

CELLULAR DATA COUNTING

PROCESS

This is a process by which providers use data and telephony technology to carry out counts using 'base transceiver station' (BTS) and signals from visitors' cell phones.

Coverage from cell phone masts

Based on this data, the network provider can determine how many people are within range of a BTS within a given time window. The event organiser can use data from the network provider to determine how many stations cover the event location. For large events, the organiser often has additional stations installed, to reinforce the cellular data network locally. These stations can also be used to count visitors and to provide enhanced zone coverage.

Provider's market share

Providers only have access to data on their own customers. It is therefore necessary to extrapolate from the numbers measured to reflect the general population. Providers do this by estimating the actual number of attendees (including attendees

who subscribe to different providers, or don't have a cell phone) on the basis of parameters such as their market share of the expected audience and the coverage of their own network.

Who are the visitors?

It is essential to properly define 'a visitor' when using this counting method. When does a passer-by become a visitor? How long must this person be present at the event, and how many times must he or she be recognised? It is also crucial to measure who is in the vicinity of the event location, a few days before and after the event. Residents, employees and passers-by may be on site for other reasons and should therefore not be counted as visitors. Cellular data counting suppliers do this at the specific event location, and use information provided by the organiser.

ADVANTAGES

- + **Unique visitors:** each visitor is counted only once. This method can filter out double counting and identify the unique number of visitors.
- + **Not too technical:** no on-site, technical installation is required for actual counting.
- + **Visitor profiles:** it is possible to link identification data to other data (origin, route, repeat visit, overnight stay, etc.) and derive a visitor profile, while not breaching the person's privacy under the GDPR.
- + **Retrospective:** this process can also be used to retrospectively count visitors to past events (up to 18 months ago).
- + **Selective:** specific definitions and filters can enable detailed selections. So, for example, the number of commuters, overnight stays or repeat visits can be counted.

DISADVANTAGES

- **Impactful events only:** the event must generate a sufficiently large number of cell phone connections as compared to normal connections without the event.
- **Data dependence:** correct estimation of the provider's market share during the event is essential. If this data is not reliable, extrapolation will result in excessive error.
- **Crowded areas:** this counting process is less suitable for densely-populated areas. In such cases, residents are filtered out, even though they may be attending the event. This can be taken into account when extrapolating, but will increase predicted error.
- **No flows:** visitor flows cannot be measured.

ACCURACY

Cellular data counting has a 70% margin of error (results of TETRA study Crowd Counting conducted in 2021). This means, for example, that the real number of a cellular data count result of 1,000 persons could be anywhere between 300 and 1,700.

COST (EXCL. VAT)

± €2,675 for ex post analysis and reporting (per zone/per measurement)
± €4,475 for real-time tracking and reporting (max. 10 consecutive days)

POTENTIAL SUPPLIERS

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