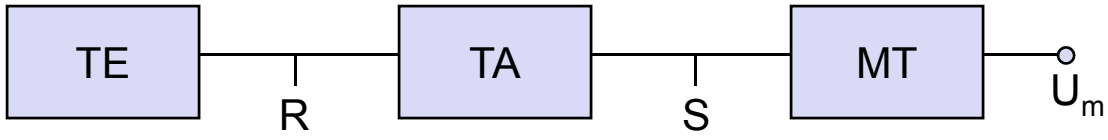
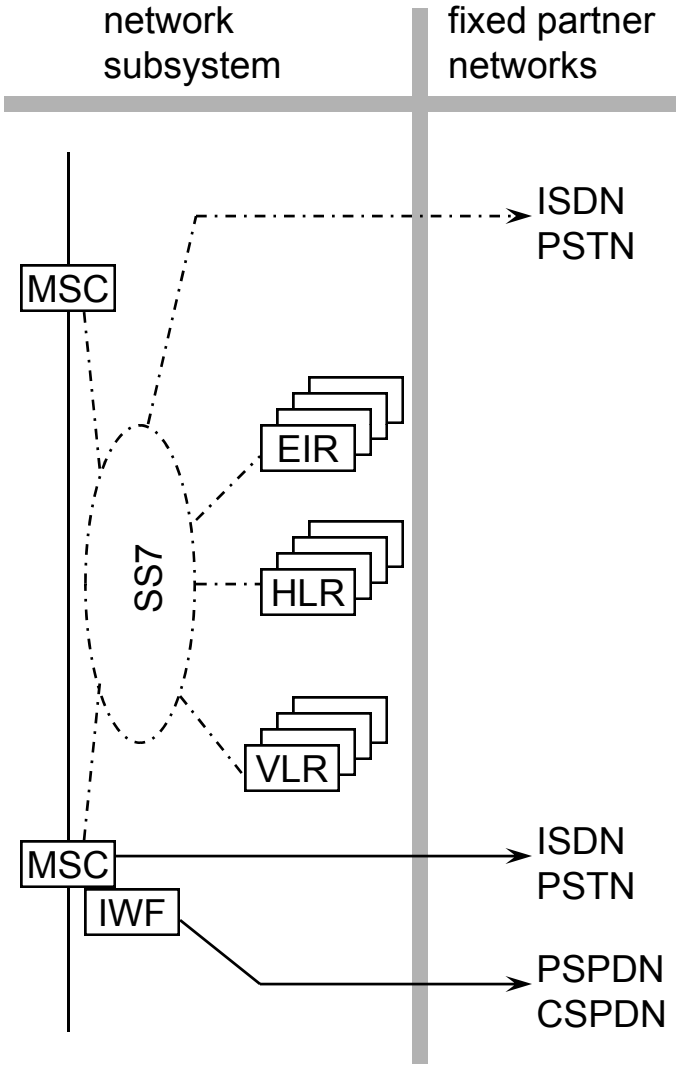
Mobile station

- **Terminal for the use of GSM services**
- **A mobile station (MS) comprises several functional groups**
  - **MT (Mobile Terminal):**
    - offers common functions used by all services the MS offers
    - corresponds to the network termination (NT) of an ISDN access
    - end-point of the radio interface (U_m)
  - **TA (Terminal Adapter):**
    - terminal adaptation, hides radio specific characteristics (TE connects via modem, Bluetooth, IrDA etc. to MT)
  - **TE (Terminal Equipment):**
    - peripheral device of the MS, offers services to a user
    - Can be a headset, microphone, etc.
    - does not contain GSM specific functions
  - **SIM (Subscriber Identity Module):**
    - personalization of the mobile terminal, stores user parameters



System architecture: (ii) network and switching subsystem



Components

- *MSC* (Mobile Services Switching Center):
- *IWF* (Interworking Functions)

- *ISDN* (Integrated Services Digital Network)
- *PSTN* (Public Switched Telephone Network)
- *PSPDN* (Packet Switched Public Data Net.)
- *CSPDN* (Circuit Switched Public Data Net.)

Databases

- *HLR* (Home Location *R*egister)
- *VLR* (Visitor Location *R*egister)
- *EIR* (Equipment Identity Register)

- **NSS is the main component of the public mobile network GSM**
  - **switching, mobility management, interconnection to other networks, system control**
- **Components**
  - **Mobile Services Switching Center (MSC)**
    controls all connections via a separated network to/from a mobile terminal within the domain of the MSC - several BSC can belong to a MSC
  - **Databases (important: scalability, high capacity, low delay)**
    - Home Location Register (HLR)
      central master database containing user data, permanent and semi-permanent data of all subscribers assigned to the HLR (one provider can have several HLRs)
    - Visitor Location Register (VLR)
      local database for a subset of user data - data about all users currently visiting in the domain of the VLR