

# SoW – Mobile operator strategies in the smart city agenda

July 2024

## The GSMA Digital Utilities programme

**The GSMA** is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Find more at [gsma.com](https://www.gsma.com)

**The GSMA Mobile for Development (M4D) foundation** operates at the intersection of the mobile ecosystem and the development sector. Our aim? To stimulate digital innovation and deliver both sustainable business and large-scale socio-economic impact. Our research and insights platform, in-market expertise and community of partners push forward digital innovations and implementations that empower underserved populations. Find out more at [gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/](https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/)

**The Digital Utilities programme within M4D** works to support urban resilience in low- and middle-income countries by enabling access to essential utility services through digital solutions and innovative partnerships. Our core sectors of focus include energy, water, sanitation, waste management, and transport. Find more at [gsma.com/digitalutilities/](https://www.gsma.com/digitalutilities/)

## Context

**Urbanisation to 2050: an African and Asian story** - On the current trajectory, the global population is expected to grow up to 9.7 billion in 2050 from eight billion in 2022. Cities across Africa and Asia will account for 90% of this increase, contributing 900 million and 1.1 billion urban residents respectively.<sup>1</sup> The number of cities in low-income countries is expected to increase by 76% between now and 2070, compared to 20% in lower-middle-income countries and 6% in upper middle-income countries. With this rapid increase in population, cities of all sizes are having to rapidly extend essential services to these new urban populations. This is true both in large megacities as well as in rapidly growing secondary cities. Within this context many municipalities and urban bodies are turning to digital solutions to fill critical data gaps and support urban planning, manage the relationships with the informal sectors interaction with public services, and enhance the efficiency of the services they themselves provide.

**The smart city agenda** – emerging the 1990s but gaining prominence in the 2010s the smart city agenda sets out the elements of digital transformation in the context of city-level services. A loose concept it has no formal definition, but has been extensively written about, with many organisations setting out their interpretation on the concept and its key elements. Notably, India and China have national smart city programmes that are among the most developed in the world and have accompanying definitions.<sup>2,3</sup> Additionally, in 2023 the UN adopted a resolution defining ‘people-

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<sup>1</sup> UN-Habitat. (2022). [World Cities Report 2022: Envisaging the Future of Cities](#).

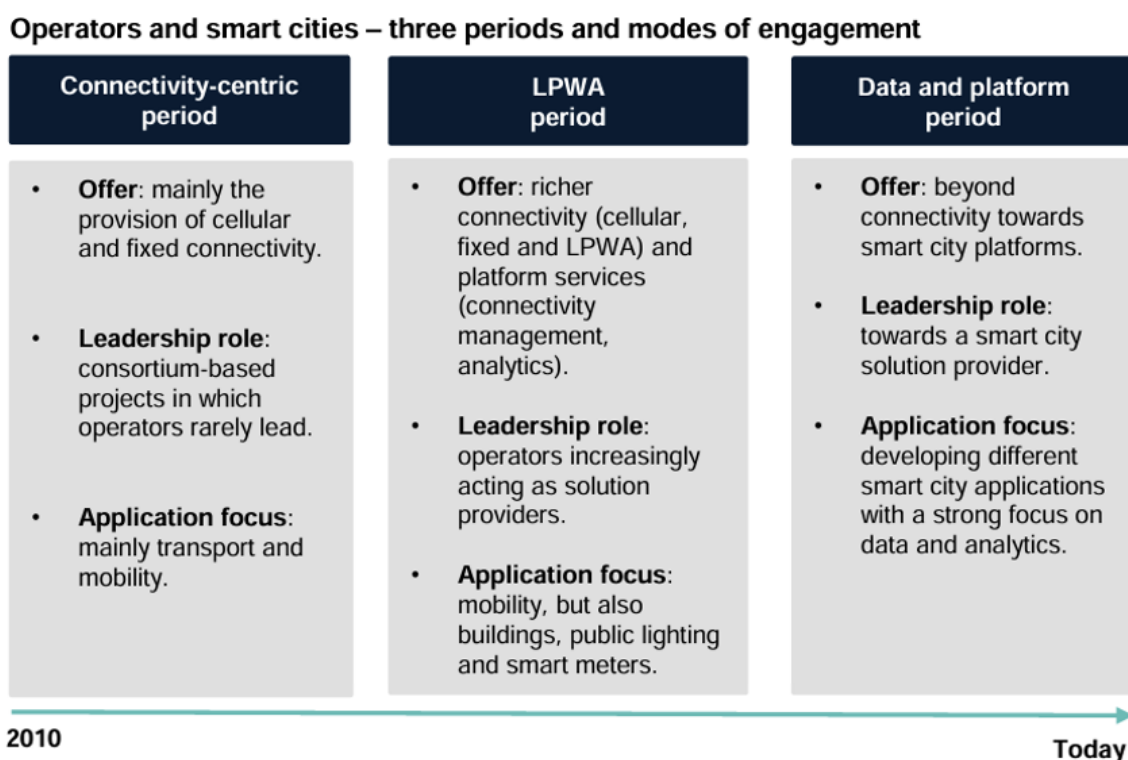
<sup>2</sup> Huang et. al. (2021) [Characteristics and Problems of Smart City Development in China](#)

