials
Course 2: Roaming Marketing & Pricing
Course 3: Roaming Services
Course 4: Roaming Fraud & Revenue Assurance
Course 5: 4G Roaming

Roamingwise, The Netherlands – Tel: +31 6 1023 5958 – Email: info@roamingwise.com – www.roamingwise.com – Company Registration Number 51678934
Course 1:
Roaming Essentials
26 June 2017
This day provides an introduction to the roaming industry. The course is a perfect start for people just entering the roaming industry as well as people wanting to refresh their memory.

Course 2:
Roaming Marketing & Pricing
27 June 2017
This course shows how to increase revenues by marketing roaming services. A clear understanding of the cost structure of the various roaming services helps knowing how to maximize roaming margins.

Agenda

- What is Roaming?
  Terminology
- GSM Network Architecture
  Overview of the basic network elements
- Roaming Call Flow
  Location Update
  Outgoing calls / incoming calls
- Launch Process
  Contract negotiation
  IREG and TADIG testing
- Data and Financial Clearing House
  DCH and FCH processes
- The GSM Association
  Structure and Working Groups
  GSMA Infocentre2
- Roaming Hub
  Minimise roaming fraud / NRTRDE
  Revenue Assurance in roaming
- Dual IMSI Solution
  Dual and Multi-IMSI Solution models
- Workshop

Agenda

- Wholesale Pricing and Costs
  Post-paid and prepaid pricing and costs
  Data pricing and costs
- Retail Pricing and Margins
  Mark-up / zones
  Margins post-paid / prepaid / data
- How Regulation Influences Pricing
  Regulation in Europe
  Regulation in the rest of the world
- Steering of Roaming (SoR)
  SS7, SIM based, HLR/VLR blocking
  (Anti-) steering and the GSMA
- IOT Discount Negotiation
  IOT discount models
- Inter-active Exercise
- Marketing in Roaming
  Marketing concepts applied to roaming
  Roaming marketing examples
- Inbound Market Share
  Know your inbound market share compared to competition

Your Trainers:

Milja Hofman worked at Telfort/O2 in the Netherlands and DCH MACH in Luxembourg before she founded Roamingwise.

Joshua Odoteye is a technical roaming expert, currently involved in LTE and VoLTE roaming projects for a European Operator.
Course 3: Roaming Services
28 June 2017
This day gives an overview of the various prepaid and data roaming services operators have implemented.

Agenda
- CAMEL Prepaid Roaming
  CAMEL network elements + testing
  GPRS / SMS roaming via CAMEL
- Minimise USSD Call-back on your Network
  USSD Call-back explained
- GPRS Roaming
  GPRS basic network elements and call flow
  GPRS roaming testing
- Demo
- UMTS Roaming
  UMTS basic network elements and call flow
  UMTS roaming testing
- LTE Roaming
  Introduction
  LTE basic network elements
- Global Roaming Quality (GRQ)
  Active and passive methods of measuring
- Mobile Money
- Workshop

Course 4: Roaming Fraud & Revenue Assurance
29 June 2017
Fraud and revenue assurance are hot topics in the roaming world. This day offers an insight into the most common roaming fraud practices and how to minimize chance on fraud in the roaming industry.

Agenda
- Most Common Roaming Fraud Practices
  International Revenue Share Fraud
  Spoofing, Wangiri, SIM box, OTT Bypass
- NRTRDE Solution
  Solution architecture
  Timescales and liability
  TD.35 File Format
- Update Latest FASG
  Examples latest fraud cases
  NRTRDE wrap-up
- Revenue Assurance in Roaming
  Issues and controls
  Data loss
  Tools
- Measurements and KPIs
  The importance of control
  Key Performance Indicators (KPIs)
  Key reports in roaming
- Workshop

Course 5: 4G Roaming
30 June 2017
This day gives a full overview of LTE/VoLTE in Roaming. The Architecture, the Diameter Protocol and Test scenarios according to IR.38 and IR.25.

Agenda
- LTE Network Architecture
  EPC network and interface protocol (S8HR and LBO)
- The Diameter Base Protocol
  Message structure, protocol stack, interfaces, nodes
- LTE Interworking and Roaming
  Roles of DEA and DRA
  IPX peering connectivity
- LTE Roaming - TAP and Billing
  LTE Data roaming in TAP
  VoLTE in TAP (LBO and S8HR)
  VoLTE Charging Challenges
- Test Scenarios and Signaling Flow
  (IR.38)
- Test Scenarios of VoLTE Roaming
  (IR.25)
- Issues often Encountered
  Questions and answers session