# IMS/RCS/RCSe

**Who Should Attend?**
This course is intended for technical mobile network staff and their management who are planning on introducing IMS/RCS/RCSe services in their companies.

**Course Scope**

1. Introduction.
   - IP Multimedia Subsystem (IMS).
   - 3GPP R5: Network Architecture.
2. IMS Nodes and Example Procedures.
   - Call Session Control Function (CSCF).
   - P-CSCF, I-CSCF, S-CSCF.
   - HSS & SLF.
   - SLF & HSS Message.
   - Flow Media Resource Function (MRF).
   - MRF Message Flow.
   - MGCF & MGW.
   - IMS to GSTN Call Setup.
   - Breakout Gateway Control Function.
   - BGCF Message Flow.
   - Application Servers (ASs).
   - Subscription to Event in AS.
   - PCC:
     - Policy and Charging Control (R6).
     - Policy and Charging Control (R7).
     - Policy and Charging Control (R8).
     - PCC Message Flow.
3. IMS Protocols.
   - Session Initiation Protocol (SIP) & Session Description Protocol (SDP):
     - Session Initiation Protocol (SIP) Session Description Protocol (SDP).
     - SIP – Multimedia Session Set-up.
     - P-CSCF Discovery.
     - IMS Registration.
     - IMS Session Set-up (MO).
     - Authorization of QoS Resources.
     - IDs of IP Multimedia Flows.
     - SIP Forking.
   - MEGACO.
     - H.248/MEGACO.
     - H.248 Message Media Gateway (MGW).
     - H.248 Message Flow.
   - DIAMETER.
     - DIAMETER Base Protocol.
     - DIAMETER Client/Server.
4. Rich Communications Suite (RCS).

- Introduction to Rich Communications Suite (RCS).
- RCS Services.
- Rich Communications Suite (RCS).
  - Release 1.
    - Enhanced Address Book (EAB).
    - Enriched Call.
    - Enhanced Messaging.
    - File Transfer.
  - Release 2.
    - Broadband Access To RCS.
    - Services of a Multiple-Device Environment.
    - Network Address Book (NAB).
  - Release 3 and its enhancements.
  - Release 4 and its enhancements.
    - Voice-over LTE (VoLTE).
  - RCS-e/joyn.
  - Release 5 and beyond.
    - IP Voice and Video Call.
    - Geolocation.

5. RCS Technical Realisations.
  - RCS Network Architecture.
  - RCS Device Mode and Client Types.
  - Configuration and Provisioning.
  - Capability Discovery.
    - SIP OPTIONS.
    - Presence.
  - Multi-Device Support.
  - XDM Handling.

6. RCS Services.
  - Messaging Service.
    - Pager Mode.
    - Large Message Mode.
    - Interworking with Legacy Messaging.
  - File Transfer Service.
  - Content Sharing Services.
  - Social Presence Service.
    - Presence Architecture.
    - Presence Network Architecture.
    - Presence Message Flow.
  - IP-Based Voice and Video Services.
  - Geolocation.

## Course Objectives

This course gives the participants a thorough knowledge of IMS architecture, signalling procedures, and services, paying special attention to the solutions selected by GSMA RCS

Releases.

**Prerequisites**
The participants should have general technical knowledge about IP networks and packet bearer services in 3GPP mobile systems.

**Duration**
Three-day training divided into logical sessions.

**Methodology**
Instructor-led training.