<sup>3</sup> Gol (2015) [Smart City Mission Statement and Guidelines](#)

centred smart cities',<sup>4</sup> and various UN bodies (notable UNDP and UN Habitat) have flagship programmes around smart cities.<sup>5,6</sup> While India and China stand out among LMICs as having a developed vision, accompanied by large national programmes, it is notable that the vast majority of the remainder of smart city initiative remain concentrated in high-income countries. With the existing smart city indices focused on, and consequently dominated by, European and G20 cities.<sup>7</sup>

**The central role of mobile operators in delivering smart city solutions** – connectivity is clearly at the core of many smart city solutions, and the GSMA have published on the topic for over 12 years,<sup>8</sup> and under a specific Smart Cities workstream within the IoT programme.<sup>9</sup> The most recent GSMAi publication on the topic sets out an evolution of modes of engagement over time and three distinct market profiles of operators (see Figure 1 below).<sup>10</sup> Since the emergence of the smart city concept some major technology changes have occurred and are occurring that have shifted the bounds of what is possible. Notably 5G and network splicing, LPWA connectivity, and developments in AI and digital twins. While to the focus of the smart city agenda has overwhelmingly been in high and upper-middle income countries, it is only at present that these solutions are being deployed at scale more widely. With declining voice and data revenues, it is also now essential for many MNOs that they reposition themselves to capture more of the value chain of digital services<sup>11,12</sup>. With the utilities verticals such a strong use case, particularly in emerging markets, smart city solutions present themselves as a strong potential area for this evolution.

Figure 1: MNOs market profiles and modes of engagement<sup>13</sup>



<sup>4</sup> UN (2023) [International guidelines on people-centred smart cities](#)

<sup>5</sup> UN Habitat – [People centred smart cities](#)

<sup>6</sup> UNDP – [Smart Cities](#)

<sup>7</sup> IMD (2024) [Smart City Index 2024](#)

<sup>8</sup> GSMA (2012) [Smart Mobile Cities: Opportunities for Mobile Operators to Deliver Intelligent Cities](#)

<sup>9</sup> GSMA – [Smart Cities](#)

<sup>10</sup> GSMAi (2022) [The changing shape of smart cities: new trends and new roles for operators](#)

<sup>11</sup> BCG (2024) - [The 2024 Telco Value Creators Report](#)

<sup>12</sup> McKinsey (2022) - [How telcos can succeed in launching new businesses beyond connectivity](#)

<sup>13</sup> GSMAi (2022) [The changing shape of smart cities: new trends and new roles for operators](#)

## Smart city market profiles of operators

Connectivity provider	Connectivity specialist	Solution provider
<ul style="list-style-type: none"> <li>• Providing connectivity as requested.</li> <li>• Not actively pursuing smart city as a business line.</li> <li>• Part of the enterprise offer.</li> </ul>	<ul style="list-style-type: none"> <li>• Usually a dedicated smart city offer, under IoT solutions and part of the enterprise offer.</li> <li>• Offer is focussed on connectivity services and connectivity management.</li> </ul>	<ul style="list-style-type: none"> <li>• Dedicated smart city offer, under the IoT solutions portfolio.</li> <li>• Offer includes connectivity and smart city platform services.</li> </ul>

