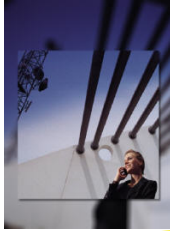


# Mobile Systems



The GSM System is the world biggest mobile system both regarding coverage and subscribers. In this section of courses you will find something for the GSM novice as well for the technician.

## OBJECTIVES

Understanding GSM..  
- architecture  
- procedures  
- services  
- mobile equipments and SIM  
- Cell planning and radio propagation fundamentals

## TARGET GROUP

People working with GSM in..  
- service  
- management  
- development

## PRECONDITION

· The GSM course block starts with a preparation day for non-technicians  
· The standard level requires general knowledge in the telecommunication area

## GSM Insight

### Platform - 1 day

#### Content

- ✕ **GSM history and evolution**
  - GSM related to other mobile and telecommunication systems
  - GSM standardisation organisations
- ✕ **Mobile system requirements and solution principles**
- ✕ **GSM**
  - Services
  - Architecture
  - Radio Access principles
- ✕ **Handheld devices**
- ✕ **Future paths**

#### Aimed for

People with no or little experience from the GSM field. This day can be detached from the standard days

## Products

**GSM-1: GSM Insight (1 day)**

**GSM-2: GSM (2 days)**

## Product Combinations

**GSM-12: GSM-1+2 (3 days)**

## GSM

### Standard - 2 days

#### Content day1

- ✕ **GSM development**
  - Services and their system requirements
- ✕ **Core Network** (Switching System)
- ✕ **Access Network** (Base Station System)
- ✕ **System nodes**
  - functionalities
  - interfaces
- ✕ **Mobile Equipment and the SIM-card**
- ✕ **Speech Coding**

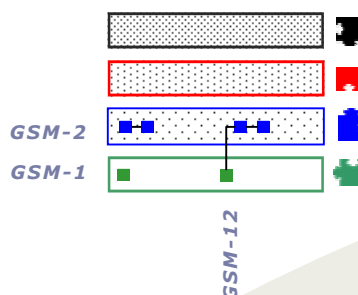
#### Aimed for

People with some previous experience from the telecommunication field

*Related Courses: GPRS/EDGE, UMTS*

#### Content day2

- ✕ **Identities and authentication**
- ✕ **Traffic cases** (simplified)
  - signaling procedures
  - speech
  - data
  - SMS
- ✕ **Security aspects**
- ✕ **Mobility Management**
  - Location updates - different types
  - Handover - different types
- ✕ **Air Interface**
  - Frequency bands and modulation
  - Logical Channels; traffic and signaling
- ✕ **Radio Propagation**
  - shadowing, multipath fading
  - interfering carriers, C/I
  - problems and GSM solutions
- ✕ **Cell planning primer**
  - CP principles in cellular networks
  - Coverage and Capacity
  - Frequency reuse
  - Cell types



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