



DIGITAL TRANSFORMATION

Data Virtualization: Big Data, Cloud and City Platforms

Concept Note

‘Data is the new gold’ or ‘data is the lifeblood of a smart city’ are mottos for the [city as a platform](#) approach. City leaders understand that they need reliable sensor data to base their long-term decisions on, that networks play a key role in helping connect these sensors with other devices, systems and machines, and that converging all these networks on a single platform has many advantages.

Indeed, smart city platforms can help cities become smarter as they can accommodate city-centric solutions to address the wide range of city challenges: waste and water management, public safety, transportation, air quality monitoring, traffic and parking, administrative services, public works, municipal Wi-Fi, and more. However, there isn’t a single path to this transformation.

In fact, how a city approaches [platform adoption](#) depends on what it needs. Some cities focus on an application-specific approach to address a particular issue; others focus on deploying a multifunction platform. What is clear, however, is that local governments no longer have the time, funds, or human resources to continue to operate and maintain [siloed systems](#) and antiquated data portals hosting static CSV files. In this scenario, treating data like capital is becoming crucial to exploit the limitless possibilities of a [better-connected city](#).

In this sense, there are a number of solutions available. And, of course, big companies dominate the market. Yet, city leaders need to evaluate the difficulties in migrating from one cloud platform to another and also that gaps during migration can expose data to additional security and privacy vulnerabilities.

Eventually, whatever solution cities choose, its basic maxim that ensures its future should be [sustainability](#). For that reason, city leaders also need to factor this to connect cities’ assets and renew citizen-administration relationship. Otherwise, it’s unlikely that cities can benefit from [organized, accessible and flowing data](#) in the long-term.

Guiding questions

- What are the ways to collect data to make better decisions?
- How can cities begin treating their data like capital?
- How can platforms help accelerate cities’ digital transformation?
- How can city managers leverage the “city as a platform” approach?



- What is the best focus: an application-specific approach to address a particular issue or a multifunction platform?

Keywords

data; big data; city platform; IoT; data service; information-as-a-service; integration middleware; edge computing; business intelligence