**The importance of start-ups to smart city initiatives** - partnerships between start-ups and the public sector have emerged as an innovative and impactful way to address critical gaps in essential urban services – particularly when it comes to reaching low-income urban populations in informal settlements. They have the potential to combine the technology, innovative financing, and agility of start-up ventures with the public sector’s scale, service mandate, and resources. The enabling environment for these partnerships can be supported by mobile operators through incubators and labs<sup>14</sup>, as well as through national and city level policy and initiatives<sup>15</sup>.

**Scope and focus** – this work is intended to build on a body of the Digital Utilities team’s work, including recent work with GSMAi on IoT deployments across LMICs,<sup>16,17</sup> the opportunities for innovative data to be used in urban planning,<sup>18</sup> public-private partnership models involving startups,<sup>19</sup> sector-specific pieces on water<sup>20</sup>, transport<sup>21</sup>, and waste management<sup>22</sup>, and our past work in innovation funding.<sup>23,24</sup>

This piece intends to build upon that work, while also expanding on the strategic position of mobile operators in urban development across the M4D focus regions. The piece aims to make two primary further contributions: i) to attach a monetary figure to the opportunity through calculating the total addressable market for mobile operators in key markets and regions, and ii) to nuance the discussion through reviewing key operator strategies and engagement in these regions. It is anticipated that the study would have a heavy focus on centralised utility services (especially in energy, water, and transport), the large scale IoT deployments that can be associated with these, as well as the supporting data and analytics offerings.

<sup>14</sup> E.g. Dialog’s [Mobile Communications Research Laboratory](#), Orange’s [5G lab](#), and XL Axiata’s [X-Camp](#)

<sup>15</sup> E.g. [Indore Smart City Accelerator](#), Rwanda’s [Smart City Hub](#), Telengana’s [T-Hub](#), and AfriLabs’ [Smart City Innovation Programme](#)

<sup>16</sup> GSMA (2023) [IoT for Development: Use cases delivering impact](#)

<sup>17</sup> GSMA (2023) [IoT and Essential Utility Services: Opportunities in low- and middle-income countries](#)

<sup>18</sup> GSMA (2021) [Innovative Data for Urban Planning: The Opportunities and Challenges of Public-Private Data Partnerships](#)

<sup>19</sup> GSMA (2022) [Partnering With the Public Sector: A toolkit for start-ups in the utilities sectors](#)

<sup>20</sup> GSMA (2022) [Water Utility Digitalisation in Low- and Middle-Income Countries: Experiences from the Kenyan water sector](#)

<sup>21</sup> GSMA (2023) [Powering Mobility: The rise of digital transportation in Africa](#)

<sup>22</sup> GSMA (2024) [Making Circularity Work: How digital innovation enables circular economy approaches in waste management](#)

<sup>23</sup> GSMA (2020) [Digital Solutions for the Urban Poor](#)

<sup>24</sup> GSMA (2023) [The GSMA Innovation Fund for Digital Urban Services: Portfolio overview](#)

## Objectives

1. **Estimate the total addressable market of smart city solutions** regionally and in key markets in South and Southeast Asia and Sub-Saharan Africa.
2. **Identify key mobile operator opportunities across the focus regions** and make recommendations on approaching partnership and financing options.
3. **Explore the challenges mobile operators face in partnering** with municipalities and solutions providers, identifying the actions cities and national governments can take.
4. **Identify best practice among operators in creating and enabling environment** for innovation and partnerships with startups and the public sector.
5. **Review and analyse key operators' strategies in the regions**, making recommendations on options for engagement.

## Approach, deliverables and timelines

Key to delivering this piece of work will be to clearly define the scope of what is included within the concept of a 'smart city', and during inception it is expected that this will be refined in collaboration with the Digital Utilities programme through the lens of the use cases included. It is anticipated that this will include many, if not all, of the IoT use cases outlined in past GSMA work on the topic, as well as smart city use cases associated with AI and digital twins.

