

PLMN Infographic

Understanding Public Land Mobile Network (PLMN)

A concise, mobile-first infographic that explains what PLMNs are, how they're built, where they're used, and why they matter.

- Cellular
- Core
- Subscriber
- Services

Definition

Public Land Mobile Network PLMN

A PLMN is a public cellular network operated by a carrier that provides mobile services (voice, messaging, data) to subscribers using standardized technologies (e.g., 4G/5G). Each PLMN is uniquely identified by a Mobile Country Code (MCC) and Mobile Network Code (MNC).

 **Identifier**
MCC-MNC (e.g., 310-260)
Defines the unique PLMN a device attaches to.

Components

Radio Access Network (RAN)

Base stations and antennas connect devices to the network (eNodeB/gNodeB).

Core Network

Controls sessions, mobility, authentication, and routes traffic (EPC/5GC).

Subscriber Management

SIM/eSIM, HSS/UDM, and policy systems identify users and enforce plans.

Service Platforms

Voice, messaging, and data services; exposure APIs and edge compute.

Transport

Backhaul and core interconnects linking sites, data centers, and the internet.

Tip: Think of a PLMN as "towers + brain + subscriber records + services," glued by transport.

Use Cases

Consumer
Mobile

Voice, SMS, and data for smartphones and tablets.

Connected Vehicles

Telematics, infotainment,
and OTA updates.

 Industry & IoT

Sensors, robotics, and private network interconnects.

Public Safety

Mission-critical push-to-talk and priority services.



Illustrative coverage footprint where devices attach to a PLMN.

Benefits

Secure & Trusted

Standards-based authentication (SIM/eSIM) and encrypted access.

Wide Coverage

Nationwide reach with seamless mobility and roaming.

Performance

Broadband 4G/5G capacity, low latency options, and QoS control.

Service Variety

Voice, messaging, data, IoT slices, and edge services.

All visuals are simplified; rely on text labels for accessibility and print clarity.

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