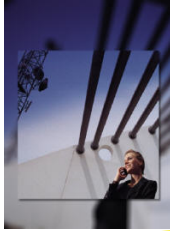# Mobile Systems

GPRS/EDGE

The GPRS/EDGE was the first packet data service in the GSM network. With GPRS the user got an data bearer that is more flexible than CS data and makes it possible to be connected for a long period of time and be charged by data volume. The different coding schemes make it possible optimize capacity regarding to radio quality. The Core Network for GPRS is reused in UMTS.

OBJECTIVES
Understanding GPRS/EDGE..
- architecture
- procedures
- signaling and traffic
- external network connections
- air interface functionality

TARGET GROUP
People working with GSM/GPRS/EDGE in..
- service
- management
- development

PRECONDITION
· GPRS - The GSM overview or equivalent knowledge
· EDGE - The GPRS overview or equivalent knowledge

GPRS

Standard - 2 days

Content day1
¤ **GSM Data history and evolution**
¤ **Mobile Data Services and bearer types**
¤ **GSM/GPRS Network nodes, interfaces and protocols**
¤ **GPRS**
· Areas
· GPRS Procedures
· Identities
· Connection establishment and release
¤ **Mobility Management**
· States; idle, busy and ready
¤ **Air Interface**
  - Logical channels
  - CS vs PS timeslot sharing

Aimed for
People with knowledge of GSM System and need to understand GPRS, the mobile packet data bearer.

Content day2
¤ **Air interface protocols**
· SNDCP
· LLC
· RLC/MAC
· Channel coding CS1-CS4
¤ **BSS**
· Gb and BSSGP
· PCU
· Abis
¤ **Traffic case**
· APN resolution, VPN
· QoS
· IP address allocation methods
· NAT
· Traffic Analyze
¤ **Roaming and GRX networks**
¤ **Charging & Billing**

Related Courses: GSM, UMTS

EDGE

Advanced - 1 day

Content day1
¤ **GPRS/EDGE**
· EDGE from traditional GPRS view
· GERAN
¤ **EDGE**
· RLC/MAC
  - Control messages
  - Data block formats
  - Header types
· Channel coding
  - 8PSK - Modulation, bursts
  - Coding schemes, MCS1-MCS9
  - MCS families and functionality
  - Puncturing
  - GPRS and EDGE TS multiplexing
· Link adaptation
  - Max throughput techniques
· Performance optimisation
  - Link Performance
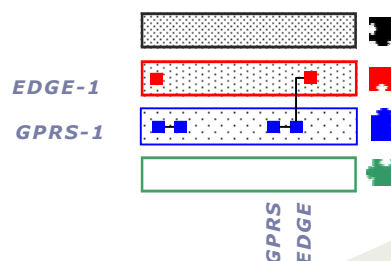 - Radio resource management
  - System capacity

Products
GPRS-1:GPRS (2 days)
EDGE-1:EDGE (1 day)

Product Combination
GPRS/EDGE: (3 days)

EDGE-1

GPRS-1

GPRS
EDGE

Frendus Education

Strandgatan 2
SE-582 26 Linköping
Sweden

+46 13 125020
www.frendus.se, info@frendus.se

Please call for more information

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