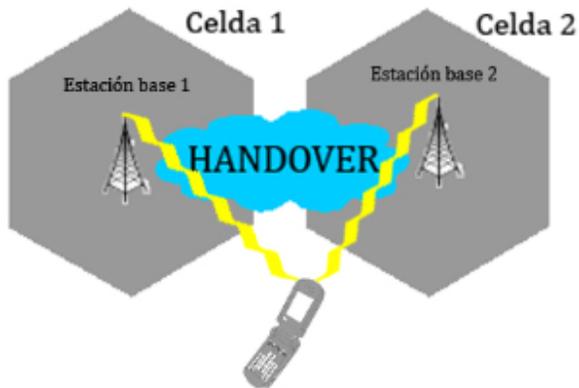


Handover

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Handover is a process in a mobile telecommunications network (e.g. [GSM](#) or UMTS) in which the mobile terminal (mobile station) changes from one radio cell to another during a call or a data connection without interrupting this connection. The term **handoff** is more commonly used in the US.

General information



Handover between two radio cells

During a call or a data connection, it may be necessary to transfer the connection to another radio cell. The most common reason for this is that the participant moves out of the supply area of the currently used cell. But also the quality of the radio channel, the utilization of the currently used cell, the distance to the cell or maintenance work can make a handover necessary.

The terminal continuously measures the signal strength and quality of the current cell as well as the field strength of the neighboring cells - in GSM it measures the received signal strength of the Broadcast Control Channel (BCCH). The measurement results are sent to the Base Station Controller (BSC) (with GSM every 480 ms). The BSC will then decide on the need for a handover. Before the handover can be performed, a suitable channel must be reserved by the BSC responsible for the target cell. Only when this is successful can the BSC give the handover command to the mobile station.

Most mobile radio systems have a wealth of system parameters that influence the start and course of a handover. The matches to be made differ according to the type of handover. In UMTS, for example, the quality of the call quality can be improved at the expense of network capacity by the mobile station being more often in soft handover, i.e. more often connected to several base stations simultaneously. Simultaneous improvement of the quality of the radio link and the network capacity can be achieved, for example, by optimizing the base station antenna parameters.

A handover only takes place during a call or a data connection. As long as the terminal does not hold a connection (device in "standby", idle mode), the mobile station automatically decides on a cell change based on the parameters set by the network.

Reasons for Handover

There are different so-called "triggers" for handover processes:

- By moving the participant enters an area where a neighboring cell is received with better signal strength or quality than the current cell.
- The signal strength or quality drops below a defined threshold and at the same time the reception field strength of a cell (of another system) is above a defined threshold. Another parameter for the threshold value is a hysteresis, which only selects a next base station if it delivers at least one signal better by the hysteresis value.
- The reception quality (measured by the bit error or frame error rate) falls below a defined threshold (quality handover).
- For reasons of better traffic distribution (e.g. when a cell is overloaded), the network initiates a handover.
- Conversations of fast-moving participants are to be moved from small (hot-spot) cells into cells with large cell areas in order to reduce the signalling associated with frequent handovers and to reduce the probability of disconnections (velocity-based handover).
- Certain services (e.g. GPRS or HSCSD) should preferably be handled in certain cells or time slots (service based handover).

Source: <https://de.wikipedia.org/wiki/Handover>

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- [After upgrading my DECT base to 400B02 my M65 cannot register anymore](#)
- [Auto Provisioning DECT devices](#)
- [Can I daisy-chain M5 DECT repeaters](#)
- [Can I register a 3rd party DECT handset or repeater to a Snom M300,M700,M900 base station](#)
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