



Connected Living

Future IoT Networks



Data Management Capability

To support the Internet of Things, there is a growing need for data management, which encompasses a wide variety of capabilities. There are four distinct groups of data management services:

1. **Data collection and storage, including storage on device and in the platform, as well as authorising data access**
2. **Data presentation and visualisation**
3. **Basic data analytics that uses descriptive statistics, such as usage monitoring and analysis**
4. **Advanced and predictive analytics that uses inferential statistics, including both business intelligence, which uses internal data, and big data analytics, which aggregates and analyses data from multiple, external and internal sources.**

Data management services should be able to collect data from multiple sources – different edge devices – in a real-time manner, run real-time advanced analytics on that data, visualise the data clearly and query cloud-based data, if necessary.

Data management for IoT is a small market at present, but industry analysts expect it to grow quickly over the next five years – there is growing demand for basic and advanced data analytics tools and software from IoT customers.

MNOs' data management capabilities

Mobile network operators (MNOs) have considerable data management experience. They typically collect CDR (Call Detail Record) data, integrate it with Internet traffic data, where allowed by regulation, and then run an activity, such as analysis of customer propensity for churn using advanced techniques, such as graph theory. At this time, most MNOs run the analytics part of this activity through partnerships with specialised data analytics companies.

MNOs can also provide data management services at the edge of the network, including data collection, storage and basic analysis activities, partnering with specialist data analytics companies to provide advanced analytics activities. Strategic partnerships between MNOs and data analytics providers could enable MNOs to maintain a strong presence in the market for edge device data management and, in turn, be part of application development activities for edge devices.

Next steps

The Connected Living's Big Data Ecosystem project is developing mobile operators' data management capabilities, working on harmonising datasets so that analytics can be run across aggregated data from multiple operators.

Please get in touch with the GSMA's Future IoT Networks team at connectedliving@gsma.com