In the proposal and at inception the consultants should propose their approach to calculating the operator TAM, including if this should be presented as a scenario analysis based on levels of engagement in the application and service layers, and what the key data requirements and sources are for the analysis. The work is envisioned to take place across three key phases, outlined below.

Phase		Timeline	Key dates
<b>Phase 1 - Inception phase</b>	<b>Key activities</b> <ul style="list-style-type: none"> <li>• Kick-off call</li> <li>• Initial literature review</li> <li>• Inception workshop to agree scope and focus</li> </ul>	Contract + 4 weeks	n/a
	<b>Key deliverables</b> <ul style="list-style-type: none"> <li>• Inception report (.doc)</li> <li>• Stakeholder engagement plan (.xlsx)</li> </ul>		
<b>Phase 2 – Data collection and analysis</b>	<b>Key activities</b> <ul style="list-style-type: none"> <li>- Data collection and analysis for TAM forecasts</li> <li>- Interviews with key stakeholders, minimum 20 (60:40 ratio for MNO to other relevant stakeholders)</li> </ul>	Contracts + 12 weeks	Opportunity for data collection/ validation at MWC-K (29-31 Oct 24)

	<b>Key deliverables</b> <ul style="list-style-type: none"> <li>- Draft TAM analysis (.xlsx)</li> <li>- Interview notes (.doc)</li> </ul>		The GSMA Digital Utilities team will be holding a relevant roundtable
<b>Phase 3 – validation, and reporting</b>	<b>Key activities</b> <ul style="list-style-type: none"> <li>- Report drafting</li> <li>- Validation workshop with select MNOs</li> </ul>	Contract + 20 weeks	Final deliverables to GSMA by 3-6 Jan 25 to be designed by the GSMA
	<b>Key deliverables</b> <ul style="list-style-type: none"> <li>- Final report (.doc)</li> <li>- Final TAM analysis (.xlsx)</li> </ul>		Published by the GSMA by MWC-B (3-6 March 25)

## Firm and proposal requirements

### Required experience

- Demonstrable track record of completing similar assignments.
- Sectoral expertise across M4D programme areas (utilities, climate, agriculture, health, and humanitarian)
- Thematic expertise in urban development policy, and start-up and public sector partnerships
- Experience in conducting market sizing assessments and forecasts.
- Clear and demonstrable experience in working with mobile network operators.
- Full working proficiency in English, writing to publication quality.
- A strong network, including potential interviewees.

### Technical and financial proposal requirements

#### Technical proposal

1. A short (1 page) statement of suitability, highlighting recent relevant experience.
2. A short (1-2 page) discussion of the proposed approach including: the analytical frameworks to be used, identified data sources, and initial proposals on interviewees.
3. Any proposed changes to the SoW
4. Details of relevant project experience (1-3 pages)
5. Gantt chart outlining major project stages and timelines
6. CVs and location of proposed team members.

#### Financial proposal

7. Level of effort (person-day) by activity.
8. Fee rates (per day in GBP).
9. Total project cost (GBP), inclusive of all applicable taxes

### Proposal assessment and selection process

Selection will be made on a quality-cost based assessment based on a 70:30 weighting for the technical and financial respectively. The technical component will be scored against the essential components outlined above. The financial will be assessed by multiplying the points available (30)

by the inverse of the submitted cost divided by the lowest submitted cost. The GSMA anticipate this work will likely require between 60-90 person-days dependent on team composition and experience. The GSMA will be responsible for all costs associated with the design and marketing of the public facing products.

Clarification questions can be sent to [zwhite@gsma.com](mailto:zwhite@gsma.com) and [gbauer@gsma.com](mailto:gbauer@gsma.com).

Proposals are to be submitted no later than 16/08/2024 to [zwhite@gsma.com](mailto:zwhite@gsma.com), [hbowes@gsma.com](mailto:hbowes@gsma.com), and [gbauer@gsma.com](mailto:gbauer@gsma.com).



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