

Radio-Cell-Interrogation

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To understand this chapter, it is necessary to understand the basic concepts of the mobile network, in particular the connection and authentication process between mobile phones and cell-phone towers. We have attempted to illustrate this in the article [Mobile communications](#).

“ [!warning] {static}

Cell data is very easily accessible to the authorities and is regularly used in investigations.

Radio cell inquiry is a measure that law enforcement agencies regularly use in their investigations. Thereby, the authorities request phone cell data that is of interest to the case, usually directly from the mobile operators.

Map symbolically showing how mobile phone cells are distributed in a city

How to protect against radio cell inquiries?

Don't let your phone connect to the radio cells. Ergo, turn your phone off, or at least, put it into airplane mode. With airplane mode, bear two things in mind:

- when you take out your SIM card, but don't put your phone into airplane mode, it may still try to connect to cell-phone towers for making emergency calls.
- not all devices truly shut off cell-phone communication when put into airplane mode.

“ [!info] {static}

To be 100% sure that no cell phone data is gathered - don't take your phone with you.

What is requested in radio cell inquiries?

Radio cell inquiries collect the following data for the period and “location” (i.e., a specific area that may be covered by several mobile phone cells) inquired about:

- Logged-in phone numbers
- Time stamps of:
 - Dial-in/dial-out of devices
 - Outgoing and incoming calls
 - Voicemail messages
 - Sent/received text messages

Radio cell inquiries are often made before, during, and after demonstrations. This can reveal which devices were present at the protest and where they were before and after it. This information can be potentially used to identify protesters, especially when their phone numbers are registered to their names or when the route they took to the demonstration can compromise their identity.

Which devices were at which location at time X, by radio cell inquiry

In addition, radio cell inquiries can be used to create movement profiles over a larger area by looking at the entry and exit times of individual devices at the respective mobile phone cells:

Route of device through city visible through FZA

Statistics on radio cell inquiries

For almost all countries in the world we may very well assume that every single phone number ends up in a radio cell inquiry, more or less regularly. Although clear statistics are quite rare the case of the 18th and 19th of February 2011 in Dresden, Germany is a well [documented](#) example: Surrounding several public protests on those days, the authorities collected: "96.072 Verkehrsdatensätze, 257.858 Rufnummern und 40.732 Bestandsdaten" .

Version #3

Erstellt: 2026-02-15 16:17:17 UTC von ESC-IT Migration Bot

Zuletzt aktualisiert: 2026-03-20 20:09:29 UTC von ESC-IT Migration Bot